# Changing How Schools and the Profession Are Organized: Building a Foundation for a National System of Teacher Career Ladders at the National Center on Education and the Economy

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Changing How Schools and the Profession Are Organized:
Building a Foundation for a National System of Teacher Career Ladders at the
National Center on Education and the Economy


Doctor of Education Leadership (Ed.L.D.)
Capstone


Submitted by


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**Abstract**

This capstone examines the National Center on Education and the Economy's (NCEE) efforts in its initial planning stage to lead the design of and build support for a proposed national system of teacher career ladders. In this career ladder system, teachers can voluntarily seek advanced certification leading up to the role of Master Teacher, and states can volunteer to use the system and determine how to use it. I describe my role in strengthening NCEE's relationship with the National Board for Professional Teaching Standards (NBPTS), in an effort to establish a partnership and move the initiative forward. I also examine comprehensive teacher career ladders and career advancement initiatives in top-performing jurisdictions (i.e., Singapore, Shanghai, and Australia) and within the United States (i.e., Arizona, Iowa, New York, and the District of Columbia). Any national initiative seeking to influence teaching and learning will require the collaboration of many powerful cross-sector organizations and leaders, highly coordinated efforts, and legitimacy to sustain the political support needed for the initiative to be adopted by states and embraced by the teaching profession. Establishing a partnership with the NBPTS was challenging because of the organization's leadership loss at the start of the project, which slowed the initiative's planning stage. This was further complicated by a lack of system coherence and alignment, distrust within the public education system, and the system's resistance to change. Because planning and implementation of a national teacher career ladder system will take years, and states and the profession must buy-in, there is a need to build the capacity of multiple generations of leaders who can carry this work forward within an evolving, decentralized education system.

**INTRODUCTION**

The system of teaching and learning in the United States works for some and undeniably fails others. Making schools and education systems work effectively for all students from every neighborhood and background is fairly widespread rhetoric, a goal for education leaders at every level across this nation. However, in addition to students, another critical group of stakeholders need effective schools and systems in order to perform at their fullest potential: teachers.

Teacher effectiveness and elevating the teaching profession are now priorities and at the heart of the education policy landscape (Darling-Hammond & Rothman, 2015b; Center for American Progress, 2015; and Martin, Partelow, & Brown, 2015). The quality of our teachers and the strength of our schools are inextricably interconnected, for one does not happen without the other. In a reimagined system, the very people who power and drive our schools would be rigorously developed, nurtured, and supported so that they, in turn, can effectively develop, nurture and support our students to reach high levels of achievement and their fullest potential. A system like this would attract into teaching ambitious and highly capable individuals who take on responsibility for the success of their students, as well as that of their colleagues, school, and larger education system. High quality teaching would be the norm, and support mechanisms would be embedded into the system so teachers can continue their on-going professional growth and leadership development. Teachers would want to remain in the profession because they are recognized, rewarded, and compensated for not only the skillful and challenging work they do, but also for their unique talents and differential levels of expertise across a full career continuum. This re-imagined education system, in which the teaching

profession is elevated and teaching quality is high, places teachers in a leading and prominent role in education improvement and reform. It would be a real professional learning system, fueled by experts who develop future experts, and with intentional structures and processes in place that support and incentivize continuous improvement at every level.

Investing in teaching quality is a critical component for high performance schools and school systems (NCTAF, 1997), a lesson the American education system could learn from the international top performers (Tucker, 2014a; Darling-Hammond & Rothman, 2015a). Teaching quality and the profession are strong in Shanghai, Singapore, Finland, and Canada, where over several decades they built and implemented deliberate strategic policies, practices, and structures to strengthen teacher quality and leadership in ways that drive high performance and achievement among both teachers and students (Tucker, 2014a; Sato, in press; Darling-Hammond, Goodwin, & Low, in press; and Martin, Partelow, & Brown, 2015). Moreover, many of these top performers are not plagued by the intensity of the challenges our current system faces, including the sheer size of and vast diversity within our system, the political schema of our government system, and historic roots of inequity and injustice in our nation.

Recruitment, retention, and accountability issues also challenge the effectiveness of our system. Districts and schools must attract high quality individuals into teaching to lead high-quality instruction inside of classrooms, but many struggle to even fill these positions and face shortages at the start of the school year, particularly in urban districts. This happens because of a lack of interested and capable teachers in certain subjects, a mismatch in location, and the demographic homogeneity of the teaching profession

(Brenneman, 2015). Annual federal data indicating teacher shortage areas by state show a significant need for special education, science, and mathematics teachers (DOE OPE, 2015). Moreover, 17 percent of new teachers leave their jobs in the first five years (Gray & Taie, 2015), though other estimates of annual teacher attrition are 30 percent or higher, with higher rates in low-income schools (Darling-Hammond & Rothman, 2015b). The teaching profession relies more and more on teachers with less expertise and experience than before: two decades ago, the average teacher had 15 years of experience, whereas now the modal teacher is a first- or second- year teacher and the median years of teaching experience is 11 years (Carrol & Foster, 2010).

The realities of teaching are grim for prospective recruits and those currently in the field. While respectable, teaching is typically not viewed as being a competitive, high status profession (Lortie, 1975; Martin, Partelow, & Brown, 2015). Teachers are paid less than in other professions requiring a college degree, such as nurses and accountants (Ingersoll & Merrill, 2012, as cited in Darling-Hammond & Rothman, 2015b), and earn only 60 percent of what the average college graduate earns (Schleicher, 2012), which is significantly less than what individuals are paid in high-status professions like law and medicine. According to Education Department data, in recent years, over 75 percent of public school teachers were female and had a median salary of roughly $56,000+ (DOE NCES, 2015). Furthermore, a 2013 survey of teachers showed that teacher job satisfaction was at its lowest point in over 25 years, with only 39 percent of teachers describing themselves as very satisfied with their jobs; and 75 percent of principals shared that their jobs have become stressful and too complex (Metlife, 2013). Factors for low job satisfaction included work conditions where teachers did not have opportunities

for professional development or time for collaboration with colleagues, or where there were budget cutbacks and punitive accountability measures. Compensation, status, and job satisfaction influence the type of individuals who enter and remain in teaching; in its current form, teaching fails those within the profession because it does not recognize, develop, support, and reward expertise and leadership consistently and widely.

Practitioners, policymakers, and researchers have devised various strategies to elevate the profession and address the challenges of recruiting and retaining high performing teachers. They range from changes in compensation to evaluation strategies, professional development approaches, and teacher preparation redesign, among other strategies. One re-emerging call is for the creation and implementation of career ladders and pathways, or a similar structure, to advance teachers' development and careers through differential roles, responsibilities, and pay, albeit in different forms and varying degrees. Darling-Hammond (2010) contends that existing compensation systems still create a limiting or closed pathway for teachers, who continue to have little influence in key education decision-making and must leave the classroom if they seek greater responsibility and higher pay: "The message is clear: Those who work with children have the lowest status; those who do not have the highest" (317). What she and many other leaders in the field propose is a new career development system that reverses this dynamic for teachers and enhances the profession:

> A new career continuum would place teaching at the top and create a career progression that supports teachers as they become increasingly expert. Like the path from assistant professor to full professor in universities—or junior associate to partner in law firms—news pathways should recognize skill and accomplishment, enable professionals to take on roles that allow them to share their knowledge, and promote increased skill development and expertise across the profession. (Darling-Hammond, 2010, p. 318)

Practitioners, researchers, teachers unions, and education organizations have joined the call to transform the profession and improve teaching effectiveness, with teacher career

ladders and pathways as one promising strategy to make progress (Center for American Progress, 2015; Mehta, Theisen-Homer, Braslow, & Lopatin, 2015), though the evidence base for how policies can help to develop effective teaching at the system level in the United States remains unclear (Darling-Hammond and Rothman, 2015a).

Teacher career ladders and pathways reorganize schools and the profession, and build greater system coherence, with some of the most comprehensive models doing this through certifications. Based on international benchmarking findings, career ladders also serve as a lever to recruit highly competent and competitive individuals to the profession, and help to retain high performing teachers. Career ladders and pathways change how teachers work and the responsibilities teaching entails (Darling-Hammond & Rothman, 2015; Natale, Bassett, Gaddis, & McKnight, 2013; Accomplished California Teachers, 2012), how time and resources are allocated within and between schools (Darling-Hammond, Goodwin, & Low, in press; Sato, in press), and how professionals can collaborate as a collective to enhance instructional practices in order to improve student outcomes (Stewart, 2015). Another compelling argument for career ladders and pathways is that they nurture and support teachers' ongoing professional and leadership development, in addition to recognizing and rewarding them for accruing greater expertise and increasing their impact in their schools and education system (Darling-Hammond & Rothman, 2015; Natale, Bassett, Gaddis, & McKnight, 2013; Accomplished California Teachers, 2012). While not a silver bullet, career ladders and pathways are promising because they put into place structures and processes that help our system achieve the ambitious goals of excellence and equity in every neighborhood across the nation. Furthermore, teacher career ladders are aligned with a larger set of policy

strategies that aim to recruit highly competent individuals into the profession; improve teacher preparation; reorganize schools into professional work organizations; and increase teacher salaries to be competitive with high status professions.

Tackling the challenges our system faces will require many stakeholders and multiple components to work well together, and in tandem, for the larger goal of a consistently well-prepared teacher workforce, which in turn can effectively deliver high quality instruction for all students and lead them to high levels of achievement.

I was tasked to build a foundation for a national teacher career ladder for my strategic project during a 10-month residency at the National Center for Education and the Economy (NCEE), to fulfill the requirements for the Doctor of Education Leadership (Ed.L.D.) program at the Harvard Graduate School of Education (HGSE). The design for a teacher career ladder system would be informed by career ladders in the most successful education systems in the world, but adapted for use in the United States based on the context here. NCEE researches the top performing education systems and uses and shares this information to assist states and districts in their efforts to significantly improve their schools and education system. My responsibilities included strengthening a relationship with a key partner, the National Board for Professional Teaching Standards (NBPTS or the National Board), so as to build a foundation for a strong coalition between many influential leaders and organizations. The National Board has legitimacy with the teaching profession and a strong reputation with states, which make it a strong and logical partner for this project (since states and teachers will be the primary users of the career ladder).

In this Capstone document, I examine my work on a strategic project that aims to elevate the teaching profession and transform the system through teacher career ladders, which, by their nature, help to reorganize schools into professional work organizations and build the capacity of the profession. This Capstone also documents my leadership development, as well as my analysis on how this strategic project contributed to the development of NCEE and the larger education system. First, I conduct a Review of Knowledge for Action (RKA) to integrate research literature, best practices from the field, and my previous experiences and knowledge. Next, in addition to describing the strategic project in greater detail and the results, I analyze why the strategic project unfolded the way it did using three themes that emerged: 1) coherence and alignment; 2) trust; and 3) change. I then discuss the implications of the learning lessons for self, site (NCEE), and sector. Finally, I conclude with a summary of my key learning.

**REVIEW OF KNOWLEDGE FOR ACTION (RKA)**

I started this process by asking the following question: What is needed to build the foundation for a national teacher career ladder system that is flexible in design and has the support of key stakeholders? This question directed my strategy for work and shaped my Review of Knowledge for Action (RKA). First, I reviewed the literature on career ladders and provide context. There are many different usages of the term "career ladders," so this section serves to provide a common base for my strategic project. Next, I examined well-defined, comprehensive career ladder systems to deepen my

understanding of current best practices regarding how career ladders operate and engage with diverse groups of stakeholders in different contexts. A deep exploration of the international top performers aligns with the mission of my residency site, which researches the world's top performing systems and the international economy to inform policy recommendations and develop resources in order to improve student and teacher performance in the United States. Afterward, I highlight major themes from the career ladder systems. In the final section, I explore literature on adult development, strategic change leadership, and collaboration to generate insight for moving the project forward. I conclude with a theory of action that guided my strategic project.

## 1. Teacher Career Ladders

*What are career ladders?*

Teaching is complex and demanding. It is also professional work because teachers make critical decisions every day that demonstrate deep levels of knowledge and expertise, adhere to professionally shared standards of practice, and use professional judgment in applying their common knowledge base (Mehta, 2013). Within the teaching profession, though, few opportunities exist to take on greater responsibility, move between different roles, earn higher salaries, and access higher status positions. Teaching has historically been viewed as a flat career because new teachers and experienced, veteran teachers are generally expected to perform the same tasks and have similar responsibilities, and advancement typically entails teachers leaving the classroom (Lortie, 1975; Danielson, 2007; Goodlad & McMannon, 2004). The lack of career staging and

advancement opportunities make it challenging to recruit, develop, and retain talented teachers (Peske, Liu, Johnson, Kauffman, & Kardos, 2001; Hess, 2009).

Research has demonstrated that teaching quality is the most salient in-school factor impacting educational outcomes for students (Wright, Horn, & Sanders, 1997; Rivkin, Hanushek, & Kain, 2005), and high quality teaching has a cumulative and long-lasting positive effect on students' lives beyond academics, creating substantial economic value (Chetty, Freidman, & Rockoff, 2011). In light of this, how the system recruits, develops, supports, and nurtures high-quality teaching is critical to addressing the most pressing issues in education, including issues of recruitment, retention, and teaching quality. Redesigning teachers' jobs through career ladders, or pathways, can unflatten the teaching profession by attracting talented teachers into the profession, recognizing the different stages in a teacher's career, differentiating between various levels of skills and knowledge, and developing teacher leadership (Natale, Bassett, Gaddis, & McKnight, 2013; Goodwin, Low, & Ng, 2015). In addition to helping recruit high performing and competitive individuals to the profession, career ladders also help to retain excellent teachers through new and differentiated roles. They also help to reorganize schools into professional work organizations. I use the words "career ladders" and "career pathways" synonymously, and "career continuum" to mean the entirety of a teacher's experiences from pre-service teacher preparation to highly accomplished practice.

A career ladder system provides teachers with opportunities for differentiated roles and greater responsibility, and recognizes and rewards teachers for increasing degrees of teaching expertise (Darling-Hammond, 2010; CIEB, n.d.; Brandt, 1990; Natale, Bassett, Gaddis, & McKnight, 2013). It typically features established criteria for

advancement from one level on the ladder to the next, with differentiated pay and titles at each level to correspond with different stages of a teacher's career and their shifting knowledge, skills, and performance (CIEB, n.d.; Brandt, 1990; Natale, Bassett, Gaddis, & McKnight, 2013; Accomplished California Teachers, 2012). Through this system, teachers can move beyond basic qualifications to a higher and more complex level of professional growth and leadership.

By recognizing, developing, and rewarding teacher expertise and differentiating roles and responsibilities, career ladders and pathways serve multiple purposes, from supporting teacher leadership development (York-Barr & Duke, 2004), to improving instructional practices that directly feed into school improvement efforts aimed at improving student academic outcomes (Darling-Hammond, 2010). They can also enhance the competitiveness, performance, rewards, and status of the teaching profession (Holmes Group, 1986), because of the expectations typically placed upon teachers to develop their expertise, engage in professional decision-making, collaborate with other colleagues, coach and mentor less experienced teachers, and exert influence as they advance along the career ladder. In addition, career ladder systems that create pathways for expert teachers to receive training, coaching, and mentorship in preparation for principal or curriculum specialist roles can help schools, and systems, develop effective and visionary leadership (Darling-Hammond, 2010; Tucker, 2014). Moreover, when purposefully designed, they can serve as a system-level lever to promote equity and close achievement and opportunity gaps, such as when expert teachers and excellent school leaders are incentivized to join high-needs and low-income schools (Darling-Hammond, 2010; Natale, Bassett, Gaddis, & McKnight, 2013). Career ladders can also improve

teacher retention, performance, and morale, especially if locally designed and negotiated (AFT, 2012). And because career pathways center on teaching expertise and professional judgment, they can help build public trust for the teaching profession and shift the mindsets and culture of teaching in the United States over time.

What emerges from the current career ladder movement is that they are diverse, across the United States and between the global top performers. Diversity in career pathways is expected, for every system is designed and implemented based on the intention and unique context of its community or jurisdiction (Brandt, 1990; Accomplished California Teachers, 2012). Recently proposed and emerging career ladder and pathway models are diverse (Natale, Bassett, Gaddis, & McKnight, 2013): restructuring teacher's work and career paths (Accomplished California Teachers, 2012); neo-differentiated staffing models (Coggshall, Lasagna, & Laine, 2009); differentiated pay structures (Johnson & Papay, 2009); and creating new roles for teachers unions (Coggshall, Behrstock-Sherratt, & Drill, 2011; AFT, 2012; NEA, 2011). Career pathway systems are also deeply influenced by who designs the system (Accomplished California Teachers, 2012), which has implications for the politics of education. Moreover, they remain contentious for a number of reasons, including the criteria for selecting expert teachers, the attachment to merit pay and how performance is measured, ill-defined responsibilities for higher rank teachers, and lack of support and training for differentiated roles (Natale, Bassett, Gaddis, & McKnight, 2013; Darling-Hammond, Goodwin, & Low, in press).

*Context*

Juxtaposing achievement and opportunity gaps within the United States with student performance on international assessments can be alarming, leading to questions about whether our education system truly engages all of our students in rigorous and high-quality learning experiences. Data from the 2013 National Assessment of Education Progress (NAEP) showed no significant changes in racial gaps in twelfth-grade mathematics or reading from 2009 to 2013, with a white-black score gap of 30 points in mathematics and 30 points in reading, and a white-Hispanic gap of 21 points in mathematics and 22 points in reading (NAEP, 2013). In addition, the achievement gap between high- and low-income children has widened substantially in the past decades and is larger than the black-white achievement gap (Reardon, 2011). Students in the United States continue to be outperformed by their counterparts in other advanced industrialized countries topping the international assessments. The Program for International Student Assessment Student Assessment (PISA) examines student performance of 15-year olds in industrialized counties in mathematics, reading, and science. According to PISA 2012 results, among 34 Organization for Economic Cooperation and Development (OECD) countries, the United States performed below average in mathematics and ranked 27, while its performance in reading and science were not statistically significant from the OECD average and earned it a rank of 17 in reading and 20 in science. Our nation performs in the middle of the pack.

The under- and low-performance continue through college, as does the inequality. More than one-third of first-year college students require remedial coursework in mathematics or English (Bettinger, Boatman, & Long, 2013). Researchers also found in

two different studies that community college students, who constitute over 45 percent of all students in college, generally have not mastered elementary and middle school mathematics, and most introductory courses in community colleges required little to no writing and only required students to read between the 11$^{th}$ and 12$^{th}$ grade levels (NCEE, 2013). Similar to K-12 outcomes, large gaps exist across socioeconomic lines. Approximately 82 percent of students from high-income families attended college in 2010, compared to 52 percent of students from low-income families (NBER, n.d.).

How schools are organized and classroom teaching within the United States have not significantly changed over time, and there is persistent failure within urban schools, even with all of the reforms (Payne, 2008). As Mehta (2013, April 12) succinctly puts it in his op-ed piece, *Teachers: Will We Ever Learn?*: "On the whole, [since the Progressive Era] we still have the same teachers, in the same roles, with the same level of knowledge, in the same schools, with the same materials, and much the same level of parental support." This inability to change to meet current and future needs of students and teachers has led to calls for the United States to learn from top performing systems around the world—from teachers to education researchers, policymakers, and other key stakeholders (Tucker, 2014; Darling-Hammond & Rothman, 2015; Natale, Bassett, Gaddis, & McKnight, 2013). It has also led to calls for creating new pathways for teachers that differentiate their roles, responsibilities, and pay, albeit in different ways and varying degrees—again, from a variety of key stakeholders, including the unions, researchers, policymakers, teachers, and education organizations (Darling-Hammond, 2010; Tucker, 2014; Natale, Bassett, Gaddis, & McKnight, 2013; Accomplished California Teachers, 2012; AFT, 2012; NEA, 2011).

The current movement to change the culture of teaching, professionalize the field, and create a career development system differentiating teachers' responsibilities and compensation is an extension of the calls for change over three decades ago. In *Schoolteacher*, Lortie (1975) described teaching as being flat and, while it was respectable, having middle status. Educational improvement, he argued, was impeded by a traditional culture of teaching, namely focusing on the short-term, working in isolation, and concentrating on small changes instead of school-wide changes. Years later, when the well-known report *A Nation at Risk* was released in 1983, it called for developing career ladders to enhance the profession and differentiate between teachers' skills and knowledge, raising teacher salaries to make them professionally competitive and performance-based, and improving teacher evaluation to incentivize growth, among other recommendations. Similar calls to professionalize teaching continued in two other influential reports, *A Nation Prepared: Teachers for the 21$^{st}$ Century* by the Carnegie Forum on Education and the Economy in 1986, and *Investing in Our Children* by the Committee for Economic Development in 1985. Throughout the 1980s and 1990s, state education policy mirrored these calls to improve teaching quality, expand career opportunities and create differentiated salary structures, through career ladder systems and higher pay with National Board Certification (Hirsch, Koppich, & Knapp, 1998). The concept of teacher career ladders was also recommended in *Tomorrow's Teachers* (1986), a report by the Holmes Group, a consortium of deans and other academic leaders from research institutions across the nation. By the mid-1980s, over 30 states had implemented some form of a career ladder to differentiate teacher salaries and offer

leadership opportunities to teachers (Pipho, 1998, as cited in Natale, Bassett, Gaddis, & McKnight, 2013).

## 2. Current Practices with Career Ladders

In this section, I reviewed the current practices of seven teacher career ladder systems, or similar structure, to understand different approaches to designing career ladders and building a strong foundation for implementation. I also did this to deepen my understanding of how key stakeholder groups within different contexts engage with the idea of differentiating teachers' skills, knowledge, and responsibilities for the purposes of recognizing and rewarding expert teaching, and by extension, helping to professionalize the field. I chose to review Singapore and Shanghai because, in addition to being two of the international leading performers, their career ladder systems are two of the most well-defined career ladder and pathway systems in the world (Tucker, 2014; Tucker (Ed.), 2014; Natale, Bassett, Gaddis, & McKnight, 2013). In addition, both Singapore and Shanghai have significantly improved education quality and equity within their school systems over the span of a few decades, through long-term, purposeful, and coherent education policies and implementation efforts; previously, they each had weak schools and struggling economies (Sato, in press; Darling-Hammond, Goodwin, & Low, in press). Upon further inspection, both also present a level of diversity appropriate for their unique context. For example, Singapore's population is multi-racial, multi-ethnic, multi-religious, and multi-lingual, comprised of Chinese (74%), Malays (13%), and Indians (9%) (Department of Statistics, 2014, as cited in Darling-Hammond, Goodwin, & Low, in press). And while Shanghai's population may not be as racially, ethnically, or

linguistically diverse, Shanghai does have both urban and rural districts, and its schools

have had to adapt to meet the needs of a growing migrant student population (Sato, in

press). I also selected Australia because it created rungs of a ladder based on

accomplished professional standards, which aligns with the project idea.

To understand a few of the different career ladder approaches undertaken across

the United States, I selected four systems to review in depth, all of which were identified

by Natale, Basset, Gaddis, and McKnight (2013) as having comprehensive teacher career

initiatives: Arizona, Iowa, New York, and the District of Columbia.[1] Because of the goals

of the strategic project, to lead the design for and build support for a national teacher

career ladder system that will be implemented at the state level, I focused primarily on

state-based career ladder systems. However, I did briefly explore career ladder systems

implemented in a few select districts to inform my work (i.e., Denver Public Schools and

Baltimore City Public Schools). I also examined two program-based initiatives: the TAP

System, an initiative of the National Institute for Excellence in Teaching (NIET), and the

Opportunity Culture initiative launched by Public Impact.

Figure 1 below highlights key features of comprehensive career ladders and

pathways in three high performers: Singapore, Shanghai, and Australia. Figure 2

highlights the different career ladder and pathway systems of three states (i.e., Arizona,

Iowa, and New York) and the District of Columbia (DC). Additional details for each

career ladder system can be found in the Appendices. (Please see Appendix A for

Singapore, Appendix B for Shanghai, Appendix C for Australia, Appendix D for Iowa,

Appendix E for New York, Appendix F for Arizona, and Appendix G for the District of

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[1] Arizona, District of Columbia, and Iowa were identified as the only states and jurisdiction with comprehensive teacher career initiatives. I also selected to highlight New York, which was one of the three states listed as having proposed a comprehensive teacher career initiative.

Columbia). For each career ladder model, I identified three main subcomponents: a career advancement structure, an appraisal and development system, and a compensation and recognition system. This decision was influenced by Singapore's career development system. Not all career ladder models easily break up into these three subcomponents, given their deep integration with each other, but drawing these distinctions help to present a holistic picture of each career ladder system, as well as to distinguish one career ladder system from another. I define a comprehensive and coherent career ladder system as having three subcomponents that are tightly aligned and integrated, so that each subcomponent supports the goals of the other two subcomponents, and so they all work together strategically in collaboration to achieve one larger goal: develop, support, recognize, and reward expert teaching so teachers have varied and multiple opportunities to develop their skills, career, and leadership. Improved teaching will then feed into improved student academic and life outcomes.

I benchmarked an initial proposed design of a national teacher career ladder system against these systems because they represent the most comprehensive and well-designed international and national career ladders. While international benchmarking may be considered inappropriate by some because of different cultural and geopolitical contexts (Harris, Zhao, & Jones, 2015), many of the global top performers have engaged in international benchmarking to learn new and best practices and then adapt them for their own unique context (Tucker, 2014b). These efforts to continuously improve, with international benchmarking serving as one part of the continuous improvement process, have led to improved, and now exceptional, student achievement and teaching quality within these education systems.

# Figure 1: Career Ladder and Pathway Systems in High Performing Jurisdictions*

*Please see Appendices A, B, and C for details about each system presented below, as well as citations (Appendix A: Singapore, Appendix B: Shanghai, and Appendix C: Australia).

| | Singapore | Shanghai | Australia |
|---|---|---|---|
| **Model** | | | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | For teachers, school leaders, and specialists across school, cluster, and ministry levels | For teachers and principals | This model is not a career ladder one, per se, but rather the rungs on the ladder or stages on a pathway.<br><br>For teachers and principals |
| **2) Appraisal system** (How are appraisals connected to career advancement? How often are teachers assessed?) | Regularly assessed based on multiple indicators through Enhanced Performance Management System (EMPS) by school and district- and Ministry- level leaders | Regularly assessed based on multiple indicators by school leaders and district-level leaders | Regularly assessed, with career advancement based on a multiple step application process that assesses educators on multiple indicators |
| **3) Compensation and recognition system** (How are compensation and recognition connected to career advancement?) | - Salary plus performance-based bonus<br>- Awards<br>- Titles | - Merit pay, with 70 percent base salary and 30 percent performance-based<br>- Awards<br>- Titles | The framework is not directly tied to performance, so compensation and incentives are negotiated and determined at the local level. |
| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | 13 teaching competencies, 9 of which are evaluated around Nurturing the Whole Child, Cultivating Knowledge, Winning Hearts and Minds, and Working with Others. | Teaching standards organized under 4 broad categories: 1) student-centered teaching; 2) teacher's ethics and identity; 3) teaching knowledge and skills; and 4) teachers' lifelong learning and contributions to the continuous improvement of the educational system | The Teacher Standards are interconnected and are grouped into three domains: Professional Knowledge, Professional Practice, and Professional Engagement. The Standard for Principals is based on three leadership requirements (vision and values; knowledge and understanding; and personal qualities, social, and interpersonal skills), which are enacted through five key professional practices. |
| **Policy guidelines** (Local school board, legislation, or union contract?) | Ministry of Education | - Teacher Law in 1993<br>- Ministry policies and regulations<br>- Shanghai Municipal Education Commission | - The Australian Institute for Teaching and School Leaders (AITSL), for national consistency<br>- Certifying authorities in states and territories have flexibility in determining processes and supports |
| **Program design** (Who was responsible for the design? Special task force? Local planning groups? Union support?) | Ministry of Education | - Ministry of Education<br>- Shanghai Municipal Education Commission | - Ministerial Council for Education, Early Childhood Development and Youth Affairs (professional standards)<br>- AITSL (performance and development framework) |
| **Funding source** (Local city council? Local supplements?) | Ministry of Education | - Ministry of Education<br>- Shanghai Municipal Education Commission | - The Australian Government<br>- States and Territories |
| **Selectivity** (High, considerable diversity?) | High | High | Unclear |
| **Emphasis** (Professional development, | - Professional and personal development | - Professional development, recognition, and | - Transparent expectations and benchmarks |

| | merit pay, extra duty?) | - A learning system and a learning profession<br>- Education as central to the individual, economy, and nation building | enhanced status of teaching profession<br>- Supports the national policy call to contribute to system and nation | - National consistent approach to certification<br>- Recognize and promote quality teaching |
|---|---|---|---|---|
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | | - Annual professional development<br>- Mentoring<br>- Time for collaboration and professional activities<br>- Network and resources<br>- Scholarships and study leave<br>- Course, degree, and diploma programs<br>- Reduced teaching load for part-time Master's degree candidates<br>- Executive leadership training<br>- Nation-wide professional learning community led by expert teachers<br>- Opportunities to be posted in other schools, the ministry, and the National Institute of Education | - Apprenticeship<br>- Mentoring and coaching<br>- Engagement on different teams (e.g., grade level, subject and content, research, and lesson planning)<br>- Time for collaboration<br>- Common space to foster collaboration<br>- Professional development offered by the district and in partnership with higher education campuses<br>- Classroom observations<br>- Teaching demonstrations for peer observation and feedback<br>- Web platform to access and share ideas, research papers, and other resources<br>- Placing high performing educators in struggling schools | - Supports available to teachers vary between the different local jurisdictions<br>- Relevant professional learning<br>- Targeted career goal setting<br>- Effective reflection and feedback<br>- School and system wide collaboration<br>- Networks<br>- Examples of certification evidence<br>- Illustrations of practice showcasing a variety of pedagogical approaches, by each of the four career stages<br>- Innovative professional learning and performance and development interactive guide<br>- Research repository<br>- Teacher Feature videos |
| **Evaluation committee** (Who evaluates forward movement on the ladder?) | | - Teachers: Principal, in consultation with other expert teachers<br>- Aspiring leaders: District level interviews with panels of experienced school leaders and experts | - Teachers: Principal, in consultation with expert teachers<br>- Aspiring master teachers and school leaders: A district-level committee of expert teachers and school leaders review applications and interview candidates | - For registration (the movement from Graduate to Proficient): the teacher regulatory authority in each state and territory<br>- For Highly Accomplished and Lead teachers, the following are involved in the process: the applicant, three to five referees nominated by the applicant (colleagues), principal/supervisor, and two trained assessors external to the school (who make the final recommendation) |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | | - Performance grade on annual appraisal<br>- Teacher's "current estimated potential" (CEP)<br>- Professional portfolio<br>- Contribution to school and community<br>- Contribution to colleagues' development<br>- Student success (academic success and holistic development) | - Demonstrable professional competency and status among their colleagues<br>- Colleague evaluations<br>- Development of other teachers<br>- Students' accomplishments<br>- Education research publications<br>- Awards (e.g., teaching competitions, etc.)<br>- Student evaluations<br>- Advancing educational reforms | For certification of Highly Accomplished and Lead teacher career stage:<br>- Direct evidence (e.g., annotated samples of student work, at least two reports of classroom observations, lesson plans, collaboration with colleagues, documentation of assessment strategies and links to their intended outcomes, student and parent feedback, parent and community engagement, and participation in professional learning)<br>- Teacher reflection on the direct evidence<br>- Referee statements |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, new | | - New and additional roles and responsibilities as teachers accrue teaching expertise<br>- Cascading mentoring system | - New and additional roles and responsibilities as teachers accrue teaching expertise<br>- Cascading mentoring system | - New and additional roles and responsibilities<br>- Mentor and guide teachers and pre-service teachers |

| and/or additional roles and responsibilities, mentoring, etc.?) | - While teachers are expected to collaborate with other teachers, as they gain greater expertise, their sphere of influence increases so they can contribute to their colleagues' learning | - Leadership roles in formal and informal teacher groups<br>- While teachers are expected to collaborate with other teachers, as they gain greater expertise, their sphere of influence increases so they can contribute to their colleagues' learning<br>- Expert principals mentor new principals | - Collaborate with colleagues<br>- Contribute to their colleagues' learning<br>- Effective principals mentor new principals |
|---|---|---|---|
| **The role of the union** (What was/is the role of the teachers unions in the design and/or implementation of the career ladder?) | Not available | Not available | Teacher unions and principal associations collaborated with AITSL to develop the Australian Teacher Performance and Development Framework. |
| **Outcome measures** (What are major indicators of success?) | - Teaching viewed as a highly desirable and competitive profession<br>- Attract high performers<br>- Low teacher attrition rate<br>- Collaborative and professional environment where teachers are decision-makers<br>- Job satisfaction<br>- Holistic development of students, including cognitive, physical, social, moral, and aesthetical dimensions | - Student performance<br>- Forward movement on the career ladder<br>- Lifelong learning professionals who contribute to the education system<br>- Job satisfaction<br>- Collaborative and professional environment<br>- Teaching that supports individual interests of students, supports problem -posing and –solving learning, integrates knowledge across disciplines, and fosters innovation and creativity | - National consistency on teaching quality<br>- A rigorous and transparent certification process that recognizes and rewards expert teaching<br>- Increasing number and proportion of teachers at expert and senior teacher career stages<br>- Range of professional development and support provided to teachers and school leaders<br>- Improved student outcomes |
| **Registry of promotion and/or certification** (Who keeps and maintains this information?) | Ministry of Education | Shanghai Municipal Education Commission | - Local certifying authority (jurisdiction database)<br>- AITSL (data on Highly Accomplished and Lead teacher certification) |

## Figure 2: Career Ladder and Pathway Systems in the United States*

*Please see Appendices D, E, F, and G for details about each system presented below, as well as citations (Appendix D: Iowa, Appendix E: New York, Appendix F: Arizona, and Appendix G: District of Columbia).

| | District of Columbia | Arizona | Iowa | New York |
|---|---|---|---|---|
| **Model** | | | | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | For teachers | For teachers, with flexibility for districts to design their own models based on specified criteria | For teachers, with flexibility for districts to design their own models based on specifications | For teachers and principals, with flexibility for districts to design their own models based on clear expectations |
| **2) Appraisal system** (How are appraisals connected to career advancement? How often are teachers assessed?) | Annual evaluation based on a number of formal and informal observations (instructional expertise), student achievement, collaboration, and professionalism | Performance evaluated at the local level using the locally designed evaluation system | Annual peer reviews, and performance review of career teachers once every three years based on multiple indicators | Annual evaluation based on state growth or other comparable measures, locally-selected measures, and other measures of educator effectiveness |
| **3) Compensation and recognition system** (How are compensation and recognition connected to career advancement?) | - Based on career ladder stage and performance rating, as well as poverty level of school<br>- Titles<br>- Awards | - Varied with each participating district, and each level of the ladder had its own salary range<br>- Awards at the group, team, school, or district level | - Salary supplements<br>- Titles | - Compensation varies by district (unclear how the statewide career ladder is connected to compensation)<br>- Titles |
| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | - Center on three domains: Plan, Teach, and Increase Effectiveness<br>- Currently, only the Teach domain is assessed: lesson planning, practice, student-centered learning and meeting learning needs, effective questioning, maximizing instructional time, and building a supportive learning environment | It is unclear if and what specific standards were used to determine forward movement on the career ladder. | Multiple criteria on the eight teaching standards: content knowledge, instructional planning, meeting student learning needs, monitoring learning, classroom management, professional growth, fulfilling professional responsibilities, and enhancing student performance and supporting district goals | 36 teaching competencies focused on seven core areas: knowledge of students and student learning, content and instructional planning, practice, learning environment, student assessment, professional responsibilities and collaboration, and growth |
| **Policy guidelines** (Local school board, legislation, or union contract?) | - District guidelines<br>- Collective bargaining agreement/union contract | Legislation: ARS §15-918 | Legislation: House File 215 | Varies across the state to meet local needs (e.g., collective bargaining agreement/union contract, district policies, etc.) |
| **Program design** (Who was responsible for the design? Special task force? Local planning groups? Union support?) | - Career ladder: Focus groups and task force meetings, with contributions from teachers, school leaders, central office staff members, and other DCPS educators<br>- Compensation component: DCPS collaborated with partners | Arizona legislature (unclear which experts informed their decision making) | Teacher Performance, Compensation, and Career Development Task Force (comprised of statewide teachers, principals, superintendents, union leadership, school board leadership, university leadership and faculty, leaders from the Department of Education, and | LEAs, with support from the New York State Career Ladder Pathways Team (comprised of teacher and principal leaders and Department staff) and a Strengthening Teacher and Leader Effectiveness Advisory Board (comprised of superintendents and |

| | | | other key stakeholder groups) | members of their leadership team) |
|---|---|---|---|---|
| **Funding source** (Local city council? Local supplements?) | - Private donations gathered by the D.C. Public Education Fund<br>- Race to the Top funding | - State appropriations based on a formula using student count<br>- Local tax | State legislation | - Current funding primarily through Race to the Top<br>- Future potential funding sources:<br>  - Federal funds<br>  - Federal competitive grants<br>  - State competitive grants |
| **Selectivity** (High, considerable diversity?) | Unclear | Unclear, but the intention was to have challenging criteria to move forward | Diversity | Diversity |
| **Emphasis** (Professional development, merit pay, extra duty?) | - Retain top performers<br>- Reward performance<br>- Broaden recognition<br>- Increase career stability | - Attract and retain talented teachers to improve student achievement<br>- Promote and support the professional development of teachers<br>- Support and encourage collaboration and teamwork<br>- Provide opportunities for leadership and professional growth | - Attract promising new teachers<br>- Retain effective teachers<br>- Promote collaboration<br>- Reward professional growth and effective teaching<br>- Improve student achievement | - Prepare high quality teachers<br>- Recruit high quality teachers<br>- Retain top talent<br>- Professional development (have top talent develop peers)<br>- Ensure equitable access to the most effective educators |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | - Job-embedded professional development<br>- Five feedback cycles throughout the school year<br>- Instructional coaching<br>- Content-based feedback and guidance for growth from master educators (subject-based expert teachers)<br>- Access to video library highlighting best instructional practices<br>- Curricular resources to implement Common Core State Standards | - More expert teachers coach, mentor, and deliver professional development<br>- Staff development focused on improving instructional skills | - Professional development<br>- Collaboration opportunities and resources for teacher leaders and principals through the TLC Online Community (AGORA)<br>- Coaching of teacher leaders, principals, and superintendents<br>- Teacher leadership roles and responsibilities can be integrated with the peer review process for the purposes of coaching and improvement | - Coaching and mentorship based on local models, and in collaboration with local partners<br>- Online New York State Career Ladder Pathways Toolkit where teacher and principal leaders can find resources (e.g., professional learning modules, conversation protocols, and observation templates) |
| **Evaluation committee** (Who evaluates forward movement on the ladder?) | Teachers: evaluations conducted by the principal, vice principal, and a team of independent Master Educators | - Unclear, though legislation stipulated that more than one person had to be responsible | Teachers: local site-based review councils that include teachers and administrators | Teachers: evaluations conducted at the local school and LEA level |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | - Student achievement (growth on state assessment, or on other assessments if teachers do not teach a grade or subject covered by the state test)<br>- Instructional expertise<br>- Collaboration<br>- Professionalism | - Announced and unannounced observations<br>- Students' academic progress, through various methods of assessment and appropriate for teacher's circumstances<br>- Higher levels of instructional responsibilities | - Measures of teacher effectiveness and professional growth<br>- Needs of the school district<br>- Performance and professional development | Varies depending on the local design of the career ladder pathway model |
| **Role differentiation** (What is | - New and additional responsibilities | - New and additional higher level | New roles and responsibilities for teacher | - NYSED did not mandate specific roles |

| | | | | |
|---|---|---|---|---|
| the intended impact on a teacher's role and responsibilities? Minimal change, new and/or additional roles and responsibilities, mentoring, etc.?) | - Teachers at the Advanced, Distinguished, and Expert stages are eligible to mentor and coach less experienced teachers | responsibilities (e.g., coach, mentor, and deliver professional development training with increasing expertise) | leaders, but they vary depending on the local design of the teacher compensation and leadership model | or responsibilities for career ladder pathways. - New roles and responsibilities vary depending on the local design of the model. |
| **The role of the union** (What was/is the role of the teachers unions in the design and/or implementation of the career ladder?) | DCPS and the Washington Teachers' Union (WTU) collaborated to create IMPACT*plus* | Unclear | Union leadership served on the task force for the design process | LEA management and local unions collaborate on models and implementation |
| **Outcome measures** (What are major indicators of success?) | - Higher retention rate of top performers - Increased recognition and rewards for exceptional performance - Increased career stability - Most effective teachers in the most struggling schools - Teachers honored as professionals - Student success | - Improved student achievement - Attracting promising individuals to teaching - Higher retention rate of effective teachers - A collaborative professional learning environment - Meaningful opportunities for leadership and professional growth | - Achieving local goals, as specified in the local plan - Attracting promising individuals to teaching - Higher retention rate of effective teachers - Improved student achievement - A collaborative professional learning environment | - Raised overall quality of teaching and learning - College and career ready students - Equitable access to the most effective educators - Recognition and increased retention rate of excellent teachers and administrators |
| **Registry of promotion and/or certification** (Who keeps and maintains this information?) | DCPS (no certification for teacher leadership) | Districts Unclear if state maintained a registry | Districts (no teacher leadership certification) | Districts (no certification for teacher or principal leadership) |

*Major Themes and Best Practices from the International Top Performers and the U.S.*

A few major themes emerge from reviewing these career ladder systems, albeit with differences for their unique context and in various levels of intensity. Common themes from these career ladders are:

1. *Multiple pathways for teacher leadership*

   Within the career ladder systems, teachers have varied and multiple opportunities to develop their professional and leadership capabilities in ways that allow them to develop expertise while remaining within classrooms and schools. Consider DC's LIFT ladder, in which exceptional teachers can advance to the Expert Teacher stage, giving them opportunities to continue leading students to make significant learning gains year after year, while also mentoring less experienced teachers and playing an active role in improving school culture, instruction, and teacher retention (DCPS, 2015).

2. *Regular assessment with multiple measures of performance*

   In addition to appraisals occurring regularly, varied and multiple indicators are used to measure teacher performance. Additionally, the systems primarily use appraisals and evaluations as a feedback mechanism to inform teachers' development plans and improve instructional practices. For example, within Singapore, teacher performance is regularly assessed, formally and informally, based on their annual appraisal, professional portfolio, contribution to their school and community, contribution to other teachers' development, and the success of their students (Darling-Hammond, Goodwin, & Low, in press).

3. *Skilled teaching force*

   The career ladder systems aim to recognize, reward, develop, and support high-quality teaching—representing their commitment to a skilled teaching force, and creating and sustaining an environment that nurtures this. Shanghai will only promote the most accomplished and effective teachers to the highest levels of its career ladder; less than 7% of teachers reach senior teacher status (Sato, in press), and only 5% of principals have earned the highest rank of master principal, Special Grade Principal (Zhang, Ding, & Xu, 2016).

4. *Collaboration and mentoring*

   Collaboration features prominently in these systems, whether it be between more experienced teachers and less experienced teachers, grade level teachers, subject matter teachers, administrators and teachers, or parents and teachers For example, in Iowa, one of the stated goals of its career ladder system is to promote collaboration between teachers (Iowa Department of Education, 2015), and all local Teacher Leadership and Compensation plans that receive state funding must provide coaching, mentoring, and opportunities for new teachers to learn their craft from expert teachers (Iowa Department of Education, 2013).

*Major Themes from the Top International Performers Not Found in the U.S.*

   Major themes also emerge from Singapore and Shanghai. They are:

1. *Continuous learning expected at multiple levels*

   Individuals, schools, and the larger educational system are all expected to continuously improve within Singapore and Shanghai. Within Shanghai, for

example, new teachers are expected to improve their knowledge, skills, and practices through a structured apprenticeship with expert teachers at the start of their teaching career. Every teacher, from new to experienced, has a mentor because the teaching philosophy is that everyone has room for improvement— Master Teachers, who are experts in their craft and the highest rank teachers, are an exception to this and do not have mentors (Tucker, 2014). The aforementioned practices are what I identify to be individual continuous improvement. School-wide continuous improvement is also evident within Shanghai, and the career ladder is one of the main drivers. For example, professional school teams (e.g., grade level, subject and content, research, and lesson planning) play a critical role in the school improvement process, with formal and informal teacher leadership roles driving collaboration and the success of teams (Sato, in press). Schools also benefit from demonstration lessons, in which teams of teachers teach a lesson observed by several colleagues from within and outside of their schools and then receive feedback to improve the lesson, a process that influences movement along the career ladder (Sato, in press). Finally, at the system level, Shanghai is moving toward a system that promotes complex student engagement, creativity, innovation, and problem solving with uncertain outcomes—because, even as a top performer, it is unsatisfied with what students are capable of doing and how they think (Sato, in press). Furthermore, nearly all policy makers and officials at district offices, city commissions, and the national Ministry of Education started their careers as teachers and were themselves expert and highly accomplished teachers and/or principals (OECD, 2010), which helps them to understand how

policies are translated into classroom practices and informs education policies at the system level. This cycle of expert teachers making key decisions at the system level feeds directly into the system's continuous improvement process.

2. *Dual-pronged approach at holistic development (adults and students)*

Both Shanghai and Singapore's educational systems aim to develop students holistically (Cheng, 2014; Darling-Hammond, Goodwin, & Low, in press), and this idea of holistic development extends to adults within the system. For example, in Singapore, the Enhanced Performance Management System (EPMS) is a holistic appraisal system (Darling-Hammond, Goodwin, & Low, in press), accompanied by a Teaching Competency Model specifying the expectations for teachers and their development (see Figure 3).

**Figure 3: Singapore Teaching Competency Model**



(Singapore Ministry of Education, as cited in Lee & Tan, 2010)

Teachers are assessed on all competencies listed under Core Competency, Cultivating Knowledge, Winning Hearts & Minds, and Working with Others; while competencies listed under "Knowing Self and Others" are not used for assessment purposes, they serve to promote and nurture self-reflection, given the importance placed on self development and emotional intelligence (Lee & Tan, 2010). Teachers have protected time to engage in reflection (Darling-Hammond, Goodwin, & Low, in press), which informs their work and the supports needed to succeed and move forward on the career ladder. A system that aspires to holistically develop students needs educators who value and engage in their own holistic development, and thus, the Singaporean system promotes and supports holistic adult development. This dual-pronged approach of holistic development—of students and adults—clearly demonstrates a core value of Singapore's educational system.

3. *Coherence and alignment*

   Singapore and Shanghai have tightly aligned their resources, processes, and priorities, which strengthen system coherence. In particular, the three major subcomponents of a comprehensive career ladder system—the career advancement structure, an appraisal and development system, and a compensation and recognition system—are interconnected and integrated into one larger cohesive career development system, so that one component informs the others and is concurrently informed by the others. For example, career ladders can serve to promote equity within the larger education system. Consider the case of Shanghai. Because it is challenging to recruit and retain high-quality teachers in

rural areas, Shanghai deployed a strategy whereby excellent teachers and school leaders from better-resourced urban schools are transferred for a few years to rural schools, and teachers and principals from rural schools are transferred to urban schools so they can learn from the practices and adapt them upon their return to rural schools (Cheng, 2011). In addition to alleviating disparities and improving practices, this strategy also provides teachers and school leaders with opportunities to hone their skills, share expertise, develop colleagues, and further the larger goals of the education system—all requirements to move forward on the career ladder (Sato, in press). In this case, human capital, time, and money (resources) directly feed into promoting, supporting, incentivizing, and rewarding excellent teaching in the most struggling schools (processes), which in turn directly contributes to the system's larger goals of improving educational quality and equity (priorities). Moreover, core features of the three subsystems work in tandem to reinforce this alignment at the individual teacher level, resulting in a comprehensive career ladder system.

4. *Distributed leadership across multiple levels*

   While career ladders are often critiqued as hierarchical, Shanghai and Singapore provide striking examples of how a career ladder system can support the leadership development of all teachers and school leaders and, thus, distribute leadership across multiple levels of the system. In Shanghai, the structure of formal groups cultivates an environment of shared leadership in the form of collaborative work and collective decision-making (Paine & Ma, 1993), a sharp contrast to the individual work of many teachers in other countries. While

principals guide staff based on what they know about effective teaching, in addition to other standard responsibilities, they also rely on teachers to lead continuous improvement efforts, such as the work done in a *jiaoyanzu*, or a teaching research and subject matter group across primary, junior secondary, and secondary schools (Sato, in press). Expert teachers who have advanced up the career ladder lead the *jiaoyanzu* and work closely with principals, even serving as informal council (Sato, in press). Backbone teachers, who serve as assistants to the *jiaoyanzu* head, also lead efforts to improve teaching within the group, which include testing new ideas first and coaching novice teachers (Sato, in press). Professional learning and mentorship opportunities are purposefully structured so that different ranks of teachers and school leaders support the development of others advancing along the career ladder, a practice that occurs within schools and extends to the district and municipal levels (Sato, in press).

5. *Changing mindsets about teaching and teachers*

The concept of teaching and being a teacher might mean different things to different people, depending on their context. Teaching is a competitive profession and teachers are highly respected in Singapore and Shanghai, with expectations that they continuously hone their craft and routinely collaborate with each other in meaningful ways to improve student outcomes, enhance the profession, and contribute to nation-building—but it was not always this way (Sato, in press; Darling-Hammond, Goodwin, & Low, in press). A few decades ago, Singapore was relatively unknown, possessed few natural resources, and had low school and teacher quality (Darling-Hammond, Goodwin, & Low, in press). It chose to

purposefully and strategically invest in its citizens and the educational system, and do so through policies and efforts over the long-term. The pervasiveness of collaboration within Singapore's schools and across the system, a cascading system of mentoring, and a values-driven educational system—all of these features required changing mindsets and beliefs over time regarding the meaning of teaching and the essence of being a teacher. A number of efforts and initiatives may have contributed to this change in mindset. Perhaps it was the *Thinking Schools, Learning Nation* campaign, or the "Teach Less, Learn More" idea under the campaign to open more white space in the curriculum for students to engage in deeper learning (Stewart, 2014), a time when teachers could collaborate and reflect on their practices with other colleagues. Or it could have been the explicit expectations in job descriptions: "Mentoring is a compulsory part of being a senior teacher and so it is senior teachers are typically given primary responsibility for supporting and mentoring new teachers, support that runs the gamut from technical assistance and modeling, socio-emotional support, professional development, resource sharing, etc." (Darling-Hammond, Goodwin, & Low, in press, p. 41). Whatever it is, Singapore has effectively changed the understanding of what it means to teach and to be a teacher in its system, so that successful teaching is not done in isolation. This signals, for me at least, a change in mindsets—and in the masses.

I highlight these major common themes from Singapore and Shanghai for two reasons. They informed my residency work, and they influenced my selection for the theories that guided my strategic project, as further discussed below.

**3. Collaboration**

A career ladder system is not one singular initiative affecting only teachers, but rather a complex, inter-connected and –dependent subsystem within the larger education system. Administrators, district and state personnel, and a governing board certifying teachers for each level must also be seamlessly looped into the system, so that appropriate infrastructure is in place to support full implementation. And collaboration across sectors is required to ensure that the career ladder is appropriately funded, and students are healthy and safe so they are prepared to learn. In his paper, *From Bureaucracy to Profession: Remaking the Educational Sector for the Twenty First Century*, Mehta argued, "In a large and decentralized system like ours, it is unrealistic to expect an overnight transformation, however, it is possible that a set of concerted efforts pulling in the same direction can gradually yield a quite different kind of sector" (484). The concept of collaboration is central to a career ladder system. Not only is collaboration necessary to build a teacher career ladder, it is also key to implementation of the system and a core feature embedded within comprehensive career ladders.

Partners seek collaboration after governments and competitive markets fail to operate effectively, especially when the challenges in a sector are so complex and uncertain that it is unclear how to solve them (Henig, Riehl, Rebell, & Wolff, 2015). This is the case in the education sector, particularly around school and educator quality, and

issues of equity. In their literature review on collaboration to improve education, Henig, Riehl, Rebell, & Wolff (2015) found three major themes in the empirical and theoretical research: 1) collaboration is complex and has become a preferred strategy to address public sector challenges; 2) collaboration blurs the boundary between governance (public decision makers) and management (professionals and managers); and 3) networks are important for collaboration.

Collaboration happens for many reasons, and there are both risks and rewards. Within an organization, informal networks may become communities of practice to share and manage knowledge, develop a body of knowledge for the long term, promote collective responsibility, and intentionally expand available resources (McDermott & Archibald, 2010). I am most familiar with this type of collaboration. Based on my own professional experiences, it is easier to see opportunities for collaboration and to sustain trusting relationships with other colleagues, because I can see them regularly and am likely to be doing related work. Collaborating as an individual is also an easier task to manage than trying to collaborate with an organization, on behalf of another organization.

Collaboration also happens between groups and organizations. Given limited resources and inefficient markets and sectors, organizations may choose to collaborate so they gain additional resources to achieve a goal they cannot attain alone, and to minimize their risks (Koppenjan & Enserink, 2009; Oliver, 1990). Organizations may also choose to partner for a collaborative advantage (Kanter, 1994), or for legitimacy, productivity, and information (Donahue & Zeckhauser, 2011, as cited in Henig, Riehl, Rebell, & Wolff, 2015). For these reasons, collaboration appears to be an attractive strategy because

it makes organizations stronger in the face of competition, and it increases the likelihood that an organization can successfully push its priorities forward.

Many factors inform whether collaboration will happen. Potential partners need to be convinced that they should collaborate with each other and dedicate their limited resources to solve important problems, which is challenging and loaded with conflict, including considerable resistance from people and organizations threatened by a loss of power, influence, and money (Abele, 2011). Partner organizations will also agree on ideology and working together only to the extent that these do not threaten their own self-interests (Benson, 1975, as cited in Hudson, 2004). Moreover, perceptions of alignment—around values, the mission, contribution, and engagement—also influence decisions to collaborate (Austin, 2000, as cited in Henig, Riehl, Rebell, & Wolff, 2015).

Effective collaboration occurs because of connections and information linkages between different organizations, spaces, and focuses. This is often called boundary spanning or boundary crossing. Henig, Riehl, Rebell, and Wolff (2015) argued that boundary crossing requires effective communication:

> . . .[Communication] is essential for sharing actionable information and building knowledge, but it also helps to set collective mindsets and establish trust, two conditions for effective collaboration. In addition, it can also replace roles and hierarchy as sources of power, as collaborative networks increasingly rely on social relationships as the glue to holding things together. (p. 38)

Boundary spanning individuals link their groups with external ones, translating interests and operations across groups so partners can better understand each other and work together (Tushman & Scanlan, 1981). They do this through communication, information, language, tools, and routines. This skill of boundary spanning, or crossing, seems to be particularly relevant for teachers, because they are often members of multiple teams within a school, and there is a need for teams to work together in unison to achieve the

larger goals of the school. Based on my own experiences as a former math teacher and teacher leader, this skill was not emphasized by school leaders or my colleagues, though the idea of collaboration was (meaning that my participation on teams seemed sufficient, but there were few expectations for *connecting* spaces, ideas, and efforts).

Collaboration also requires trust, which is critical to relationships, and emerged as a key theme in the research literature on collaboration (Henig, Riehl, Rebell, & Wolff, 2015). Researchers have found that collaborative groups that deepen trust and shared understanding in small ways create a virtuous cycle of collaboration (Ansell & Gash, 2007). Moreover, collaboration tends to only happen where trust and common goals exist between individuals and organizations (Lundin, 2007). My teaching experiences align with this. Every school I taught in had its own unique culture, and this impacted how I operated as a teacher. The greater the trust, the more teachers worked together and the more collaborative they were with school leadership and families.

## 4. Generating Insight

Three main bodies of theories helped me understand how to move the strategic project forward: strategic change leadership (i.e., Adaptive Leadership), adult development theories (i.e., Immunity to Change), and social change collaborations (i.e., Collective Impact).

*Adaptive Leadership*

Heifetz, Grashow, & Linsky (2009) define Adaptive Leadership as "the practice of mobilizing people to tackle tough challenges and thrive" (14). Its theory and practices

help individuals to think and operate carefully in a changing environment, by effectively leveraging opportunities and navigating dangers so they can change and adapt.

A few key themes emerge from the practice of Adaptive Leadership (Heifetz, Grashow, & Linsky, 2009). First, it distinguishes between technical problems and adaptive challenges. Technical problems have known solutions and can be resolved by current knowledge, practices, and structures. On the other hand, "adaptive challenges can only be addresses through changes in people's priorities, beliefs, habits, and loyalties" (Heifetz, Grashow, & Linsky, 2009, 19). Whereas both can be complex challenges, only adaptive ones require people to learn new ways of doing things, incur losses, and generate greater capacity. Second, Adaptive Leadership highlights the illusion of a dysfunctional system, arguing that systems operate how people within that system want it to, and that the system has chosen to live and operate in a gap between its espoused values and current practices. This requires leaders to mobilize and support people during adaptive change because adaptation creates tremendous loss and is risky. Third, Adaptive Leadership differentiates between leadership and authority. Leaders must challenge the dysfunction (status quo), point out contradictions, and manage resistance—all of which is dangerous. Finally, it provides insight into how to live in the equilibrium. Leaders must be capable of managing themselves and helping others during periods of conflict, discomfort, and frustration.

The process of exercising Adaptive Leadership is iterative and involves three phases: 1) observing events and situations; 2) interpreting observations; and 3) designing interventions based on observations and interpretations. So observations are as objective as possible, it requires "getting off the dance floor and onto the balcony" so leaders can

examine themselves and others in action, which will help them see patterns they cannot see on the dance floor (Heifetz, Grashow, & Linsky, 2009, 33). This iterative process of exercising Adaptive Leadership not only forces leaders to connect with the values and anxieties of people they hope to move, but also to experiment in smart ways to find solutions to our most pressing social challenges.

*Adult Development*

At its core, this strategic project is centered on adult development, both in terms of its content and process. In order to learn, people must exert effort and believe they can gain new knowledge, skills, and capabilities (Dweck, 2000, citing Bandura & Dweck, 1985; Dweck & Leggert, 1988). True development is about transforming *how* people know things, not just increasing *what* people know, like knowledge and behaviors (Kegan & Lahey, 2009). Learning and development require an appropriate level of challenge and support, so when people seek to make progress, they need opportunities and experiences that both challenge and support them at their growth edge (Kegan & Lahey, 2009). People develop when they increase their capacity for understanding greater complexity.

Adults who can advance to a more complex way of understanding themselves and the world are able to take their own and others' opinions, values, beliefs, and ideas as object, as opposed to being subject (or beholden) to them (Kegan & Lahey, 2009). This is known as the subject-object relationship, and suggests that there are different ways of knowing. Quite simply, the subject-object relationship explains how people understand situations, whether they are looking through or being controlled by something (subject), versus looking at something or using it as a tool (object) (Kegan, 1994).

Kegan and Lahey's (2009) Immunity to Change (ITC) framework is about systems of self-protection as an individual develops to more complex levels of understanding, and reconceives how to continuously manage anxiety associated with change. Its foundation rests upon constructive-developmental theories that focus on an individual's meaning-making system and perspective-taking, whereby individuals make sense of the world they live in, and that understanding grows to become more complex over time (Berger, 2012).

*Collective Impact*

If the goal is to create meaningful change that leads to excellence and equity across the system, individuals and organizations cannot work alone or in silos. Collective impact is a highly structured coalition across sectors (Kania & Kramer, 2013). In this model, the process and solutions emerge. Learning is rapid and continuous through feedback loops. Partners discover new ways of using resources and collaborating that lead to stronger outcomes. Multiple organizations examine opportunities and challenges from a common vantage point. Their unity compels them to adopt agreed-upon interventions quickly and simultaneously. The model's roots lie in complexity theory. Some social problems are incredibly complex, with multiple players interacting in unpredictable ways that lead to unstable outcomes (Kania & Kramer, 2013). This explains why there are no easy solutions for adaptive challenges in education.

Collective impact has five key elements, or rules of interaction: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and a backbone support organization (Kania & Kramer, 2013). These

rules of interaction "lead to changes in individuals and organizational behavior that create an ongoing progression of alignment, discovery, learning, and emergence" (Kania & Kramer, 2013, 2). The model is actualized in three phases (Kania and Kramer, 2011). The first is to initiate action, which builds the foundation for collective impact by identifying key players and existing information. The next phase is to organize for impact, which entails establishing the common goals and aligning partners around these goals. This includes creating a backbone team to coordinate efforts between organizations so as to build greater alignment and share knowledge around best practices. Sustaining action and impact is the final phase and includes collecting data systematically to inform an iterative continual improvement cycle.

Collective impact seems to be a promising idea for practice. However, it is a theory. And social, economic, and political realities will present significant real-world challenges that may hinder an organization's ability to maintain their commitment in a collective effort.

**NCEE Strategy**

NCEE has been benchmarking the most successful international education systems for over 25 years, and it uses this information to develop education polices and practices that are adapted for use in the United States based on local context. Through this work, NCEE learned several key lessons focused on system coherence and performance, which are highlighted in its publication, *9 Building Blocks for a World-Class State Education System*. One of the lessons is that the most successful education systems in the world treat their teachers like professionals and cultivate widespread

teacher leadership that drives student performance upward with equity. As teachers in these systems demonstrate greater competence and expertise, they are given increased responsibilities, autonomy, and authority. They are also rigorously trained and developed so they can master their craft, and are competitively compensated for their high performance. Excellent teaching across the profession drives the international top performing systems' strong outcomes.

The United States continues to perform in the middle of the pack in major international rankings. National scores indicate a large proportion of students perform at levels of basic or below in reading and math, and achievement and opportunity gaps between student groups continue to persist. To drastically improve student performance, teaching performance in the United States must be improved. To significantly improve teaching performance, teachers need to be supported and incentivized to continue their development and gain increasing expertise throughout their full career continuum. A system such as this will attract high performing individuals to the profession and help to retain excellent teachers. It will also help to elevate teaching into a high status profession in society.

NCEE believes that establishing a national system of teacher career ladders will help to create the infrastructure to achieve a system such as the one described above. The career ladder system would be adapted for use in the United States based on the context here. Moreover, the career ladder strategy is aligned with a larger set of policy strategies that aim to significantly improve the education system (e.g., recruiting and retaining highly competent teachers; improving teacher preparation; reorganizing schools; and making teacher salaries competitive with those of high status professions). This strategy

is based on rigorous research and best practices from the most successful education systems, some of which have implemented teacher career ladders for the purposes of significantly improving teaching performance and elevating the profession (and, by extension, significantly improving student performance). Some successful education systems without teacher career ladders do not need them. This is because they have made it incredibly competitive to become a teacher, so that only high performing and promising candidates can enter the profession, which is high status in these places. Moreover, these systems rigorously train their teachers in a systematic fashion, including lengthy apprenticeships with master teachers and robust coaching and mentoring opportunities throughout their career. In an education system such as the one that exists in the United States—where there is not a high bar for entry into the profession, and teachers are not rigorously trained and developed throughout their career—teacher career ladders can serve as a strong mechanism to improve teaching quality and reorganize schools.

For these reasons, NCEE proposed a partnership with the NBPTS to create a national career ladder system for teachers based on the most successful educator career ladders in the world. The National Board was chosen as a critical partner for this initiative because the organization has legitimacy with the profession, states, and other education organizations, while NCEE has legitimacy because of its international benchmarking work and its record for shaping the national education agenda. The plan is to convene an advisory board with the National Board for the design process of the teacher career ladder model, with members of the advisory board representing key education organizations and highly accomplished National Board Certified Teachers. This will help to create broad consensus within the education sector for the design, and it

will also strengthen trust between organizations and in the field. The tentative idea for the design includes two pathways, one leading to the position of Master Teacher and another leading to the position of school principal, with one of the rungs on the career ladder being National Board Certification (this may change based on the design process with partner organizations). NCEE's idea is to work with the NBPTS to establish the structure for this system, and to invite the NBPTS to serve as the certifying agency for the advanced teacher certifications, which will correspond to rungs on the career ladder. States and districts would voluntarily choose to use the career ladder and decide how to use it (e.g., the jobs and responsibilities associated with each level on the career ladder). Teachers would also voluntarily choose to use the career ladder and be able to carry their advanced certifications across the nation, similarly to what they are already doing with National Board Certification. In addition, NCEE and the National Board would be available to provide technical assistance and support state implementation efforts.

It is important to note that this initiative to create a national system of teacher career ladders was only one of multiple strategies at NCEE. The organization is currently working on multiple large-scale initiatives to dramatically improve the education system in the United States, and these initiatives are interconnected so as to help build greater system coherence and alignment.

This organizational context situated my strategic project and informed my theory of action, which guided my work on the strategic project.

**Theory of Action**

If I. . .

- investigate and examine comprehensive career ladder models in the top performing jurisdictions in the world (namely Singapore and Shanghai) and in the United States to develop a deep understanding of career ladders;

- create valuable internal products and facilitate knowledge-sharing moments with colleagues to help build a common understanding of career ladders, build upon NCEE's knowledge base, and inform the organization's initiatives;

- cultivate a trusting relationship with contacts within the National Board, and develop an understanding of the National Board's priorities and strategies;

- invite and engage the National Board to go through the learning and partnership building process with our team at NCEE;

- create products or facilitate touch points that help persuade the National Board to see the opportunities in building a partnership with NCEE, and then later a coalition with other key stakeholders, to leverage a national teacher career ladder system for system-level transformation; and

- create opportunities to learn about the national landscape of teacher leadership in the United States in the context of career ladders, while trying to gauge interest in the idea;

Then. . .

- I will be able to more persuasively and effectively advocate for a national teacher career ladder system, and for one that adapts key features from the career ladders in Singapore and Shanghai;

- I will have strengthened the foundation for a collaborative and coordinated effort among future partners to develop and implement a national career ladder system;

- NCEE will integrate new learning into its initiatives and adapt it in ways that makes sense for the context in the United States;

- the leadership team at NCEE will have greater buy-in from the leadership team at the National Board for joining the proposed teacher career ladder initiative as a true partner; and

- NCEE's leadership team will be able to adjust/adapt its strategies so as to increase the likelihood of convening a coalition of true partners aimed at deeply seeding a national teacher career ladder system in the education system.

## DESCRIPTION, RESULTS, AND ANALYSIS

### 1. Description of Strategic Project: The What and How

The focus of my strategic project was to build a foundation for a national system of teacher career ladders, the initial planning phase for what the NCEE team hopes will be a multiple-year initiative. In addition to having multiple levels with increasing expectations for teacher expertise, leadership, and impact, the design for the career ladder system would include two pathways or tracks, with one leading to the role of Master Teacher and the other to school principal (NCEE, 2015). In preparation for my entry into

residency, Betsy Brown Ruzzi, NCEE Vice President and Director of the Center on

International Education Benchmarking (CIEB), also my managing supervisor, shared a

confidential project proposal providing an overview of the project, what the organization

hoped to accomplish, and the major undertakings required to get a national teacher career

ladder model up and running (NCEE, 2015). This guided my work because it made clear

what tasks NCEE hoped to complete, in addition to helping me identify the tasks I would

work on during my 10-month residency to build a strong foundation for this project.

Figure 4 showcases my major responsibilities, with some flexibility in the timing to

accommodate for relationship building with our intended partner, the National Board for

Professional Teaching Standards (NBPTS or the National Board).

**Figure 4. Phases of Strategic Project at NCEE**

|  | Major Responsibilities |
|---|---|
| **First Phase** (Roughly July 2015 – December 2015) | Conduct a review of career ladders and pathways in the United States and the international top-performers. |
|  | Re-connect with and strengthen relationship with leaders at the National Board. |
|  | Meet with the senior leadership team at the National Board. |
| **Second Phase** (Roughly January 2016 – onward) | Continue to strengthen relationship with the National Board |
|  | Review the landscape of the education sector regarding career ladders and pathways in the U.S. |
|  | Draft a funding proposal, so NCEE and the NBPTS can seek funding from foundations interested in this initiative. |

While NCEE has a clear big-picture strategy for this project, Betsy stated that I could

take on as much of the work as I wanted and determine how I might move the project

forward, with guidance from her and Marc Tucker, NCEE President and CEO.

Marc Tucker and Betsy Brown Ruzzi see the role of NCEE as building the

foundation and support for a national teacher career ladder system, but it will be the

responsibility of our partner organization (the National Board) to operate and manage the

advanced certification process, with each career level or stage corresponding to its

respective certification and representing one rung on the ladder. Figure 5 below describes how the system would operate as a national teacher career ladder.

**Figure 5. How the Career Ladder System Would Operate**
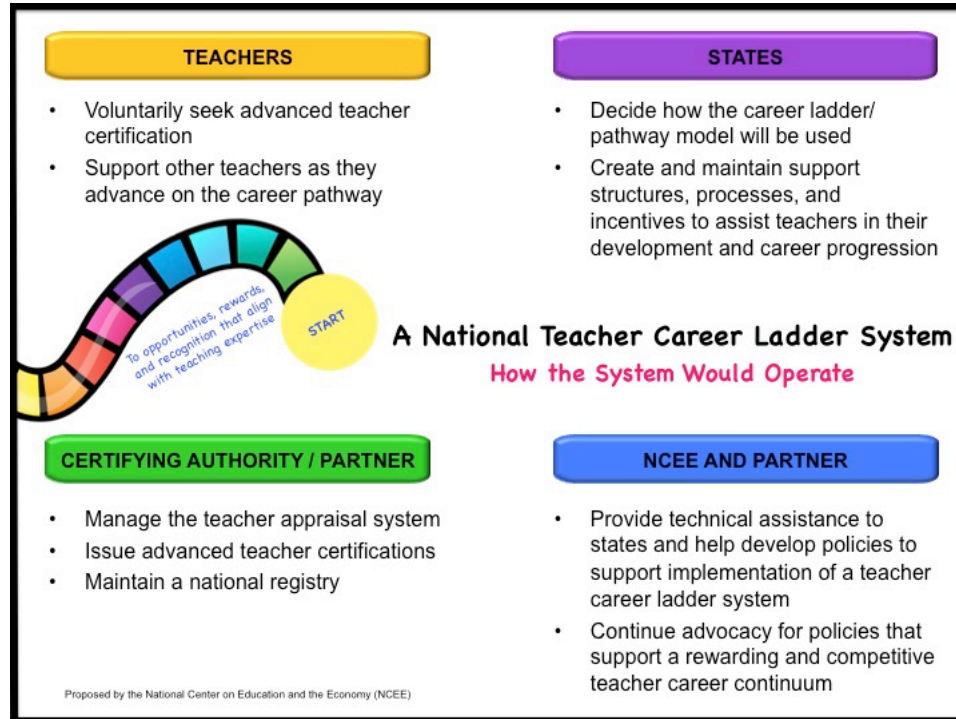


States and large districts would be partners in this strategic initiative and have flexibility in deciding how to recognize and reward the advanced certifications. Teachers could also voluntarily seek advanced certification through the career ladder, even if their districts and states do not reward them, although partnering states and districts are likely to encourage or even require teachers to be placed onto the career ladder.

In the following section, I elaborate on my major responsibilities highlighted in Figure 4, with my larger strategy being to deeply understand the work so I could be an effective advocate (and I hoped, an authentic one).

*1. Conduct a review of career ladders and pathways in the United States and the international top performers, including a review of the current landscape in the United States.*

As a resident, one of my responsibilities included producing a document reviewing teacher career ladders, which will inform partner(s), stakeholder groups, and states about the most comprehensive teacher career ladders in the top performing jurisdictions and within the United States. In a check-in with Betsy that first month, I mentioned that I started learning about teacher career ladders in the United States, to which she responded that I should first learn about the models in the top performing jurisdictions and then learn about the ones in the United States. Doing this would give me a solid understanding of how comprehensive and well-structured career ladders operate, which would help me benchmark them against the ones that currently exist in the United States, she argued, based on years of experience doing this work. I listened to Betsy's guidance and switched to a focus on teacher career ladders in international top performers. It was only after I finished reviewing teacher career ladders in the top performers and then those in the United States did I understand why it was important to learn about them in that order: I had great clarity about the different components of a career ladder system and how these parts are interconnected and must work in coordination for the career ladder to make widespread systemic change in an education system, among multiple and diverse stakeholders across multiple levels in the system—because this is very clear in the Singapore and Shanghai models. It was a powerful epiphany for me, perhaps even the moment when I discovered an authentic belief in the promise of career ladders as a system-level strategy to transform the profession and

schools. This influenced what I highlighted and how I organized information regarding comprehensive teacher career ladders. (See Appendices A, B, C, D, E, F, and G, all of which comprise part of the document overview.)

*2. Build a strong partnership with another organization to push this initiative forward.*

In NCEE's confidential proposal document, the organization hoped for a partnership with the National Board. On numerous occasions throughout my residency, Marc expressed his belief that the National Board has legitimacy with key stakeholder groups and, thus, would be a logical and strong partner for this work. In addition to leading a team that created the National Board years ago, Marc is genuinely invested in the success of the National Board and acknowledges that NCEE cannot do this critical work in isolation, especially because it does not aspire to be the certifying authority for teachers as they achieve each level of the career ladder, or to maintain the registry. These would be the responsibilities of the National Board. Because advanced certifications are a design feature of career ladders and pathways, the National Board was "the natural home" of a career ladder certification system.

Last year, NCEE leadership began a conversation with the leadership at the NBPTS about the possibility of partnering on this initiative. During these discussions, Ron Thorpe, former President/CEO at NBPTS, shared with Marc Tucker and Betsy Brown Ruzzi that, while the National Board was interested in the idea of a national teacher career ladder, it did not have the resources or capacity to work on this initiative at the moment. Because the National Board expressed real interest in the initiative and partnership, NCEE leadership offered to take the lead in building the foundation for a

national teacher career ladder in early 2015, with as much or as little participation from the NBPTS as the organization wanted.

My first day of residency was July 1, 2015. It was also the day Ron Thorpe passed away after a long and brave fight with lung cancer.  How does the loss of an inspirational, visionary leader impact an organization and its relationships? So much of an organization's partnerships are built on trust between specific individual leaders. That day, I recognized the National Board's loss would have an impact on the initiative and strategic project. Marc and Betsy decided to slow down our efforts on partnership building to allow individuals at the National Board time to grieve and recover from this monumental loss.

My primary contact for this strategic initiative at the NBPTS was Joe Doctor, Senior Vice President of Strategy and Policy, and a member of HGSE Ed.L.D. Cohort 1. He was also a part of the conversation between the NCEE and NBPTS leadership teams last year. Kristen Wong Callisto, a fellow member of Ed.L.D. Cohort 4, was a resident at the National Board this past year and tremendously helped me make sense of the workings of the organization.

Marc Tucker, Betsy Brown Ruzzi, and I met with Peggy Brookins, recently appointed NBPTS President and CEO, and Joe Doctor on December 3, 2015. In addition to being an opportunity for leadership to meet, the meeting was our chance to reconnect about the national career ladder system idea and engage in a thorough conversation about a potential partnership. Figure 6 summarizes the model our team presented in the meeting.

**Figure 6. Teacher Career Pathway Model (Proposed by NCEE to the NBPTS)**



Our career ladder proposal detailed a draft model and differentiated between career stages that are benchmarked against those in the international top performing systems. In creating this document, my strategy was to synthesize information gleaned from research and best practices, and integrate this information with the ideas floating with NCEE senior leadership regarding career ladders in the United States context, while concurrently aligning this with a key idea from the National Board—the Teacher Continuum. (See Figure 7.)

**Figure 7. The National Board's Career Continuum**
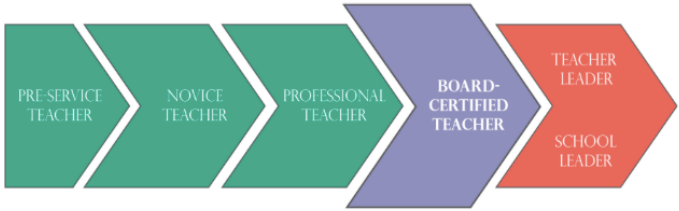


Source: (NBPTS, 2014)

NBPTS is using the Career Continuum to drive its work and vision on transforming

teaching, and it is working with partners to strengthen this continuum (NBPTS, 2014). If

this were to become a true partnership between NCEE and the National Board, I thought

it was prudent for me to understand their major initiatives, synthesize information from

both organizations, and align information as much as possible.

*3. Create a funding proposal so NCEE and its partner(s) can seek funding from*
*foundations interested in this initiative.*

Another residency deliverable was to draft a funding proposal to jumpstart this

initiative, particularly to build the necessary tools and assessments needed to start,

operate, and manage an advanced teacher certification system for teachers across the

nation. NCEE leadership plan to direct a portion of the funding to its critical partner

organization, the National Board, which will use the funding to create assessments to

determine whether teachers can move forward on the career ladder, in addition to

building and sustaining the infrastructures for certifying teachers and maintaining this

registry.

What is described above comprises the foundational work for which I was

responsible to move forward during my 10-month residency. Partnership building

required some flexibility in the project timeline because that type of work takes time, and

it influences the pacing and tone for moving forward. Designing a comprehensive teacher

career ladder system, and winning the support of critical stakeholder groups, was unlikely

to happen within a 10-month residency time frame. Rather, this entire initiative will require numerous years and millions of dollars in investment in order to reach fruition.

## 2. Results

Building a foundation for an initiative takes tremendous work, time, trust, and political will. Planning for action is at the heart of my work. Because of the stage of my strategic project within the larger initiative, and the time frame of the residency, the "results" I describe in the following section are really indicators of progress. Thus, they do not demonstrate implementation results.

### 1. A Promising NCEE-NBPTS Partnership

Our December 3, 2015, meeting with the National Board was an important event because it was the first high-level leadership meeting to reconnect on the teacher career ladder initiative and thoroughly discuss a potential partnership. Along with creating internal documents in preparation for our two-hour discussion with Peggy and Joe, I facilitated two planning meetings with Marc and Betsy to formulate our team's strategy and solidify our proposed idea. The NCEE-NBPTS meeting was very promising, leading me to believe the NBPTS leaders were genuinely interested in moving forward with this initiative, but the organization had other time-sensitive priorities. At the end of this meeting, Marc reiterated that NCEE was prepared to move forward with the initiative.

In late April, at the end of my residency, the leadership at NCEE and the NBPTS agreed to partner to pursue funding for a planning and development process that will aim to create a design for the career ladder system, build support with key education leaders

and organizations, and develop an implementation plan for moving forward in a few select states (that have already agreed to partner with NCEE for its principal career ladder initiative).

*2. A foundation to build upon*

I spent months learning and organizing information about teacher career ladders. The following documents are products I created to build a foundation for the initiative and move it forward:

- *Profiles of comprehensive teacher career ladder systems*

  These profiles will help to inform the (future) design of a national teacher career ladder system. They illustrate examples of comprehensive career ladders from abroad and within the United States. The process of conducting a review of career ladder research and best practice-based strategies provided me with a deep understanding of teacher career ladders, and other similar structures. As a result, I was able to discuss and advocate for career ladders with great clarity, which helped to strengthen the relationship with the National Board.

- *Landscape review*

  This private, internal document serves to inform NCEE senior leadership about the current education landscape and current trends, as it relates to the system's readiness for a national teacher career ladder system. It is an examination of key leaders and organizations and their perspectives on teacher career ladder systems, based on public information, interviews, and focus groups. As part of this document, I conducted interviews and small focus groups with over 50 teachers,

teacher leaders, state and local agency officials, and other members of the sector

at the Teaching and Learning 2016 Conference in March 2016 in Washington,

D.C. In addition, I conducted a review of state agency websites and legislation for

information regarding licensure and certification systems, teacher leadership

endorsements and/or designations, and National Board Certification. When I

needed further clarification, I contacted state education officials.

- *Draft funding proposal*

  I drafted an initial funding proposal to help NCEE and the National Board secure

  funding for the planning and development stage. This is still a "draft" because the

  NCEE team anticipates feedback and input from the National Board before our

  organizations collectively approach potential funders.

*3. Learning and information that shapes NCEE's work*

On October 8, 2015, I received a companywide email sharing exciting news from

Jason Dougal, Chief Executive Officer for Criterion Education, a company of NCEE.

Criterion won nearly $11 million from the U.S. Department of Education through the

2015 Supporting Effective Educator Development (SEED) award for a three-year grant to

create a National Advanced Certification System for principals through its National

Institute for School Leadership (NISL) work (DOE Press Office, 2015). This initiative

aims to create advanced principal certifications, which would essentially be the rungs of a

principal career ladder system that leads to (and through) the role of Master Principal,

with NISL providing the training to states and districts for principals, in addition to

providing assistance to support implementation of a career ladder system. As a result, my

residency work expanded to two related initiatives, a proposed teacher career ladder system with the National Board (the strategic project) and an advanced principal credentialing system through the SEED grant with a few state partners.

My learning and work from the teacher career ladder project contributed to this large, and related, initiative within NCEE. As a member of the SEED design team, I helped to shape multiple drafts of the design for a principal credentialing system through my research, analysis, and networks. The work required deepening levels of understanding over the course of months, and I was able to cultivate new relationships and extract new information for NCEE on principal preparation and development (in relation to Singapore's educator career ladder).

## 3. Analysis: The Why

Some might argue that our nation is deeply divided ideologically over state and federal authority. Cohen and Moffitt (2009) suggest that old political divisions over federal, state, and local authority were not only rooted in the founding of our nation, but were also written into the Elementary and Secondary Education Act (ESEA) in 1965, Improving America's Schools Act (IASA) in 1994, and No Child Left Behind (NCLB) in 2002. For example, Title I, the core of ESEA, established a national priority to improve education for students from poor families, but political and structural barriers were put in place to limit federal control. While federal aid was provided to states to influence this priority, states and localities would control how the money would be used. This landmark legislation substantially altered the politics of education, setting forth a struggle between locally controlled schools and federal dollars and programs that seek to influence schools

across the nation (Cohen & Moffitt, 2009). The Every Student Succeeds Act (ESSA), the latest reauthorization of ESEA, continues this political divide by scaling back the federal role in public education and elevating the authority of states and districts.

America has a decentralized public education system. By decentralization, I refer to the practice of creating and controlling schools locally. This may explain why our education system lacks common infrastructure and instruments to improve teaching and learning practices, such as curriculum, assessments, teacher education, and teacher selection processes (Cohen & Moffitt, 2009). Based on my review of top performing systems, these common infrastructure and instruments contribute to at least three things: 1) they help build a strong and common knowledge base among teachers; 2) they help the system to continuously improve; and 3) they build and sustain system coherence and alignment. It is, therefore, believed that the confluence of these factors lead to high performing teachers and, by extension, strong student outcomes. Decentralization and the lack of coherence and alignment feed into the mistrust in the education sector. That lack of trust inhibits and hinders true collaboration and collective impact, which are needed in order to transform and change the system into a more equitable and excellent system. It is through this lens that I examine three major themes that emerged from my residency experiences: coherence and alignment; trust; and change.

*Coherence and Alignment*

A decentralized education system has led to a plethora of disparate systems across our nation, with each state and district having different approaches, processes, and programs. Educators, students, and families must operate within those systems, which lack coherence and alignment. The Adaptive Leadership Framework would suggest that

if the larger sector lacks coherence and alignment, then the players and organizations within the sector (e.g., states, districts, schools) might also lack coherence and alignment. By coherence and alignment, I refer to the comprehensive and deeply integrated structures, processes and instruments that work in coordination with each other to improve teaching and learning at the systems level.

One of the ambitious aims of the national teacher career ladder initiative is to build greater system level coherence and alignment, but decentralization hinders this. No state is obligated to use the career ladder, and advanced certifications are voluntary for teachers, so teachers are not obligated to pursue them. Education non-profits, like NCEE and the National Board, do not have formal authority to require states and teachers to use their ideas, nor do they possess the resources or capacity to incentivize and support a widespread initiative. Instead, leaders within these organizations must influence and persuade other leaders to buy-in to their ideas and initiatives. All of these factors made the strategic project a challenging and daunting task.

The context in the United States also differs from that in Singapore and Shanghai, which have the most comprehensive educator career ladder systems in the world. While there are lessons to be learned from Singapore and Shanghai, their ability to build and sustain system coherency and alignment resides in their deliberate strategies and policies implemented over several decades, a deep cultural respect for educators, and what political strategists contend are de-facto one-party states, among other things. Their governance structure, alone, might make it easier for central policies to be initiated and mandated in Singapore and Shanghai's education systems. This is not to say that a comprehensive career ladder cannot be effectively implemented here within a state,

because I believe it can, but rather to highlight the different contexts in which these systems operate.

In my strategic project, I was trying to build coherence and alignment in multiple ways: between NCEE and the National Board, between teams within NCEE, and with my teammates.

In some ways, I was able to make some headway and exercise leadership. For both projects, one of my primary responsibilities was to create internal documents for senior leadership. Information gathering, analyzing, organizing, and sharing can be high-leverage leadership skills, as I discovered. I used these documents and meetings in which they were utilized to promote internal alignment within teams and between teams at NCEE, to spread shared language and highlight priorities and values. Going through this process provided me with an incredible opportunity to quietly lead from behind. Creating internal knowledge-sharing documents for senior leaders meant I could shape how that information is shared, what is shared, what to elevate, who has access to that information, and when to share—all critical factors that impact key decision makers in an organization. This is one form of thought leadership. What I just described are strategic micro-decisions made daily over a 10-month residency. When taken collectively, they impacted high-level strategic decisions and the pacing of both projects. So while I had no formal authority or leadership within NCEE, I was able to influence senior leaders and decision-making through information and information flow.

This cycle was critical to NCEE's partnership building work with the National Board: Joe highlighted some "political edges" (i.e., areas where we might align and differ) in my conversations with him. As the person spanning both spaces, it was my

responsibility to identify areas of dissonance and offer recommendations to address them, so that both organizations were strategically aligned. That alignment would cultivate a strong partnership. At the heart of Joe's thinking was fit and alignment on two levels: 1) the organizational alignment between the National Board's vision and goals, and those of NCEE, as they relate to this initiative; and 2) the system-level alignment between the idea of a national teacher career ladder and what occurs within the education space.

I also exercised leadership by doing what Heifetz would call "naming the elephant," which is intended to address challenges so we can overcome them. In October 2015, I noticed internal misalignment within the organization. It seemed to me that NCEE had two very distinct, yet related, projects: a national teacher career ladder project (led by the CIEB team) and a SEED project to build an advanced principal certification system (led by the Criterion team). During meetings over the course of three months, senior leaders on both teams discussed and rectified the internal misalignment around these two projects. Working on the backend, I tried to influence the usage of common language and ideas to build internal alignment between both teams. I was unable to influence internal alignment between the teams through this process on my own, in large part because I did not sufficiently build the trust or credibility needed to influence senior leaders, nor was I formally authorized to do so. This prompted me to "name the elephant" to Marc and Betsy, as what I saw as misalignment. Marc's thought leadership very much shapes and influences the work at NCEE, so I knew he would drive internal alignment between the two projects. And he did. This is not to say that I influenced Marc, because he would have noticed the inconsistencies with or without me, but rather to emphasize

my own culpability if I had failed to act. I recognized the need to use my work and sphere of influence, however small, to help build organizational coherence and alignment.

I struggled to make headway on the teacher career ladder project during residency, mostly because the National Board had not agreed to a partnership until the very end of my residency. This experience taught me that building partnerships and coherence between organizations takes time, trust, and multiple iterations. After a few months of uncertainty around the partnership, and at the end of my residency, the leadership from NCEE and the NBPTS agreed to join forces to seek funding for an initial planning and development process, which will help to solidify a design for the career ladder, build support with constituency groups, and develop a plan for moving forward in a few select states (that have already agreed to partner with NCEE for its principal career ladder initiative). This effectively means that NCEE's teacher career ladder initiative will be deeply aligned and interconnected to the principal career ladder initiative. In addition, this strengthens coherence and alignment between the work at NCEE and the National Board.

*Trust*

Moving a national teacher career ladder initiative forward in a decentralized system is challenging. It will require trust building, which can be achieved through a collective impact approach: strong relationships between influential leaders and organizations, buy-in from the professions, political legitimacy, and a highly coordinated cross-sector and multi-level collaboration. (This is NCEE's strategy.) However, the political divide over federal and local authority builds distrust. Similarly, our governance

system makes it challenging to sustain trust, given leadership changes that bring with them new ideas and policies.

Leaders without trust and legitimacy will be politically silenced or assassinated (Heifetz, 1994). Addressing adaptive challenges is risky and dangerous because leaders and organizations must enter the unknown and disturb the equilibrium (Heifetz, Grashow, & Linksky, 2010). Because a national teacher career ladder system disturbs the equilibrium of how schools are organized, and this has implications for many powerful players, the project is very much at risk of being assassinated by other influential leaders and organizations in the field. This points to the need for trust building and the significance of relationships for pushing a coalition-led national initiative forward, and for making the decentralized governance of schools work.

A collective impact initiative led by NCEE and any partner(s) must have the trust of states and the teaching profession. Trust established over time contributes to legitimacy, and it is legitimacy within the sector that is needed to sustain the political support necessary to achieve the initiative's long-term vision. NCEE has garnered legitimacy in the sector because of its international benchmarking work, but this is primarily with policymakers and scholars, and not with the teachers who will comprise the drivers of the ladder system. This is why it is necessary for NCEE to build partnerships with other leaders and organizations that have legitimacy with the professions. The National Board has both the legitimacy with the teaching profession and demonstrated expertise in managing a national advanced certification system through National Board Certification. As such, the National Board appears to be a strong and logical partner for NCEE.

NCEE's strategy for the teacher career ladder initiative is predicated on this idea, which I readily accepted at the start of my residency. I operated for much of my residency assuming this idea was "true," but there were moments for pause. At the start of residency, when Ron Thorpe passed, our team wondered how a leadership change might impact the initiative and the implications for National Board's work based on *who* would be selected to replace Ron. Six months into my residency, Marc and I presented this strategic initiative to Jal Mehta and Liz City's course at the Harvard Graduate School of Education (HGSE) for Cohort 6 of the Doctor of Education Leadership (Ed.L.D.) program. A number of the memos we received from the class, consisting of practitioner leaders from across the nation, suggested that NCEE should rethink its theory of action and consider other partners for the initiative, given the National Board's current situation. This mirrored some of the concerns expressed by other practitioner leaders in the field.

Based on my Ed.L.D. training and the change leadership frameworks (i.e., Adaptive Leadership and Immunity to Change), and knowing what I know now, I should have spent time at the beginning of my residency testing my assumption (that the National Board was the "right" partner) because that experience might have allowed for other viable partner(s) to emerge from the process, or compelled me to propose plausible alternative strategies to move the project forward. This could have benefitted both NCEE and my leadership development. Reflecting back, I realized that I did not want to disrupt the "team" because I was still trying to strengthen my relationships with my colleagues. Also, I did not want to disrupt the flow of the project because I was new both to the team and to the issue of teacher career ladders. Furthermore, I did not believe I had established

sufficient trust or credibility to effectively influence change among senior leaders at NCEE.

Midway through the residency, I tried to initiate relationships with other influential organizations and their leaders, a start toward building the political alliances and legitimacy the career ladder project would need. NCEE leadership believed this collective of partner organizations would have the legitimacy to move the project forward. All of this was part of NCEE's strategy. Marc and Betsy were careful to note that I should not reach out to senior leaders until there was greater clarity regarding the partnership with the National Board, due to the political nature of relationships in the education sector, so I was not formally authorized to start building the alliances. They believed the partnership with the National Board was a critical first step for building a strong foundation for the national teacher career ladder initiative, and they wanted to solidify this particular partnership before building an entire coalition (because the idea was to have the National Board serve as the certifying authority for the national teacher career ladder system). I proposed reaching out to mid-level leaders, which Betsy authorized, and that led me to establish relationships with some next generation leaders within a few key organizations, which I believe is needed to sustain this work for the long-term. This also helped me gain greater clarity around the education landscape and its readiness for a national teacher career ladder system. While I technically understood the importance of relationships for moving the project forward, I struggled to utilize this medium effectively to build support for the initiative because of capacity constraints and the evolution of my learning throughout the residency.

I helped to strengthen the trust between NCEE and the National Board, which was important because it helped to build a foundation for shared understanding and momentum for the collective impact work NCEE hopes to do. The National Board's loss halted the momentum of the initiative and, thus, my momentum also slowed down. What I did not anticipate was the importance of my relationships, particularly the Ed.L.D. network, which was among the most important assets I had during my residency. Joe Doctor, Kristen Wong Callisto, and I had been through the Ed.L.D. program and were a part of its network. As such, there was shared understanding and common language between us, which enabled us to engage in deep, honest conversations very quickly. Having shared language is important in leading adaptive change because it helps people to "communicate more effectively, minimize misunderstandings, and gain the sense of being on the same page, even while grappling with significant differences on the issues" (Heifetz, Grashow, & Linksky, 2010, 9).

These interactions with Joe and Kristen were critical because they helped me to calibrate my work, align language between NCEE and the National Board, and integrate ideas—all of which I believed might strengthen trust and alignment between the organizations. These conversations were also opportunities to demonstrate trustworthiness because we were privy to sensitive information and had to navigate multiple roles (i.e., members of our respective organizations, colleagues within the Ed.L.D. network, and friends). By extension, our personal relationships helped to establish and strengthen the relationship between the two organizations' leaders. This was important because a true partnership between NCEE and the National Board lays the foundation for a shared platform in a collective impact effort between multiple cross-

sector organizations, a necessity for moving a national initiative forward in a decentralized education system. Our interactions were also opportunities for me to build credibility and legitimacy, which I tried to do by being a good partner and through a deep understanding of career ladder systems. What I learned through this process was where NCEE and the National Board's goals were aligned, as well as some of the edges, or places of dissonance. Distilling these nuances and co-building a shared platform, with Joe and Kristen, provided clarity to both organizations on whether a strategic partnership is smart, and whether the idea is feasible and can influence system transformation.

An agreement to collectively pursue funding for a planning and development stage suggests that NCEE has established a solid, positive relationship with the National Board. It also suggests that NCEE was able to build legitimacy with the National Board's new leader. Trust between NCEE and the National Board will be a critical component for a collective impact initiative around teacher career ladders because, as Heifetz (1994) highlighted, partners can share the risks and burden of adaptive work. Ultimately, though, it will be up to local practitioners to enact this idea, and their successes and failures will have implications for the sustained legitimacy of the initiative.

*Change*

The teacher career ladder project is really about change, at the system level: how do we change how work is organized in schools and, interrelated, how the profession is organized? A decentralized school system complicates this process of change and adaptation because it creates fragmented, misaligned support mechanisms. It also makes unclear whether the aims of the initiative match the system's capacity (Cohen & Moffitt, 2009), as well as who and what must change for system transformation. This brings to

question whether states and the profession have the capacity (i.e., knowledge, skills, resources, instruments, and will) to effectively use a national teacher career ladder, or can build the capacity necessary, given the different contexts and resources available to them. Change and adaptation are necessary for survival, and they help individuals, organizations, and systems thrive and be competitive.

While decentralization creates layers of differences between localities, patterns appear to emerge at the national level. Education-based collective impact initiatives are increasingly popping up across the nation, with some calling for the creation of teacher career ladder systems (see Center for American Progress, 2015; TeachStrong, n.d.; and Mehta, Theisen-Homer, Braslow, & Lopatin, 2015). In addition, an examination of the landscape in the United States illustrates widespread state adoption of various initiatives to advance teachers' careers and promote expert teaching and teacher leadership. (See Figure 8. Appendix H summarizes my methodology for Figure 8.)

**Figure 8. State Teacher Career Advancement Initiatives**
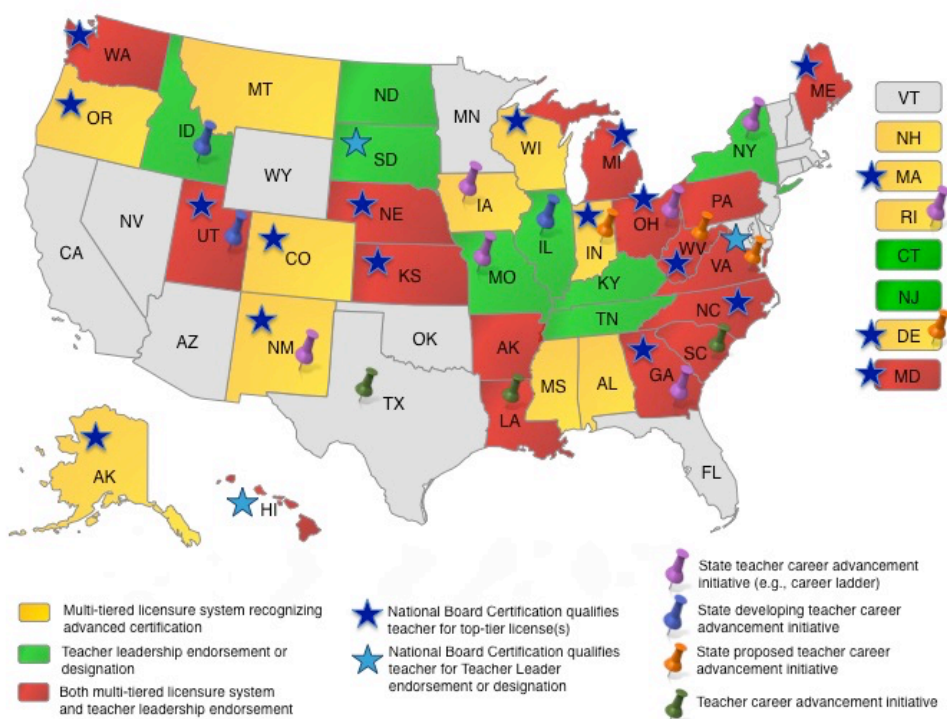


Different state programs and initiatives include multi-tiered licensure systems that recognize advanced certification (i.e., National Board Certification, a Master's degree or higher, or a combination of both). Some of these licensure systems mimic or essentially serve as a teacher career ladder system (e.g., Georgia and New Mexico). State initiatives also include various forms of teacher leadership endorsements and designations. For some states, National Board Certification qualifies teachers for a teacher leadership endorsement or designation. States have also implemented, or are starting to build out, teacher career advancement initiatives, including teacher career ladders and pathways (that are not connected to licensure). These state-led teacher career ladders or pathways vary in their design, function, and operation. What emerges from the map is significant statewide activity around promoting, recognizing, and supporting teacher leadership—

with different interpretations of teacher career ladders. Connected to this is the fact that states are creating differentiated professional and leadership opportunities for teacher leaders, such as hybrid roles that allow teachers to teach part-time and then do other meaningful work that contributes to building strong systems (e.g., implement academic reforms in the district; design and implement professional development and solutions to instructional challenges; support the State Department of Education; and capture student voice). All of this indicates that states are already deeply invested in career advancement structures and opportunities for teachers, and many of these structures look like the foundations for a teacher career ladder. Note that numerous districts across the United States are also building and implementing similar initiatives (e.g., the District of Columbia Public Schools, Denver Public Schools, and Charlotte-Mecklenburg Schools).

The current landscape is important to note because NCEE's strategy is to partner with the National Board to create a national system of teacher career ladders through advanced teacher certifications, with each new advanced teacher certification (beyond the current National Board Certification) linked to a level on the career ladder.

Statewide activity around teacher leadership seems to align with what the profession wants, based on my interviews and focus groups with educators and officials. The current landscape also suggests that states are already on board with advanced certification and have deeply embedded National Board Certification through legislation and/or state policies, as shown in Figure 8. The National Board would serve as the certifying authority for the proposed system, providing consistency and a level of coherence across the nation, even while states vary in their approach regarding how they use the system. This does, however, raise critical questions: How might a state's current

initiatives fit in with NCEE's proposed national teacher career ladder system? What is needed to support system coherence and alignment in this evolving landscape? What knowledge, skills, and relationships must current and future generations of education leaders have to sustain this type of system over time?

These questions often arose, but I did not push myself or other leaders to carefully think through them, and now I wish I had. I raised the first question above with Marc and Betsy at the start of residency, and Marc's response seemed logical to me, so I was satisfied (enough) and, thus, dropped what I considered to be some misalignment in our strategy: how might we build a model that creates the type of system we hope to see *and* that states might use, given that states already have their own systems? In retrospect, I acquiesced to an authority figure with expertise and credibility, a cultural tendency resulting from a deep respect for "experts" and my elders. If I had thoroughly examined the first question, I would have realized that classroom teachers are leading many of the state career advancement initiatives across the nation, and this NCEE initiative is more of a top-down policy approach (that enables teacher leadership), which might have prompted me to pose to Marc and Betsy the need for rethinking NCEE's theory of action and reframing our challenge to include more expert teachers at the start of this initiative.

System transformation necessarily requires adults to change, but they are resistant to change, even though they know they should (Kegan & Lahey, 2009). Adult development theories suggest that there are different ways of *knowing* career ladders, and a majority of adults in the education system are developmentally underprepared, or do not have the support, to *look at* the career ladder system, and will instead *look through* the career ladder as if something is being done unto them (Kegan & Lahey, 2009). Instead of

the career ladder being a "tool" that they can use and control, they may perceive the career ladder as something that controls and uses them. Thus, educators and those in the sector may resist this initiative. They may also perceive some danger associated with the change and, thus, feel defenseless and anxious in the face of change (Kegan & Lahey, 2009). Change and adaptation are also associated with loss, and they challenge an individual's identity, competence, beliefs, relationship to others in the world, and what he/she represents (Heifetz, Grashow, & Linsky, 2009).

Years of decentralization in the education system have led local agencies, schools, teachers, organizations, and teams to focus on their own work, which inadvertently encourages working in silos. Changing this cultural norm to one of collaboration within the sector is challenging. It was not until the Ed.L.D. program that I fully appreciated the power of networks, and that understanding helped me move work forward in my residency and change my own leadership in a small, yet powerful, way. Over several months, the teacher career ladder project and the principal project required me to continually add layers of complexity and greater detail to NCEE's collective understanding. Senior leaders wanted answers to our team's unknowns. This was the first time in my professional career that I leveraged multiple networks to move work forward and relied on years of trust building and relationships, and that was uncomfortable. What emerged from this experience included valuable new learning for NCEE and new relationships—these would have been unlikely outcomes if I had not entered the unknown and changed as a leader. Furthermore, while this process appears to be relatively simple (e.g., make a few calls and email a few people), it was rather challenging: the detailed, critical information NCEE senior leaders wanted is highly

guarded. I was able to secure (some) of the information because of a high level of cultural competencies (specific to my Southeast Asian background), a strong network, trusting relationships built over several years, and legitimacy. Even still, it took months for me to secure the information.

Not all of my relationships led to successful outcomes. I struggled to fully leverage my relationships within the National Board: even though I have a solid relationship with Joe and a very strong one with Kristen, I was unable to secure regular formal senior leadership meetings between NCEE and the National Board, which contributed to a slowed pace for the project. (This might have been a result of my own leadership failings, or a result of the National Board's current situation.)

While I do not have clear big "wins" in my strategic project, I can celebrate what I call a "big small win." I had some legitimacy, which helped to enable knowledge sharing across teams in NCEE (something hindered by the culture of a decentralized system). Memos and meetings with senior leaders were opportunities for me to message key ideas around my learning, and I used these opportunities to elevate one important lesson I distilled from comprehensive career ladder systems (i.e., Singapore and Shanghai): equity is a core value within these systems, and the career ladder is used as a high-leverage instrument to promote system-wide excellence and equity. Teachers and school leaders cannot climb to the highest levels on the ladder without demonstrating effectiveness within struggling and disadvantaged schools, so the strongest and most effective teachers and school leaders are matched directly with the schools and students who need them the most. I repeatedly emphasized this idea to senior leaders on both project teams (i.e., the teacher career ladder and principal initiative) because I had not

heard or seen it emerge as an important lesson to consider in designing the career ladders. Marc championed this very idea in an important senior-leader design meeting in December. Again, Marc may very well have noticed this without me, but it seemed to me that my small act of thought leadership influenced a change in how senior leaders understood a comprehensive career ladder, which might pave the way for the design of stronger career ladders here in the United States. In Adaptive Leadership terminology, my actions served to "ripen" the issue for attention and action.

System transformation will not happen if those working with and within the system fail to also change and adapt. The sector does not yet fully possess the skills, knowledge, and leadership required to successfully sustain a national system of teacher career ladders. Embedding a technical structure of a teacher career ladder system alone will not transform the system. However, it will help to enable the creation of instruments that bear upon teaching practices (e.g., network resources and cascading coaching models) and experiences that help to change mindsets (e.g., coaching, mentoring, and apprenticeships)—which can be adaptive solutions to tackle the system's biggest challenges. If NCEE and its partners are to be true champions of this initiative, what adaptations must they make internally to embody, reflect, and promote the core values embedded within a comprehensive national teacher career ladder system? It is my belief that an alignment between what is espoused and what is practiced will help sponsoring organizations and leaders to: build the capacity of future generations of leaders who can carry this work forward; and build and sustain the trust and political legitimacy needed to push forward a national initiative in a highly decentralized system.

I continue to ask myself why I failed to address this adaptive challenge during residency. People in NCEE are smart, friendly, and reasonable; and there is a presumed culture of a flat hierarchy. I should have been able to raise these questions, but I did not authorize myself to do so, because exercising leadership like this requires significant trust and legitimacy, which I did not believe (at the time) could be built over 10 months and from the position in which I sat (i.e., a HGSE Ed.L.D. resident). I was also not formally authorized to do this work, so a reframing of the project to examine both external and internal factors might have created discomfort and conflict within NCEE. Instead, I focused primarily on establishing trust and building credibility within NCEE by fulfilling what I was tasked to do (i.e., critical thinking, analyzing, researching, and writing). I felt comfortable doing these things and realized, in November, that I needed to distinguish myself as a leader so I would not be typecast as another graduate student. I was not sharing my full toolkit of talent with NCEE, some of which could have benefitted the organization, because I struggled to see and create opportunities to move into a leader space within an organization that has a strong founding leader at its helm. This might explain why I operated under NCEE's theory of action for much of my residency and was unable to adapt quickly enough to move the project forward in other ways (e.g., reframing the challenge to help leadership emerge adaptations for the initiative's strategy, in light of the National Board's leadership loss and the current landscape).

# IMPLICATIONS

## 1. Implications for Self

The strength behind a teacher career ladder system is that it supports educators to lift others as they climb. I buy into this idea, and it implicates my leadership practices: as I climb in the future, I too must lift.

My residency at NCEE was the final part of my Harvard Graduate School of Education Ed.L.D. learning experience, designed to help me transform as a leader. It helped me to deeply examine my leadership, including where I still need further development to move my leadership forward. I also learned how a national teacher career ladder system might help to build capacity within the teaching profession and enable greater system coherence and alignment. My residency experiences have led me to many new understandings. At the core of these understandings is the need for continued adaption as a leader, so I can become more effective within an evolving education landscape, which is experiencing rapid demographic changes and has unknown future challenges. In light of this, what skills, knowledge, values, beliefs, and relationships must I have in order to effectively lead initiatives that can help to transform the system and elevate the profession?

My residency work prompted me to step onto the balcony and see the entire dance floor, in Adaptive Leadership terminology. From this vantage point, with an understanding of different comprehensive teacher career ladder systems, I discovered new ways to see and understand teachers. I used to think teachers largely contributed to the problems within the education system; now I think they are at the heart of solutions to

the most challenging adaptive problems within the education system (but they need support). This represented a tremendous mind and heart shift for me. What I take from this "aha" moment is that I need to continually interrogate and reshape my values and beliefs as I move forward in my professional career, because they can impact (and potentially limit) my work. This is not to say that my values and beliefs need to drastically change, but rather, they need to develop and adapt to become more nuanced and complex to match the complexities within the system.

Learning lessons from residency point to three specific areas for leadership adaptation: building trust and relationships; coaching and mentoring; and provoking and managing discomfort. While I have some competencies in each of these areas, strengthening my capacity and range in these areas will help me become a more effective leader.

Through residency, I realized that my leadership preference is to lean on *what* I know, not *who* I know. I did not grow up with social relationships that afforded me access to power and influence. I believed my knowledge and skills could be earned through hard work, and they would enable social and economic mobility. I associated strong relationships and networks with privilege and unfair advantage. All of this might explain why I tend to be wary of leveraging relationships and networks for any gain. The Ed.L.D. program and my residency experience helped me see a different perspective: relationship building is a skill that can be learned, developed, and earned. Moreover, leveraging relationships and networks can be a vehicle for collaborations that lead to system transformation, but this also requires partners to be capable of adding value to the collective effort and partnership. Through relationships, education leaders and

organizations can resolve their differences on how to transform the system. Accordingly, it is a skill I must master to effectively operate in a highly politicized and decentralized education system.

The need to cultivate strong relationships within the field has implications for how I build trust. In the past, I built trust by possessing a deep and wide knowledge base and utilizing it critically and deeply to create high-quality products; doing this consistently over time helped to build my credibility and legitimacy within teams. An understanding of the value of cultivating relationships does not necessarily lead to skillfulness in the practice of relationship building. Creating more opportunities to practice the skills of vulnerability, deep listening, and empathy can move my leadership forward. This type of authentic leadership can help build and sustain trust with others.

Coaching and mentoring are at the forefront of my leadership thinking and practices, as a result of the Ed.L.D. program. As key features of comprehensive teacher career ladder systems, coaching and mentoring help to share and spread expertise and common values across the system, in addition to establishing a culture of collaboration and collective responsibility. I deeply value coaching and mentoring. Yet, I underutilized these instruments this past year. While I engaged in coaching outside of NCEE, I did not actively seek or bring these practices into the residency site. This points to a need to prioritize my on-going development, and to do so through a diverse array of coaching and mentorship experiences. It also suggests that I need to utilize my training in coaching and adult development in future settings so I can help support the leadership development of my colleagues, even if informally. If I truly value continuous learning, collaboration, and

collective responsibility, and believe these values should thrive within the education system, then I must live these values and help shape the type of system I hope to see.

Managing discomfort is a skill. Becoming more adept in asking tough questions and reframing problems can help to broaden perspectives, emerge new opportunities, and strengthen initiatives. I do not shy away from discomfort or conflict, nor am I uncomfortable with challenging authority (a result of my experiences growing up in a refugee community plagued by war, violence, and trauma). However, I shied away from this approach during residency because I have not mastered the skill of sustaining others through periods of discomfort, which the Adaptive Leadership framework suggests a leader must be capable of doing in order to enable change and adaptation. Developing greater capacity around trust and relationships will help me in this regard. I also did not want to jeopardize an experience that would feed into this capstone and my doctoral degree. My reasoning? I am a first-generation student, and I did not want to fall. In retrospect, I wish I had managed my own anxieties more effectively, because the risks were relatively small, and the falling would have been forward. This suggests I need to develop greater competencies in assessing the situation so that I may take calculated risks, and can provoke and manage discomfort, in Adaptive Leadership terminology. Practicing these skills will help me build a rich toolkit of skills from which I can draw upon for future leadership challenges. It will also help my future teammates become stronger and our team, more collaborative and trusting.

## 2. Implications for Site

NCEE leaders see a need for transformation in the education system, and like other system-level thinkers and doers in the field, they want to influence that change. They believe a teacher career ladder system can be a strong lever for system-level transformation. And yet, it is unclear whether NCEE has considered the implications of system-level transformation for its own adaptation. A common saying within the Ed.L.D. program is, "In order to transform the system, we must first transform ourselves." My learning from this teacher career ladder project has one similar implication for NCEE: a need for self-reflection and self-transformation. The themes of change, trust, and coherence and alignment are integrated below.

NCEE could benefit from an internal development plan as part of its strategic plan. The plan's purpose would be to purposefully design infrastructure and common instruments within NCEE to do the following: 1) build internal capacity; and 2) address adaptation needs in an evolving education landscape. Adult and leadership development features from comprehensive educator career ladders (i.e., Singapore and Shanghai) could be incorporated into the plan and adapted for the NCEE context. The internal development plan can also help strengthen alignment between the organization's internal resources, processes, priorities, and culture with the organization's values, as represented in its thought leadership, projects, publications, and events.

NCEE is currently mobilizing partners and stakeholders to address adaptive system-level change through its national teacher career ladder initiative and the principal advanced certification initiative, among other strategies. The most preeminent change leadership and adult development theories suggest that individuals make decisions based

on what they know (their experiences and training) and behave in ways that reflect the

larger system to which they belong, typically leading to thinking and decisions that

sustain the current environment they are a part of (i.e., the status quo), even when that is

not their goal or intention. Because of this, it is imperative for senior leaders, and

emerging leaders, to examine their own subconscious meaning-making system, and that

of their colleagues, because it impacts daily decisions that shape NCEE's work. During

my residency, Marc Tucker, for example, was masterful in identifying these moments

during group strategy sessions and then redirecting them into opportunities that help to

envision a new education system drastically different than the one that currently exists.

NCEE might consider spreading this specific skill to all levels within the organization.

Career ladder initiatives are long-term commitments, which points to a need to

develop multiple generations of leaders who can move the work forward. How might

NCEE intentionally build internal capacity? And how can the organization support its

own adaptation? Key features embedded within comprehensive teacher career ladder

systems point to strategies that can address this. Lessons to adapt from international

career ladder models might include any of the following:

- *Incorporate formal coaching and mentoring to build capacity.* While coaching

  and mentoring occur informally on the job, NCEE lacks a systematic way of

  supporting the leadership and professional development of its employees. Formal

  coaching and mentoring, including an apprenticeship model, will help to widely

  disperse system-level thinking skills across the organization and build capacity at

  all levels. NCEE's senior leadership is aging, and their retirement will bring some

  level of risk and uncertainty to the organization. What is the plan for when Marc

Tucker leaves the organization, given the significant role his thought leadership and personal relationships play in NCEE's legitimacy? While the organization will continue to thrive, the sharing of senior leaders' expertise, knowledge, skills, and experience in a systematic way will help to develop those who have less expertise and, thus, sustain the organization's development and leadership over the long-term.

- *Reorganize for collaboration across multiple teams and levels, as well as between organizations.* Senior leaders seem to be privy to what is happening across the organization and between NCEE and other organizations, but it is unclear how this knowledge is systematically shared with others, besides weekly meetings. Structures and processes that help others to regularly and consistently learn from their colleagues and share their knowledge, in an iterative way, will help build high-performing teams across NCEE and strengthen alignment between projects across the organization. For example, NCEE can create cross-team groups that regularly share and learn best practices from each other. Some of this is already happening (e.g. lunch case studies), but these practices can be elevated. Collaborative practices will also help to strengthen partnerships and coalition building with other organizations.

- *Elevate the voices of Master Teachers and Master School Leaders within NCEE.* NCEE deeply values master educators, and it argues passionately to develop, support, recognize, and promote them within our education system. As an influential education policy think and do tank, NCEE has a unique opportunity to promote these very people within its own organization, including promoting their

thought leadership across the nation. Doing this will help elevate solutions

coming from the profession, as well as help NCEE adapt its international

benchmarking for the U.S. context. Moreover, it can help build greater trust and

legitimacy with the teaching profession and other leading education organizations,

which can strengthen NCEE's partnerships (e.g., with the National Board and

other coalitions) and opportunities.

- *Be future-oriented by deeply embedding a culture of continuous improvement,*

  *learning to learn, self-reflection, and iterative processes.* It is unclear how NCEE

  and smaller teams improve. Building the capacity of leaders to manage their own

  learning, as well as the collective learning of teams, can help strengthen the

  organization's capacity. While some of these mechanisms may currently and

  informally exist, they have not been explicitly and intentionally embedded into

  the organization's daily routines.

The field of education is at the cusp of transformational change. Many leaders and

organizations are collaborating and coordinating efforts to address the adaptive

challenges within education. Not only must they build a high-performing and equitable

system for students, they must also concurrently build a strong development system for

educators. The career ladder project seeks to do just that. In preparing for these system-

level changes, organizations and leaders tend to focus outward in an effort to bring about

change, similarly to using a telescope or magnifying glass. However, true development

also prompts adults to look inward to better understand themselves and their relation to

the world. This requires adults to understand how they contribute to currently lived realities, similar to holding a mirror.

Like the adults who comprise them, education organizations must examine and make changes outward *and* inward to continue developing. They must transform themselves in order to transform the system, because they *are* the system (at least a part of it). By doing this, organizations learn how to adapt in ways that help them better meet the current and future needs of the system. And like individuals, organizations will choose to continue doing things that have worked successfully for them in the past. This causes them to be resistant to change because the signals are telling them that they will continue to be successful. However, while those beliefs and practices worked in the past, they may or may not work for the organization in times of change and uncertainty. That is why the organization needs to continually recalibrate its own internal operations, not based on what used to work in the past, but in anticipation of what will work in the future based on new paradigms.

Internal transformation will have implications for how NCEE operates externally. Aligning its internal resources, processes, and priorities with its values for the field, such as collaboration and mentoring, will strengthen its capacity and its legitimacy in the education sector. It also demonstrates to the field how key features of comprehensive teacher career ladder systems can be adapted in the United States, not only within schools, but also within education organizations operating in a highly politicized system—in this case, within NCEE. Moreover, while NCEE has an established record of successful partnerships and collaborations in the past, it needs to continue demonstrating its skillfulness for adaptation. Specifically, networks and collective impact are new forms

of collaboration in the field and publicly signal to others that we are in this work together, for the benefit of everyone. Choosing which coalitions to join or not to join sends a signal to the field. Similarly, being invited to join, or excluded from, a partnership also sends a signal.

**3. Implications for Sector**

Who should "own" this teacher career ladder work? Should states and districts lead these efforts, or should national education non-profits? It seems to me that both state agencies and education non-profits should lead this work, and they should do it together. This work should not be owned solely by education non-profits (like NCEE and its partner organizations) because, ultimately, local education agencies and teachers are the end users, and the ones who can make this whole idea work. In addition, because states would volunteer to use the national system of career ladders and decide how to use it, they are unlikely to implement the design model with strict fidelity (and likely to adapt the model), which makes sense because states need flexibility to address their local needs. Similarly, this initiative should not be led solely by state and local agencies. States and districts have built and implemented teacher career ladder systems several times throughout the past century in the United States, with marginal or very little impact on teaching quality and student outcomes. Their efforts to build and sustain teacher career ladders have been thwarted by limited resources and capacity, as well as continual leadership changes. It seems to me that this national teacher career ladder system will most likely thrive in a space where the work is owned and led by collaborative partnerships between state and district education agencies and strong education

organizations. That might look like co-creating teacher career ladders in partnership, drawing from the unique expertise and knowledge of each group. Every critical stakeholder group in the sector should have some level of ownership and responsibility for teacher career ladders, because improving teaching quality and elevating the profession cannot be achieved alone. This mirrors a core value embedded within comprehensive teacher career ladders: collective and shared responsibility for the success of the system.

A partnership initiative between NCEE and the National Board can add tremendous value to state teacher leadership efforts because each brings with it a unique organizational skills set (that is not common to other education organizations). The National Board is the premiere organization in the United States for consistently identifying and supporting excellent teaching, through highly accomplished professional teaching standards. As a leader in international benchmarking and the national education agenda, NCEE deeply understands *education systems*, including the most successful education systems in the world and highly effective teacher career ladder models. Individual state and district agencies typically lack expertise in these specific areas, but are experts on local context and needs, which is where education non-profits tend to lack expertise. This is ripe for collaboration, but complicated by how the system works.

The politics of education are complex: it both divides and unites. While described accurately throughout my Capstone, an alternative (and similarly accurate) interpretation of my strategic project is that I helped prepare an initiative in its infancy to survive the politics within our sector, so it has a chance to grow and thrive. Any widespread, national initiative will encounter resistance within our highly decentralized education system.

Leaders and organizations champion change in the education system, but they differ in their strategy and approach on how to change the system, as well as who should control or lead that change. The political system helps to resolve these differences in the system, and relationships help to facilitate this process, but leaders and organizations still need to worry about their ability to survive and influence the sector. Political survival in the field of education cultivates a culture of competition, and competition often makes people behave in ways that are non-cooperative. This explains the mistrust in our field, and why so many educators, districts, states, and education organizations continue to work in silos. It also explains why it is so difficult to build system-wide coherence and alignment.

Building system coherence across education agencies and organizations is challenging work, but there is growing evidence to suggest that organizations are starting to pay greater attention to building with other organizations and aligning their work. Typically, however, the education system is not set up in ways that sustain organizations doing important work over the long term. A number of education agencies and organizations must try to survive and sustain themselves. That means that leaders spend a significant amount of their time securing resources, a reality that impacts their organizations' strategy and decision-making, and which incentivizes very smart system-level education leaders to possibly deviate from the real adaptive work they set out to address. The need for adaptation and survival may also compel organizations to act in ways that are counter-productive to the collaboration and collective impact required to achieve system-level excellence and equity (e.g., working in silos, selecting to not share information, competing against each other, or pushing out initiatives that further misalign the larger system). This suggests that the sector needs to rethink how to incentivize

coordinated, long-term collaboration between organizations. It also points to a need to develop organizational leaders who are highly effective at creating opportunities for building system coherence with other organizations through their (own and joint) initiatives.

Coordinated collaboration is necessary to achieve the larger goal and is most beneficial for society, despite the risks for each person or group, but this requires significant and credible trust between people. Best practices from the field point to trust and collective impact as a promising way forward. The highest performers in the world deeply trust the profession to lead the system, and everyone at every level is enlisted to coordinate their efforts and take collective responsibility for ensuring a high performing system. There is need for further exploration on how comprehensive teacher career ladders might be adapted for the United States context, as well as further research on the effectiveness of current local career ladders in states and districts.

Trust and collective impact are not behaviors typically seen within education, but they are necessary to building and sustaining a coherent and aligned system. Kegan and Lahey (2009) argue that "behavior is symptomatic of a system, and any lasting change will require the *system* to change" (222). In order for the education system to change, those comprising the system must change and adapt—educators, senior leaders, schools, local and state education agencies, and education organizations. The problem is, change is political. Who influences and decides change? Who and what must change? How much will change? How much will change cost? Who benefits from change?

The politics of control and authority hinder our collective impact work. Americans value decentralization. Local districts and state agencies deeply understand

their needs and local context, so local control is important. However, this does not ensure consistency in quality or equity across the larger education system, nor does it promote collaboration or continual learning within the profession. A national teacher career ladder system offers flexibility to states and districts regarding how it is used, but also provides consistency in identifying and certifying teacher leadership expertise. It honors both centralization and decentralization by making these forces work in tandem to develop expertise and leadership at every level, so people can effectively manage systems. Moreover, it simultaneously strengthens the individual and the collective, and entrusts system-level coherence and alignment to (local) teachers and the (national) teaching profession.

Similarly, leadership is a political issue that hinders trust and collective impact. New leaders are elected and appointed every few years, and they bring with them new ideas and players in the field, contributing to our larger system's misalignment and lack of coherence. Comprehensive career ladders create a structure in which only the most expert teacher leaders who have consistently demonstrated their effectiveness are promoted to become school principals, only the most effective school principals (who were once expert teachers) are promoted to become superintendents, and so on, across the system. I am not arguing that this exact model should be put in place in the United States, because many current leaders would therefore be unqualified, or under-qualified, to lead based on these criteria (including me). I am also not suggesting that this is the career ladder model being proposed by NCEE, because it is not. Instead, I am highlighting how these types of career ladders help to elevate expertise from within the profession—a lesson that can be adapted for the United States context. A system such as this promotes

iterative and continuous learning within the profession and an important practitioner-

policymaker feedback loop, which can withstand leadership and policy changes.

This type of system will likely threaten education leaders because some of them

are implicated in the system's widespread failure and maintaining the status quo,

according to the Adaptive Leadership framework (Heifetz, Grashow, & Linksky, 2009):

> And as tried-and-true patterns of thinking and acting produced success for the organization, they also produced success for the individuals who embraced those patterns. The people who rose to the top of the organization because of their ability to work with the system as is will have little interest in challenging its structure, culture, or defaults. (p. 51)

Adult development theories suggest that these individuals will be resistant to change,

unless they are provided appropriate levels of development support to overcome their

resistance (Kegan & Lahey, 2009). Education leaders will need to address this.

Our education system also has an identity problem: its espoused values do not

match what it professes. Values and beliefs impact daily decision-making and behavior.

While many of our values in the education system do align with our practices (such as

individualism and democracy), one too many do not. We say we value collaboration, but

the way resources and time are allocated make it challenging for teachers and school

leaders to effectively collaborate on a regular and consistent basis. Teaching expertise is

prized, but expert teacher leaders are not promoted to the highest levels of leadership

across the system, nor are educators widely recognized or provided competitive

compensation to match their high skills set. We say we value continuous improvement,

but the system lacks a systematic way to widely and regularly learn from others and share

expertise. Equity is common rhetoric, but our strongest teachers and school leaders are

consistently absent from our most struggling schools. And the list continues.

Furthermore, our nation's long history of slavery, violence, and colonialism against

multiple groups of people, here and abroad, cannot be ignored. They are directly connected to the endemic, intergenerational poverty and trauma seen across the United States today, and it is primarily students from within these marginalized groups that our systems (i.e., education, justice, economic, and political) continue to fail the most.

Courageous leaders must name these gaps between espoused values and what is practiced in the system. And they must work to align values with practices. This is one way to exercise adaptive leadership. What would it take for the entire system to exercise adaptive leadership? How might the system develop legions of education leaders to address the adaptive challenges within the system?

The education system develops students and the adults who power the system. This is an opportunity. Our system can leverage its most valuable resource—human capital—to reprioritize and realign our system's values with our larger goals. And it can use an instrument, like a national teacher career ladder, to develop the capacity of educators within the system, so that the system's capacity matches its greatest aspirations. The closer the fit between capacity and goals, the greater the likelihood a policy initiative will realize its vision (Cohen & Moffitt, 2009).

National initiatives promote consistent practices, knowledge, and skills across the profession, which spans the nation. For these types of initiatives to move forward, multiple leaders and organizations must work in collaboration with each other and in coordination. They also need legitimacy to sustain political support because of our decentralized system. This suggests that leaders for that type of new system must be cultivated now, with the mindsets, skills, knowledge, and relationships that can enable the envisioned system.

The system cannot transform if those within it do not change themselves. This is why the system needs initiatives that can support change and development at every level, from individuals to the system. A career ladder is one such promising strategy.

## CONCLUSION

Teacher quality varies widely across schools and the nation because states and the profession lack clear mechanisms and common instruments to regularly share expertise, build upon a common knowledge base, and iterate upon collective learning. All of these system capabilities directly impact instruction. They also help to support a continuous learning system, a culture of collaborative professionalism, and collective responsibility for the success of the system. These are at the heart of teacher career ladders, at the system level. For individual teachers, a career ladder promotes, supports, and rewards their continued professional and leadership development across the continuum of their career through differentiated roles and responsibilities. This will help to attract high performing individuals to the profession and retain excellent teachers. A teacher career ladder also reorganizes schools into professional work organizations and puts in place the infrastructure to support a stronger, continuously developing teaching profession. In the aggregate, and over time, a strong profession will drive high levels of student achievement, as well as high performing and equitable school systems across the nation.

Different systems in the United States and around the world have implemented, or are starting to implement, their own variation of a teacher career ladder, or other similar

career advancement structure. Lessons from Singapore and Shanghai suggest that comprehensive educator career ladders have supported their systems' proliferation of high performing teachers and, by extension, high performing students. Lessons from current career ladders in the United States are mixed and hard to distill. Many career ladder initiatives are relatively new, so there is little to no research evidence demonstrating clear impact. States and districts also have their own approach to the design and implementation of career ladders, making unclear what exactly works, what does not work, and reasons why.

My strategic project was to lead the design of and build support for a national teacher career ladder at the National Center on Education and the Economy (NCEE). The residency served as the initial planning stage for the initiative, so my responsibilities focused on building a foundation for a national system of teacher career ladders. The system would be informed by models in the international top performing systems, but adapted for use in the United States based on the context here. My work included building a relationship with a partner organization that could serve as the certifying agency in the career ladder model; help build the system and a coalition of partners in support of the initiative; and provide additional legitimacy to sustain the political support needed to move the initiative forward. NCEE leadership believed that key partner should be the National Board for Professional Teaching Standards (NBPTS or the National Board).

I helped to strengthen NCEE's relationship with the National Board through my networks, in an effort to establish the partnership and move the project forward. Formalizing a true partnership was challenging, though, because the National Board lost

its leader, Ron Thorpe, at the start of my residency. Because the informal partnership agreement on the project had been between Ron Thorpe and NCEE's leader, Marc Tucker, the National Board's loss also impacted the clarity of the partnership. This slowed down the initiative's planning stage because NCEE was forced to re-establish its relationship with the National Board, specifically with its new leader, Peggy Brookins. At the end of my residency, the leaders at NCEE and the National Board agreed to join forces to secure funding for a development and planning stage that will aim to produce a design for the career ladder, build consensus and support for that design with key leaders and organizations, and develop an implementation plan and budget to move the work forward.

Building a foundation for a career ladder also required adding to the knowledge base within NCEE. I examined comprehensive teacher career ladders and career advancement initiatives in international top performing jurisdictions (i.e., Singapore, Shanghai, and Australia) and in the United States (i.e., Arizona, Iowa, New York, and the District of Columbia). I also conducted a landscape review on career advancement initiatives, interviews, and small focus groups for an internal NCEE document. Collectively, this information helped to strengthen the partnership-building efforts with the National Board and will inform the (future) design of the national teacher career ladder model.

Ultimately, states and localities must choose to use the national teacher career ladder system, and they decide how they want to use it (e.g., the roles and responsibilities made available to each level on the ladder, if and how compensation may be tied to

levels, etc.). Centralizing any of these critical decisions would likely dissuade states from buying into this idea, which is why NCEE leadership chose its particular strategy.

National initiatives seeking to influence schools will require the collaboration of many powerful cross-sector organizations and leaders, highly coordinated efforts, and legitimacy to sustain the political support needed for the initiative to be adopted by states and embraced by the teaching profession. The education system was purposefully designed to hinder federal control and national initiatives like the one proposed by NCEE, so moving a national teacher career ladder forward will be incredibly challenging. Furthermore, a highly decentralized education system has resulted in a lack of system coherence and alignment, and it has perpetuated the distrust within the public education system. This might explain why much of my work during residency was focused on helping to strengthen coherence and alignment (i.e., within NCEE, and between NCEE and the National Board), and to build trust (i.e., between NCEE and the National Board). Trusting relationships can help to strengthen a collective impact effort between key leaders and organizations, and the legitimacy of each partner organization and of the collective will help build legitimacy for the career ladder initiative, making it more likely that states and the profession will buy-in. Coordinated efforts between multiple key leaders and organizations can support system-level change.

Building a national system of teacher career ladders is a long-term commitment for many organizations, and it engages multiple stakeholders at different levels and in different areas within the field. As such, organizations and leaders pushing this initiative need a plan to sustain the momentum, skills, relationships, and legitimacy required to compel a large number of states to incorporate a career ladder into their own systems.

The states must also be capable of sustaining these efforts across multiple years, or develop this capacity, so the career ladder can become comprehensive and deeply integrated into the state system. Not only does this require a strategy for those currently spearheading the initiative, but it points to a need for building the capacity of generations of education leaders who can move this forward across the years and changing landscape. These leaders must be cultivated now within non-profit education organizations leading this initiative (i.e., NCEE and its partners), local education agencies, and schools.

This has implications for leaders, organizations, and the system: they must continue to develop and adapt, so they have the skills, knowledge, relationships, beliefs, and fortitude required to fully realize the vision of a national system of teacher career ladders. For my leadership, this suggests that I must become more skillful in lifting others as I climb, both throughout my career and in my leadership development. For NCEE and the sector, this suggests that they should help build the type of leaders a future system (with a national career ladder) would need. The education system cannot change if those within the system also do not change. While adaptation is hard, it is a necessary growing pain for the system so that it may thrive in the future.

What a national teacher career ladder system enables makes it a powerful system-level instrument: it allows a consistent way to identify and promote increasing expertise within the profession; it helps to widely share professional knowledge and skills; it supports and incentivizes educators to continue their development; and it establishes a collective responsibility for practice success across the system. Most importantly, it helps to elevate expert teachers and teacher leaders so they become the drivers of change in our education system.

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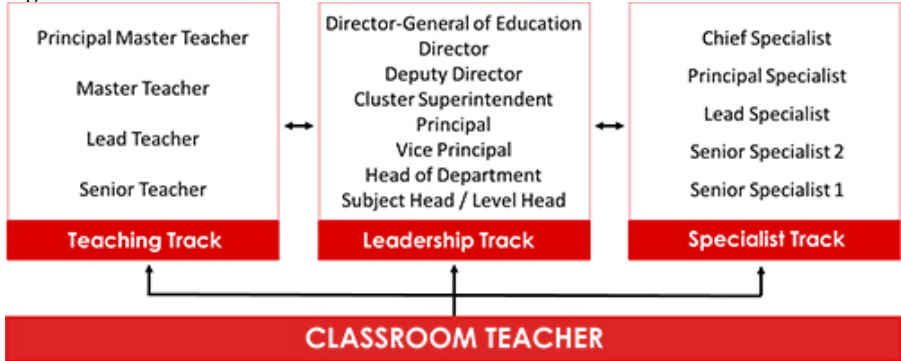
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# Appendix A: Singapore's Career Pathway System

| Context | In 2001, to help teachers reach their fullest potential, Singapore designed and launched the Education Service Professional Development and Career Plan (Edu-Pac), a career and recognition system which consists of three components: 1) a career pathway or framework for career advancement; 2) a recognition and financial compensation system; and 3) and an appraisal system.[1] |
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| **Model** | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | There are three leadership tracks: a teaching track, a leadership track, and a senior specialist track.[2] (See Figure 1.) Whereas the teaching track is designed for teachers who aspire to become expert teachers and remain within classrooms, the leadership track is for those who seek school leadership positions or leadership roles in the Ministry of Education, and the specialist track is for those who develop deep knowledge and skills in specific disciplines, which can bring them to Ministry level leadership positions focused on curriculum development and evaluation.[3] Each level has a range of coordinated experiences and training to prepare future leaders for roles with greater responsibility. Moreover, teachers can move between tracks, so long as they meet the requisite requirements.[4] |

**Figure 1: Different career tracks for teachers**



Source: (Ministry of Education, n.d.)

Teachers with more expertise mentor those with less expertise, so Senior, Lead, and Master Teachers mentor all new teachers.[5] The highest levels within the Teaching Track serve to groom a core group of experts who then further develop the profession's capacity:[6]
- **Senior Teachers** serve as role models to raise the professional excellence and expertise within schools.
- **Lead Teachers** support a culture of teaching excellence and collaborative professionalism through their rich subject knowledge and pedagogical skills. In partnership with school leaders, they build capacity of Senior Teachers and Teachers in content, pedagogy, and assessment, and develop their schools into strong Professional Learning Communities; they also share their subject expertise with teachers in other schools within their cluster to strengthen the teaching profession.

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| | • **Master Teachers** are "teachers of teachers" who mentor other teachers so they reach professional excellence and are highly effective; they drive new pedagogies to improve instructional practice school-wide, champion their subject discipline, and lead curriculum innovation. Though much of their work is attached to the Ministry, their responsibilities include teaching master-classes, leading professional development, driving curricular innovation, and engaging in pedagogical research.<br>• **Principal Master Teachers** are the chief pedagogical experts for their subjects—at the national level—and lead the drive toward teaching excellence across the education system. Similarly to Master Teachers, Principals Master Teachers are responsible for teaching master-classes, leading their colleagues' professional development, driving curricular innovation, and leading pedagogical research and innovation.<br><br>The Leadership Track provides another pathway forward for career advancement for teachers with leadership potential, who are identified early and groomed for leadership positions.<br>• **Subject Head and Level Heads** observe and coach new teachers.[7]<br>• **Heads of Department** serve four broad role functions: 1) departmental management, including coaching and developing teachers in subject areas and implementing comprehensive instructional programs; 2) administration, such as helping principals and vice principals on administrative matters; 3) teaching, so they can advise and give practical assistance to others; and 4) whole-school, so they collaborate as part of the school's management team.[8] Based on the descriptions within the Enhanced Performance Management System (further described below), they have five major responsibilities within their classroom, department, school, and cluster: organizational leadership/vision, strategic planning and administration; staff management; management of student-centered processes; resource management; and professional development.[9]<br>• **Vice Principals** oversee all non-curriculum areas, enhance holistic education for students, and lead a team of Executive and Administrative staff to achieve excellence in school administration and operational support.[10] They also assist principals in numerous areas, from strategic planning and resource management to establishment of knowledge management structures.[11]<br>• **Principals** lead and inspire teachers to provide students with a holistic education and help students discover their strengths, in addition to working with parents and the community.[12] Principals are systematically appointed and rotated so schools are infused with fresh perspectives and experienced Principals can share best practices in different schools; this process also helps principals to progress in their career development.[13] |
| **2) Appraisal system**<br>(How are appraisals connected to career advancement? How often are teachers assessed?) | **Teachers**<br>Teachers are regularly assessed, and advancement from one level to the next requires a teacher or school leader to demonstrate competency at that level and potential for the next, since forward movement along each track requires deepening levels of expertise and experience within specific domains.[14] During summative evaluations, teachers meet with their school leader to discuss whether they met their annual goals and their "current estimated potential" (CEP), which influences movement along the career ladder.[15]<br><br>Teacher performance is measured by the Enhanced Performance Management System (EPMS), and teachers are not automatically promoted to the next level on the career track.[16] A part of Edu-Pac, EPMS is a tool used by the government to support teachers, and helps teachers chart their development along the different leadership tracks and set measurable benchmarks levels.[17] It is a holistic appraisal system that supports self-evaluation, coaching and mentorship, and performance-linked recognition through formative and summative evaluations.[18] It also specifies what professional competencies teachers will be evaluated on through three Key Result Areas (KRAs), |

which are used to set targets and review progress and achievements: 1) holistic student development (quality learning of students, character development of students, and co-curricular activities); 2) professional development (development of self, and coaching and development of others); and 3) organizational outcomes (contributions to school, committee work, and nation; and collaboration with parents).[19] Behavioral indicators provide clarity on what competencies should be observed to achieve the KRAs. In addition to determining performance, evaluation results help determine teachers' choice of career track, professional development needs, promotion, and bonus compensation.[20] The EPMS process involves performance planning, performance coaching, and performance evaluation. (See Figure 2.)

**Figure 2: Performance Management Process**



Source: (Ministry of Education, as cited in Lee & Tan, 2010)

Various platforms and programs exist at the school, cluster, and zonal level to help experienced teachers continue to develop. For example, Senior, Lead, and Master Teachers attend the Teacher Leaders Program, an integrated series of three programs designed to strengthen teacher leadership and professional ethos, deepen skills and knowledge, and reflect expected scope of influence—providing supports that are specific to their career stage and which help them progress forward in their career.[21] The Ministry of Education also continues to grow professional networks so Master, Lead, and Senior Teachers can work with Specialists from the Ministry and the National Institute of Education to deepen the curriculum knowledge and pedagogical skills of teachers, as well as to provide opportunities

for teachers to share, collaborate, and co-create more effective ways of teaching.[22] These professional networks include subject chapters, professional networks, professional focus groups, and professional learning communities.[23] Moreover, the Academy of Singapore Teachers (AST), re-conceptualized in 2009 from the Teacher's Network, leads the professional development of teachers and champions teacher capacity-building.[24] The mission of AST is "building a teacher-led culture of professional excellence centered on the holistic development of the child" (AST, 2012).

Programs and initiatives supporting teacher development aim to help teachers achieve the five desired Teacher Outcomes of the Teacher Growth Model (TGM). Developed as a learning framework to support professional development planning, the TGM Learning Continuum is a comprehensive and coherent approach highlighting the core learning areas of holistic professional growth and development for teachers, while also assisting teachers to take ownership of their growth and help students develop 21st century competencies.[25] (See Figure 3.) Five Teacher Outcomes comprise the TGM Learning Continuum: the Ethical Educator, the Competent Professional, the Collaborative Learner, the Transformational Leader, and the Community Builder. The skills and competencies are described for each of the five Teacher Outcomes so teachers can benchmark and plan for their growth, as they aim to achieve these Outcomes.[26]

**Figure 3: Teacher Growth Model (TGM): Every Teacher, a Gem**



Source: (Academy of Singapore Teachers, 2012)

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| | **Principals**<br>Principals, who are regularly monitored and appraised, are measured against common principal standards, as well as standards that reflect progress toward achieving their school's vision.[27] Those who do not meet the standards for performance will be counseled and coached, and if necessary, reassigned elsewhere. The EPMS assesses a principal's performance, processes, and leadership competencies in the following areas every year:[28]<br><br>• Vision for the school;<br>• Strategic planning and administration, in ways that enhance the profession and contribute to the community and nation-building;<br>• Holistic and comprehensive development and management of staff;<br>• Management of resources and school processes; and<br>• Overall school performance, as measured by student academic achievement and other student achievement indicators, including in arts and aesthetics; physical fitness and sports; social and emotional wellbeing; and student morale and leadership.<br><br>Appraisals, in turn, help to inform a principal's professional development plan and annual goals for the upcoming school year. |
| **3) Compensation and recognition system**<br>(How are compensation and recognition connected to career advancement?) | Salary increases, additional training, and mentorship opportunities occur at every level on the career ladder.[29] Teachers receive annual raises for the first three years of teaching, but after the third year, raises are based on advancing forward along the career track.[30] Performance grades on the annual appraisal is linked to financial compensation (e.g., salary adjustments) and non-monetary means (e.g., recognition and awards).[31] Teachers rated "A" get a bonus of up to 3.25 months salary, whereas "C" rated teachers receive roughly 1.5 months salary and "E" rated teachers are put on a performance review for 6-9 months.[32]<br><br> The TEACH Framework represents the commitment from the Ministry to support teachers as they develop throughout their career and reward teachers with greater career options, professional development, and more flexibility in managing their careers. (See Figure 4.)<br><br>**Figure 4: TEACH Framework**<br>Source: (Ministry of Education, 2014)<br><br>Launched by the Ministry of Education, the GROW 2.0 package for the professional and personal **G**rowth of Education Officers, through |

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| | better **R**ecognition, **O**pportunities, and seeing to their **W**ell-being (GROW) aims to professionally and personally develop teachers holistically and comprehensively.[33] (See Figure 5.) In addition, the CONNECT Plan (**CON**ti**N**uity, **E**xperience and **C**ommitment in **T**eaching), an aspect of GROW, encourages teachers to remain in service until retirement through financial incentives.[34]<br><br>**Figure 5: Summary of GROW 2.0 initiatives**[35]<br><table><tr><td>**W**ell-Being<br>- Expansion of part-time teaching scheme<br>- Greater support for part-time teaching<br>- Enhancements to no-pay leave</td><td>**G**rowth<br>- Professional development packages<br>- Greater support for postgraduate studies<br>- More in-service upgrading opportunities for non-graduate teachers</td></tr><tr><td>**O**pportunities<br>- Enhanced senior specialist track<br>- Further re-employment opportunities<br>- Future Leaders Program</td><td>**R**ecognition<br>- New education scheme of service (2008)<br>- Revised incentive plan<br>- Additional Outstanding Contribution Awards</td></tr></table>Source: (Ministry of Education, 2007) |
| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | <br>**Figure 6: Teaching Competency Model**<br>Source: (as cited in Lee & Tan, 2010)<br><br>The Teaching Competency Model helps teachers identify their strengths and weaknesses so they perform consistently, and of its 13 competencies, 9 performance-related competencies are used to assess teachers (the Core competency and all of those under Cultivating Knowledge, Winning Hearts & minds, and Working with Others).[36] Competencies listed under Knowing Self and Others are not used for assessment purposes, but rather to nurture self-reflection amongst teachers, given the importance placed on self-development and emotional intelligence.[37] (See Figure 6.)<br><br>For each competency, there are five levels (levels 1 to 5) with corresponding behavior indicators, and each level represents increasing degrees of expertise, knowledge, and sphere of influence.[38] Teachers at higher stages in their career are expected to perform at high levels (e.g., Master teachers are expected to perform at levels 4 or 5).[39] Teachers are rated on a 4 point scale, from "not observed" to "developing," "competent," and "exceeding" on the competencies.[40] Afterward, they review their progress and discuss their future goals with their direct supervisors.[41] |
| **Policy guidelines** (Local school board, legislation, or union contract?) | Ministry of Education |

| Program design (Who was responsible for the design? Special task force? Local planning groups? Union support?) | Ministry of Education |
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| **Funding source** (Local city council? Local supplements? State?) | Ministry of Education |
| **Selectivity** (High, considerable diversity?) | High<br>- Teachers: Recruited from top one-third of secondary school graduates[42]<br>- School leaders and other leadership roles: Recruited from only the most effective and accomplished teachers who advance forward on the career ladder[43]<br>- Higher levels of educational leadership the Ministry of Education: many started as teachers |
| **Emphasis** (Professional development, merit pay, extra duty?) | - Professional and personal development that is holistic and comprehensive[44]<br>- A learning system and a learning profession: multiple and varied pathways for teachers to develop their careers and skills fosters a culture of continuous learning[45]<br>- Education as central to the individual, economy, and nation building[46] |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | - 100 hours of annual professional development[47]<br>- Structured teacher mentoring program at the school, cluster and the Ministry levels[48]<br>- Time for collaboration and lesson planning with colleagues, visiting classrooms, action research, and professional development[49]<br>- All leadership and teacher training funded by the government[50]<br>- Ministry of Education Teachers Network, with information, advice, emotional support, and downloadable resources[51]<br>- Scholarships and study leave funded by the Ministry of Education[52]<br>- Course, degree, and diploma programs from the National Institute of Education, in collaboration with the Ministry of Education[53]<br>- Reduced teaching load for teachers who pursue part-time Master's degrees[54]<br>- Resources and support from the Academy of Singapore Teachers, which spearheads the professional development of Ministry of Education staff by tapping pedagogical leadership from the teaching fraternity, and supports a nation-wide professional learning community[55]<br>- Opportunities for teachers to be posted to other schools, the Ministry of Education, or the National Institute of Education (as teaching faculty for up to four years)[56]<br>- Teachers at the Heads of Department and Subject/Level Head stages receive extensive training to move to the vice principal and principal career stages, including a 17-week full-time Management and Leadership Studies (MLS) Program to enhance their operational capacities[57]<br>- Promising vice principals selected by senior leaders to be principals-in-training engage in a six-month full-time executive leadership training, the Leaders in Education Program (LEP);[58] the program is funded by the Ministry of Education and candidates receive their full salary during the training[59]<br>- Following their LEP training, new principals receive in-service training on governance, supervision and human resource management, financial management, and management of media[60]<br>- Principals serve as mentor principals for principals-in-training in the LEP, who must take on a creative action project in the sitting |

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| | principal's school to fulfill program requirements[61]<br>- Leadership mentoring program through the National Institute of Education, whereby senior principals mentor other principals and school leaders[62]<br>- Principals participate in conferences, workshops, and seminars hosted by the Ministry of Education, National Institute of Education, Academy of Principals, school clusters, and other networks for school leaders, in addition to engaging in overseas study visits to examine different education reforms and innovations[63]<br>- Principals are transferred between schools and into the Ministry of Education for a few years to continue their professional learning, test their leadership skills, and contribute to Singapore's continual improvement strategy (which is important if they aspire to higher career levels on the Leadership Track)[64] |
| **Evaluation committee** (Who evaluates promotion for teacher leadership or forward movement on the ladder?) | Teachers: Principal, in consultation with vice principal, department chair, and senior colleagues who work with the teacher[65]<br>Aspiring leaders: District level interviews with panels of experienced school leaders and experts[66] |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | - Performance grade on annual appraisal[67]<br>- Teacher's "current estimated potential" (CEP)[68]<br>- Professional portfolio[69]<br>- Contribution to school and community[70]<br>- Contribution to colleagues' development[71]<br>- Success of their students, academic success and holistic development[72]<br>- For principals, who are rotated every five to seven years, success in different school cultures and context[73] (a process that helps to ensure that only those principals who have demonstrated success in struggling, high-needs schools will move forward on the career ladder) |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, new and/or additional roles and responsibilities, mentoring, etc.?) | - New and additional roles and responsibilities<br>- Cascading system of mentoring, in which higher rank teachers develop new and less experienced teachers through mentoring, model lessons, and other professional activities[74] |
| **The role of the union** (What was/is the role of the teachers unions in the design and/or implementation of the career ladder?) | Not available |
| **Outcome measures** (What are major indicators of success?) | - Teaching viewed as a highly desirable and competitive profession[75]<br>- Attract high performers[76]<br>- Low teacher attrition rate[77]<br>- Collaborative and professional environment where teachers are decision-makers[78]<br>- Job satisfaction[79]<br>- Holistic development of students, including cognitive, physical, social, moral, and aesthetical dimensions[80] |
| **Registry of promotion and/or** | Ministry of Education |

| **certification** (Who keeps and maintains this information?) | |
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# Appendix B: Shanghai's Career Pathway System

| Context | The career ladder for primary and secondary teachers was established in 1986 and recently reformed in 2013.[1] Shanghai's principal career ladder was implemented citywide in 2000, after the idea was first introduced in 1993.[2] |
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| **Model** | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | Shanghai's career ladder framework consists of four levels: probationary status (novice or junior), second level (intermediate or middle), first level (advanced), and senior teacher (master).[3] These levels correspond to 13 steps on the recently reformed career ladder for primary and secondary teachers (Figure 1).[4] The highest teacher ranks can apply to be university faculty members, since senior-level teachers are equivalent to associate professors or professors within universities.[5]<br><br>In 2000, Shanghai implemented its principals' career ladder, which features five distinct levels and 12 grades (Figure 2). Each grade typically represents three years of service as a principal, but principals can be promoted one grade band per year if they earn an excellent appraisal.[6] "Grade" refers to multiple stages within each level. Once principals reach the highest grade within a level, they can apply to be promoted to the next level.[7] Principals who are on Level 3 and Level 2 are allowed to apply for the next level on the career ladder after three years of service at each level, whereas those on Level 1 can apply for the Master Principal career stage after two years at that level.[8] Nearly all principals started off as teachers and, to be promoted to the rank of principal, were required to have achieved the highest levels on the teacher career ladder.[9]<br><br>**Figure 1: Career ladder for primary and secondary school teachers**      **Figure 2: Career ladder for principals**<br><br><br><br>Source: (Zhang, Ding, & Xu, 2016)          Source: (Zhang, Ding, & Xu, 2016) |

| 2) Appraisal system (How are appraisals connected to career advancement? How often are teachers assessed?) | **Teachers** Promotion from one level to the next often requires teachers to be observed, give demonstration lessons, develop new and struggling teachers, and publish in education journals.[10] Peer- and self- evaluations also inform the annual evaluation process, as well as teaching load and additional responsibilities, such as serving as class advisor or leading a subject team, grade team, or lesson planning group.[11] Schools and the district also administer student and parent surveys as part of the school evaluation process.[12] This multifaceted process varies from school to school, with principals and expert teachers evaluating individual teachers, though it is the principal who decides whether a teacher is prepared to take on additional responsibilities.[13]

Novice status teachers are promoted to intermediate status after five-years of teaching and school-based evaluation, whereas promotion to the next level of advanced occurs after another five years of service and both school- and district-level evaluations.[14] Intermediate or middle level teachers first self-evaluate their work and then colleagues on teams will provide feedback on the evaluation; afterward, this is given to the department head and then the principal.[15] The Advanced Teacher Title Committee, which comprises of 5 to 7 expert teachers, evaluates nominated advanced teacher candidates, while a similar Master Teacher Title Committee evaluates master teacher candidates through interviews, observations, and a review of their appraisals and learning track record.[16] Master teachers are expert teacher leaders who have distinguished themselves after several years of service.[17] To move to the highest ranks, teachers must submit an application to the district with information that includes a write-up of their accomplishments and degrees, their current school-based research, a list of their awards and research publications, and their students' achievements.[18] They must also pass a written language competence exam, successfully pass district level interviews, and receive commendations from expert teachers who regularly observe their lessons.[19] Furthermore, teachers cannot advance to the top of the career ladder without having served in a high-needs school.[20]

**Principals** Promotion on the principal career ladder is similar to the teacher career ladder. Principals are regularly monitored and have annual evaluations. Those who earn an "excellent" appraisal on their annual evaluation can be promoted one grade band a year within a level; those who earn two consecutive "qualified" evaluations can also be promoted a grade band.[21] They are assessed on six major performance domains and 12 performance indicators. The six domains are:[22]<br>• Education ethos (e.g., building a collaborative and professional environment);<br>• School management (e.g., financial management, teacher retention, and teacher job satisfaction);<br>• Teaching that supports individual student interests, supports problem –posing and –solving learning, integrates knowledge across disciplines, and fosters innovation and creativity;<br>• Staff development of lifelong learning professionals who contribute to the system;<br>• Personal qualities; and<br>• Overall school performance, which includes student performance on exams and in academic competitions.

Principals can earn up to 10 points on each of the 12 indicators, for a total score of 120.[23] Those who aspire to become Master Principals must score at least 108 points or above on this review scheme, averaging 9 points for each of the indicators.[24] |
| **3) Compensation and recognition system** | The merit pay system, implemented in 2009, requires districts to ensure that teacher salary is 70 percent base salary (determined by the number of classes taught and the teacher's responsibilities and roles) and 30 percent performance-based, as well as to maintain average |

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| (How are compensation and recognition connected to career advancement?) | teacher salary above public servant average salary.[25] There are two levels of pay for novice teachers and three levels of pay each for intermediate and advanced teachers.[26] The multi-faceted evaluation and merit pay process varies from school to school and does not rely on specific metrics of weighted formulas.[27] A study found that merit pay did not motivate teachers to perform differently than they had in the past.[28]<br><br>Teachers are also recognized and rewarded in non-financial and informal ways. For example, teachers routinely compete in teaching skills competitions, and awards are given to highly effective teachers and prominently displayed in schools as a source of community pride.[29] Teachers can also win school, district, and municipal level awards for their expert teaching practice, school management innovations, research, and contributions to education.[30] In addition to professional competency, teachers are promoted or moved up to a higher rank based on their status among their colleagues, which they must demonstrate in a variety of ways.[31] For example, demonstration lessons serve as one tool for career advancement, in addition to professional development and quality assurance.[32] After teachers collaborate with colleagues to jointly design a lesson, they conduct a demonstration lesson for new and experienced teachers to watch; observers collectively provide critical feedback and then the teachers involved with the demonstration lesson refine it, a process that improves both the lesson and teaching skills.[33] Moreover, teachers can earn status within schools by leading work teams, such as in a teaching and research team, lesson planning team, or grade teams.[34] |
| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | The Ministry of Education released two sets of professional teaching standards in 2011, one for primary teachers and the other for secondary teachers, and aligned with the Teachers Law and the Compulsory Education Law.[35] The 61 teaching standards are organized into four broad areas. The first area focuses on student-centered teaching to meet the developmental and physical needs of students, as well as the teacher's ability to cultivate a positive learning environment that develops students' curiosity, independence, and interests.[36] The second area focuses on teacher's ethics and identity, describing the professional characteristics and behaviors expected of teachers, such as care, patience, eagerness to learn, optimism, and cheerfulness. Teachers serve as role models to students and are expected to practice the core values of the nation.[37] The third focus area, which has the most standards associated with it, centers on teaching knowledge and skills: content knowledge, pedagogical knowledge, classroom management, cultural awareness, adolescent development, values formation, specific content pedagogy, instructional design based on learning objectives, personalized learning plans, technology, and assessment and evaluation.[38] Moreover, teachers need to be able to create and nurture learning environments that foster inquiry, innovation, collaboration, and interest, while also helping students learn how to self-evaluate, communicate with their parents, and respond to emergencies.[39] Finally, the last broad area focuses on teachers' lifelong learning and contributions to the continuous improvement of the educational system.[40] These standards specify collaboration so experiences, skills, knowledge, and resources are widely shared, in addition to specifying teaching practices to improve the system and instruction, from collecting and analyzing information to self-reflection, exploration, and research.[41] |
| **Policy guidelines** (Local school board, legislation, or union contract?) | - The Teacher Law in 1993 defines teachers as professionals and establishes national support for teacher professional development, improving working conditions and salary, protecting teachers' rights and interests, and improving their status.[42]<br>- Ministry of Education: the 2004 Primary and Secondary School Teachers' Continuing Education Requirements, which defines continuing education as a right and obligation of teachers, and the 2020 Plan, which supports strengthening and acknowledging teachers.[43]<br>- Shanghai Municipal Education Commission: in compliance with national laws and regulations[44] |
| **Program design** (Who was responsible for the design? Special | Ministry of Education<br>Shanghai Municipal Education Commission |

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| task force? Local planning groups? Union support?) | |
| **Funding source** (Local city council? Local supplements? State?) | Ministry of Education<br>Shanghai Municipal Education Commission |
| **Selectivity** (High, considerable diversity?) | High<br>- Teachers: Less than seven percent of all teachers in Shanghai have earned senior teacher status, making this designation an elite and competitive status.[45]<br>- School leaders: Roughly 30 percent of principals are senior-level principals, and only 5 percent have earned a designation of Special Grade Principal, or the highest rank of master principal.[46]<br>- Higher levels of educational leadership at district offices, city commissions, and national Ministry of Education: nearly all of the officers started as teachers and were themselves expert and highly accomplished teachers and/or principals.[47] |
| **Emphasis** (Professional development, merit pay, extra duty?) | - Professional development, recognition, and enhanced status of teaching profession[48]<br>- Supports the national policy call for teachers to be life-long learners and to contribute to the educational system and nation[49] |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | - Apprenticeship[50]<br>- Formal mentoring and coaching with mentors who have done the job of the mentee,[51] and the mentoring model is cascading so that everyone expect has a mentor, except Master Teachers and Master Principals<br>- Engagement on different teams for joint lesson planning and discussions related to teaching and students (e.g., grade level, subject and content, research, and lesson planning)[52]<br>- Time in school schedule so teachers can collaborate and engage in professional learning activities, with average teachers teaching 10-12 hours per week[53]<br>- Rearrange school space so teachers on the same grade level share space[54]<br>- Professional development offered by the district and in partnership with higher education campuses (a total of 360 hours every five years for new teachers and at least 540 hours every five years for senior level teachers)[55]<br>- Classroom observations within their school and in other schools[56]<br>- Teaching demonstrations for peer observation and feedback, including collective teaching[57]<br>- Web platform to access and share ideas, research papers, and other resources[58]<br>- Transfer expert teachers and outstanding school leaders from urban to rural areas, and transfer rural teachers to urban schools for enrichment[59]<br>- Pair off urban schools with rural districts[60]<br>- High performing principals mentor school leaders in struggling schools, or take charge of struggling school[61]<br>- Consortium of schools, whereby schools are grouped with a strong school at the core[62]<br>- Training programs for principals are divided into qualification training, improvement training, and advanced training—all of which correspond to their level on the career ladder and help them to progress on the ladder[63] (See Figure 3.) |

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| | | **Figure 3. Comparison between the three levels of principal training in China**<br>Source: (Zheng, Walker, & Chen, 2013)<br>Note: Backbone principal is a title granted to principals who the state identifies to be outstanding. "Backbone" also typically means an individual is a leader within a team of professionals, so Backbone Principals may lead principal teams in school clusters that aim to improve school performance and teacher development. |

| Types of programmes | Target principals | Nature | Provider | Curriculum and teaching plan | Training hours |
|---|---|---|---|---|---|
| Qualification | New principals and those appointed as principals | Mandatory | Decentralized but state-authorized | State teaching plan | No less than 300 hours |
| Improving | Those who have held the qualification certificate for no more than five years | Mandatory | Decentralized but state-authorized | State teaching plan | No less than 240 hours/five years |
| Advanced | Backbone principals | Voluntary (selective and honorary) | National principal training centres and other universities | Not standardized | Not standardized |

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| **Evaluation committee** (Who evaluates promotion for teacher leadership or forward movement on the ladder?) | Teachers: Principal evaluates, in consultation with expert teachers, and decides if teachers can shoulder more responsibility[64]<br>Aspiring master teachers and school leaders: A district-level committee of expert teachers and school leaders review applications and interview candidates[65] |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | - Demonstrable professional competency and status among their colleagues, usually when the principal and team leaders observe their lessons[66]<br>- Colleague evaluations, shared with the principal[67]<br>- Contributions to the development of other teachers[68]<br>- Students' accomplishments[69]<br>- Education research publications[70]<br>- Awards (e.g., teaching competitions, etc.)[71]<br>- Student evaluations, shared with the principal[72]<br>- Advancing educational reforms[73]<br>- Serving in weaker and struggling schools[74] (e.g., principals and teachers in high-performing schools are typically asked to work with struggling schools on management, school culture, and teaching quality;[75] or they are transferred to the struggling school while the principal and a team of teachers from the struggling school are transferred into the strong school for enrichment;[76] or a successful principal is asked to manage several schools at the same time[77]) |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, | - New and additional roles and responsibilities, such as serving as the advisor for the class (*banzhuren*), leading a teaching research group (*jiaoyanzu*), or conducting demonstration lessons for colleagues within the school and in other schools[78]<br>- Everyone has a mentor, expect master teachers[79] |

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| new and/or additional roles and responsibilities, mentoring, etc.?) | - Cascading system of mentoring, in which higher rank teachers develop new and less experienced teachers through mentoring, model lessons, and other professional activities [80]<br>- Expert principals mentor new principals [81] |
| **The role of the union** (What was/is the role of the teachers unions in the design and/or implementation of the career ladder?) | Not available |
| **Outcome measures** (What are major indicators of success?) | - Performance of students on exams and in academic competitions [82]<br>- Forward movement on the career ladder [83]<br>- Lifelong learning professionals who contribute to the education system [84]<br>- Job satisfaction for teachers through increased recognition, higher status, and leadership opportunities [85]<br>- Collaborative and professional environment [86]<br>- Teaching that supports individual interests of students, supports problem -posing and –solving learning, integrates knowledge across disciplines, and fosters innovation and creativity [87] |
| **Registry of promotion and/or certification** (Who keeps and maintains this information?) | Shanghai Municipal Education Commission |

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# Appendix C: Australia's Career Pathway System

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| **Context** | The Advanced Skill Teacher (AST) initiative was a national scheme originally introduced in the early 1990s, with union leaders playing a critical role in implementation and flexibility built in for local school systems to negotiate the teacher evaluation process with unions.[1] AST teachers received small salary increases and were given extra work and responsibilities, and nearly all eligible teachers who applied gained AST status; as such, the AST idea lost credibility and practices reverted to movement into management hierarchies,[2] versus developing and retaining expert teachers who remain inside of classrooms. Major learning lessons from this experience include ensuring that evaluation of teachers' skills, knowledge, and performance had to be fair, valid, and reliable; moreover, there is a need to separate the certification system and the systems for recognizing certification in terms of pay and status, because certification would be more efficient and effective if conducted by an independent professional body with expertise in standards and assessment.[3] Even with this setback, the need to build a credible system that recognizes excellent teaching and pays expert teachers what they were worth remained. After consensus was reached to build a standards-based professional learning system in 2008, the Ministerial Council for Education, Early Childhood Development and Youth Affairs worked on the Australian Professional Standards for Teachers, and in 2010, the Australian Institute for Teaching and School Leaders (AITSL) assumed responsibility for finalizing the standards, which were shaped by the profession and are used as a basis for national consistency.[4] Funded by the Australian Government, AITSL was formed to provide national leadership in promoting professional excellence in teaching and school leadership.[5] In 2011, AITSL developed the Australian Professional Standard for Principals (the Standard).[6] |
| **Model** | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | The Australian Professional Standards for Teachers (the Standards) publicly define the knowledge, skills, and practices needed for effective teaching in 21st century schools that improves student outcomes.[7] Its framework clarifies the expectations for professional practice and reflects the continuum of professional expertise across teachers' careers, serving to raise the status of the teaching profession and inform the development of professional learning goals, including assisting with self-reflection and –assessment.[8] Organized into four career stages representing increasing levels of professional knowledge, practice, and engagement, the Standards serve as benchmarks and guide the preparation, support, and development of teachers:[9] <br><br> 1. **Graduate standards** undergird the accreditation of initial teacher education programs, so Graduate teachers have met these standards following completion of a national accredited program. They possess the requisite knowledge and skills to plan for and manage student learning. <br> 2. **Proficient standards** are used as a process for full registration as a teacher. Achievement of the Standards at the Proficient level is a requirement for teachers to gain full registration. <br> 3. **Highly accomplished standards** are used to inform voluntary certification. Highly Accomplished teachers are recognized as highly effective and skilled practitioners who contribute to their colleagues' learning, have deep knowledge of their content, are skilled in student assessment data, and maximize learning opportunities for their students. <br> 4. **Lead standards** represent the highest level of performance and inform voluntary certification. Recognized and respected by colleagues, parents, and the community, Lead teachers have demonstrated consistently exemplary teaching practice over time. |

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| | They are highly skilled at establishing inclusive learning environments for diverse learners, developing and mentoring colleagues, and leading activities and processes that improve collaboration, teaching practices, and educational opportunities for all students.

Graduate teachers, or beginning teachers, must move from provisional to full registration in the early years of their career and do so by demonstrating their achievement of the Proficient standards, a process that is supported by the induction phase.[10] To demonstrate they have met the Proficient standards, teachers must reflect upon their practice and provide evidence that demonstrates their practice against the focus areas of that standard, though the registration process, evidence requirements, and supports available to teachers vary between the different jurisdictions.[11]

Movement to the Highly Accomplished and Lead career stages are voluntary for teachers, who may choose to be assessed against these Standards for certification if it is offered in their specific state or territory.[12] Certification of Highly Accomplished and Lead teachers serves to recognize and promote quality teaching; provide opportunities for self-reflection among teachers; and to provide a reliable indication of high quality teaching that can be used to identify, recognize, and reward expert teachers.[13] Additionally, certification is portable, so teachers who move between jurisdictions will maintain their status as Highly Accomplished or Lead teacher.[14] |
| **2) Appraisal system**
(How are appraisals connected to career advancement? How often are teachers assessed?) | Eligibility for Highly Accomplished or Lead teacher certification requires that an applicant: 1) be an Australian citizen or have permanent resident status; 2) have full registration with a state or territory; and 3) have been assessed as satisfactory in their two most recent annual performance assessments for applicants for Highly Accomplished status, or in three for Lead status.[15] The certification process is highlighted in Figure 1.

**Figure 1: Certification for Highly Accomplished and Lead Teachers**



Source: (AITSL, 2012) |

In Stage 1, teachers submit to their certifying authority annotated evidence of teacher practice to be assessed against the Standards, a self-reflection statement, and observation reports and referee comments; at this stage, Lead teacher applicants must also submit a description of an initiative designed to build teacher capacity that he/she has led over time within the school or across schools.[16] Teachers who successfully advance to Stage 2 must then plan an assessor site visit, which must include a pre-observation discussion, observation of classroom practice, discussions with the principal/supervisor and with nominated colleagues, a discussion with the applicant, and observation of other activities (only for Lead teacher applications) to explore performance against the Standards.

The Standards for teachers and for principals are the foundation of Australia's teacher performance and development system, which support the career progression of teachers.[17] (See Figure 2.)

**Figure 2: Teacher Performance and Development in context**
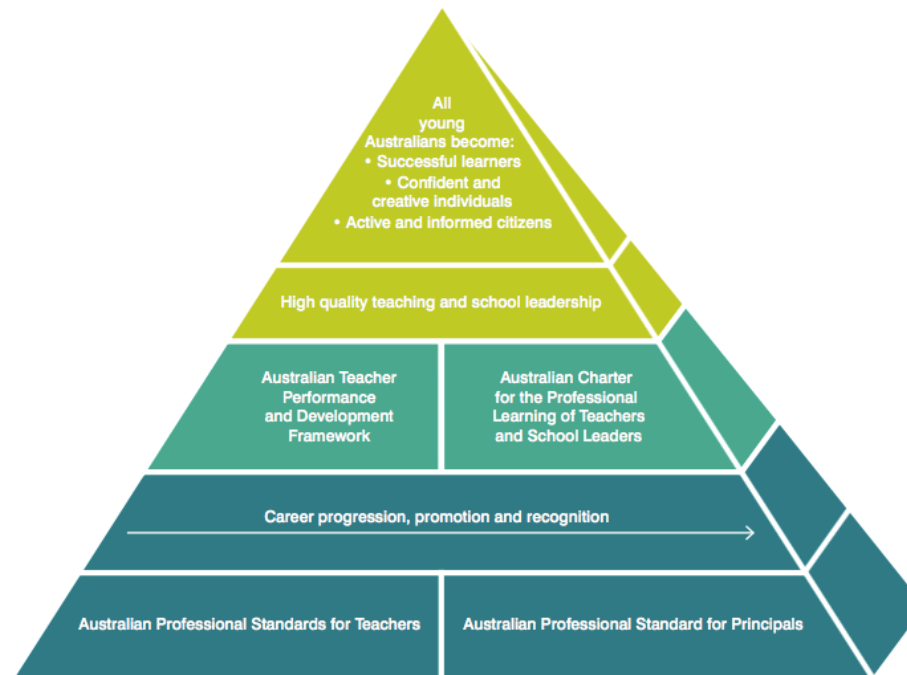


Source: (AITSL, 2012)

Endorsed by the Education Ministers in 2012, the Australian Teacher Performance and Development Framework highlights the characteristics of a successful system, the culture, and the elements of an effective cycle needed for a comprehensive approach to nurture high performance and development—what should be implemented in all schools.[18] (See Figure 3.)

**Figure 3. Teacher Performance and Development Framework**
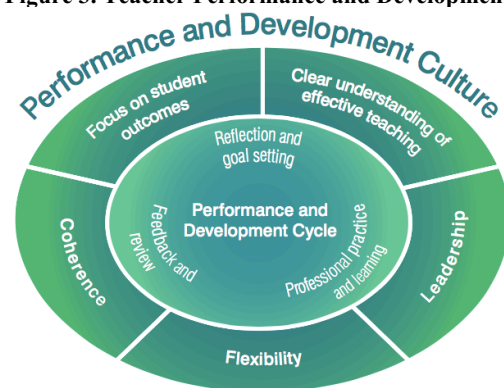


Source: (AITSL, 2012)

It also provides a structure for appraising, developing, and improving instructional practices, while providing teachers with meaningful feedback and support.[19] Given that this is a framework, variation may exist between school and system appraisal processes. Schools will be responsible for implementing the Framework and AITSL will provide support for this process, with the intention that the Framework will promote authentic conversations and cultural change to improve teaching.[20] The factors needed for a performance and development culture to flourish are highlighted on the outer layer of the framework, while the inner layer highlights the four essential elements within a performance and development cycle:[21]

| Reflection and goal setting | 1. Teachers have documented performance and development goals they regularly review and ways to measure progress (agreed with the principal) |
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| Professional practice and learning | 2. Teachers have access to high quality professional development and are supported in working towards their goals.<br>3. Evidence used to inform reflections and evaluations should represent multiple sources and include at least the following: student performance data, observations, and collaboration with colleagues. |
| Feedback and review | 4. Teachers should receive regular and informal feedback (verbal and written) on their performance, including a formal review against their performance and development goals at least annually. |

The Australian Charter for the Professional Learning of Teachers and School Leaders aims to nurture a high-achieving and thriving professional learning culture across the nation by outlining the importance of professional learning, describing the qualities of a professional learning culture, highlighting characteristics of effective professional learning, and emphasizing a shared responsibility commitment.[22] (See Figure 4.) It identities relevance, collaboration, and a focus on the future as characteristics of effective professional learning, and defines effective professional learning as a shared responsibility of stakeholders at multiple levels of the education system—teachers, school leaders, system leaders and policy makers.[23]

**Figure 4. The Australian Charter for the Professional Learning of Teachers and School Leaders**
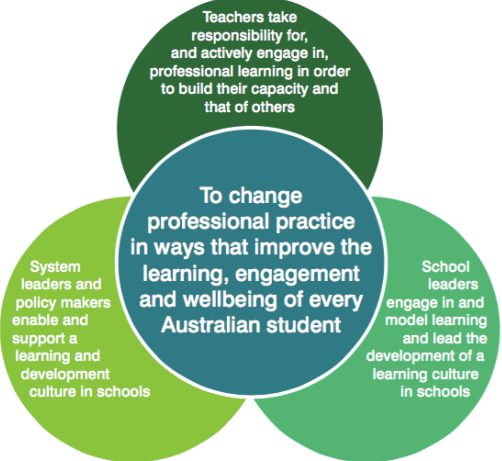


Source: (AITSL, 2012)

Based on guidelines in all government systems, teacher development is incorporated into the performance and development processes, with teacher learning needs identified through discussions and feedback as part of the teacher review process, which in turn inform teachers' development plans that are then incorporated into teachers' performance plans.[24]

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| **3) Compensation and recognition system**<br>(How are compensation and recognition connected to career advancement?) | The Australian Teacher Performance and Development Framework is not directly linked to performance pay.[25] While national certification of Highly Accomplished and Lead teachers is portable, pay and other recognition (i.e., registration/accreditation status) attached to certification are not automatically transferable.[26] Pay rewards and recognition are considered employment matters in Australia,[27] so teacher compensation and incentives are negotiated and determined at the local level. Even still, some states are linking the Standards to compensation. For example, a new standards based pay structure will commence starting in 2016 in New South Wales.[28] (See Figure 5.) Teachers in New South Wales are offered additional benefits and incentives to attract them to remote country schools.[29] |

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| | **Figure 5. Permanent and temporary teacher salaries** |
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| Band | Accreditation level | Salary |
|---|---|---|
| Band 1 | (Graduate) | $64,008 |
| Band 2 | (Proficient) | $77,200 |
| Band 2 | (Proficient) Step 2.1 | $83,793 |
| Band 2 | (Proficient) Step 2.2 | $87,096 |
| Band 2 | (Proficient) Step 2.3 | $95, 466 |
| Band 3 | (Highly Accomplished) | $101, 614 |

Source: (NSW Department of Education and Communities, 2015)

To improve teacher quality and student learning outcomes, the government agreed to recognize expert teachers through a reward payment scheme starting in 2014: Highly Accomplished teachers in government schools were rewarded with a one-off payment of $7500 and Lead teachers received a one-off payment of $10,000.[30]

| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | The Teacher Standards are interconnected and are grouped into three domains: Professional Knowledge, Professional Practice, and Professional Engagement.[31] (See Figure 6.) Focus areas and descriptors accompany each standard for each of the four professional career stages (i.e., Graduate, Proficient, Highly Accomplished, and Lead).[32] |
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**Figure 6: The Australian Professional Standards for Teachers**

| Domains of teaching | Standards |
|---|---|
| **Professional Knowledge** | 1. Know students and how they learn |
| | 2. Know the content and how to teach it |
| **Professional Practice** | 3. Plan for and implement effective teaching and learning |
| | 4. Create and maintain supportive and safe learning environments |
| | 5. Assess, provide feedback and report on student learning |
| **Professional Engagement** | 6. Engage in professional learning |
| | 7. Engage professionally with colleagues, parents/carers and the community |

Source: (AITSL, 2011)

To improve practices and benchmark their career progression, teachers can use the Standards to recognize current and developing capabilities; identify strengths and areas for improvement; and inform their self-reflection, development planning, performance review, and professional learning.[33] For the education system, the Standards serve to promote national consistency for accrediting initial teacher education programs (against the Graduate stage); teacher registration at the Proficient stage; voluntary certification of exemplary teacher practice at the Highly Accomplished and Lead stages; and performance and development.[34]

Developed from the Australian Professional Standard for Principals (the Standard), the Leadership Profiles (the Profiles) detail the practices of principals as they progress to higher levels of proficiency and were validated by the profession; collectively, the Standard and the Profiles guide school leaders on their learning pathway.[35] The Standard for Principals is based on three leadership requirements (vision and values; knowledge and understanding; and personal qualities, social, and interpersonal skills), which are enacted through five key professional practices.[36] (See Figure 7.)

**Figure 7: The Australian Professional Standard for Principals**
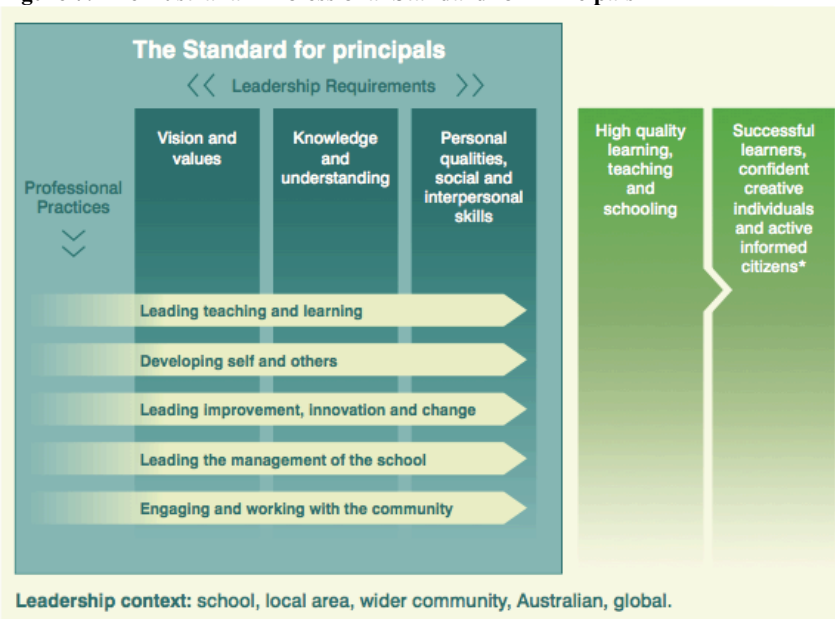


Source: (AITSL, 2014)

Each of the five professional practices has a description from the Standard, and the Profile builds upon the Standard to describe the actions as school leaders progress to higher levels of proficiency.[37] Figure 8 highlights one of the five professional practices, Developing self and others, and its corresponding profile.

**Figure 8: The Australian Professional Standard for Principals**



### Professional Practice: Developing self and others

#### Description

Principals work with and through others to build a professional learning community that is focused on continuous improvement of teaching and learning. Through managing performance, effective continuing professional learning and feedback, they support all staff to achieve high standards and develop their leadership capacity. Principals support others to build capacity and treat people fairly and with respect. They model effective leadership and are committed to their own ongoing professional development and personal health and wellbeing in order to manage the complexity of the role and the range of learning capabilities and actions required of the role.

#### Developing self and others Profile
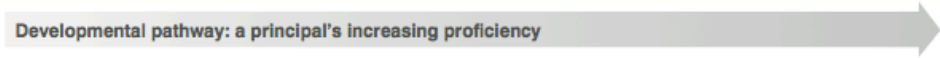
Principals promote the benefits of professional learning to all staff and ensure that their willingness and efforts to learn and improve are recognised. They develop and implement a personal and organisational vision that links all learning and development activities to better outcomes for students. They work with staff to identify and prioritise their professional learning needs based on any gaps between the requirements of their roles and their current knowledge, understanding and skills. They model personal and professional learning that is clearly linked to school goals and seek support from others as appropriate.

Principals seek leadership potential in others and provide opportunities for their development. They identify and implement professional learning opportunities with staff that are aligned with staff learning plans and school priorities. They consistently apply effective performance and development processes so that success is celebrated, underperformance addressed and complacency challenged. They provide staff with regular and effective feedback on their performance, determining together how they can improve and remove any obstacles to learning.

Principals build capacity by creating a culture of empowerment, responsibility and self-directed research that leads to the development of a professional learning community. They model the importance of health and wellbeing, watch for signs of stress in self and others and take action to address it. They modify their leadership behaviour based on learning from experience and feedback from colleagues. They evaluate whether professional learning undertaken by self and staff has had the desired impact on students and has been shared with others.

Principals create challenging roles, responsibilities and opportunities for senior leaders that leverage and grow their talents. They build and sustain a coaching and mentoring culture at all levels in the school and have a system of peer review and feedback in place. They mentor other principals to support their growth and development and help them to address issues. They seek opportunities for professional growth through engaging in state, national and global educational developments.

Developmental pathway: a principal's increasing proficiency

Source: (AITSL, 2014)

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| **Policy guidelines** (Local school board, legislation, or union contract?) | In consultation with key stakeholder groups in the field, the AITSL creates and proposes national policies (e.g., the Standards and the Framework) to ensure consistency across the nation, and these policies are then typically endorsed by the Ministers of Education and adopted in all states and territories.[38] While the AITSL establishes, reviews, and maintains the Professional Standards for Teachers and the Professional Standard for Principals, the certification process, and supplementary materials,[39] it is the certifying authorities within states and territories that benchmark teachers against the Standards for Teachers and the Standard for Principals, and these certifying authorities have flexibility in determining the registration process, evidence requirements, and supports they provide to teachers.[40] |
| **Program design** (Who was responsible for the design? Special task force? Local planning groups? Union support?) | **The Australian Professional Standards for Teachers** were:[41] <br> - Commenced by the Ministerial Council for Education, Early Childhood Development and Youth Affairs <br> - Undertaken by the National Standards Subgroup of the Australian Education, Early Childhood Development and Youth Affairs Senior Officials Committee <br> - Validated and finalized by AITSL <br><br> In developing the **Australian Teacher Performance and Development Framework**, the AITSL worked closely with key education stakeholder groups:[42] <br> - All state and territory education employers <br> - Catholic and Independent school authorities <br> - Teacher regulatory authorities <br> - National bodies, including teacher unions and principal associations <br> - Teachers and principals |
| **Funding source** (Local city council? Local supplements? State?) | - The Australian Government <br> - States and Territories (New South Wales, Western Australia, South Australia, Tasmania, the Australian Capital Territory, and the Northern Territory <br><br> To improve teacher quality, performance, and development of all teachers, the Commonwealth of Australia and the States and Territories agreed to an estimated financial contribution scheme from the Commonwealth, with allocation broken down by State, to support the costs of implementing the Australian Teacher Performance and Development Framework and the national certification process for Highly Accomplished and Lead Teachers.[43] (See Figure 9 for total estimated financial contributions.) States that choose to undertake activities that cost more than the Commonwealth contribution will be responsible for meeting these costs themselves.[44] |

| | Figure 9: Estimated Commonwealth financial contributions (2011-2012 to 2018-2019) |
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| | **Figure 9: Estimated Commonwealth financial contributions (2011-2012 to 2018-2019)**<br><br>| ($ million) | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | Total |<br>|---|---|---|---|---|---|---|---|---|---|<br>| Estimated total budget | 50 | 10 | 40 | 125 | 250 | 250 | 250 | 125 | 1,100 |<br>| Less Specific Purpose Payments through States (non-government schools) | 8.717 | 1.743 | 13.965 | 43.616 | 87.232 | 87.232 | 87.232 | 43.616 | 373.353 |<br>| Total Commonwealth Contribution to the States | 41.283 | 8.257 | 26.035 | 81.384 | 162.768 | 162.768 | 162.768 | 81.384 | 726.647 |<br><br>Source: (Council of Australian Governments, 2012) |
| **Selectivity** (High, considerable diversity?) | Unclear<br>The certification process is intended to be rigorous and selective, but the number and percentage of teachers who have achieved certification for Highly Accomplished or Lead teacher career stages has not been made public. Each certifying authority maintains this information and provides summary data to AITSL. [45] |
| **Emphasis** (Professional development, merit pay, extra duty?) | - Transparent expectations and benchmarks (the Standards make explicit the knowledge and practices required across a teacher's career) [46]<br>- National consistent approach to certification [47]<br>- Recognize and promote quality teaching [48]<br>- Provide an opportunity for teachers to self-reflect on their practice [49]<br>- Provide a reliable indication of quality teaching to identify, recognize, and reward Highly Accomplished and Lead teachers [50] |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | Supports available to teachers vary between the different local jurisdictions, [51] with one example from New South Wales being an evidence guide for the Highly Accomplished teacher standards. Through the Australian Teacher Performance and Development Framework, teachers can access and participate in: [52]<br>- Relevant professional learning<br>- Targeted career goal setting<br>- Effective reflection and feedback<br>- School and system wide collaboration<br>- Networks<br><br>AITSL also provides a rich variety of free, online resources to support teacher development: [53]<br>- Examples of certification evidence (to illustrate the variety and quality suitable for certification applicants)<br>- Classroom observation strategies (video resources with accompanying 'how-to' guides)<br>- Illustrations of practice showcasing a variety of pedagogical approaches, by each of the four career stages<br>- Innovative professional learning and performance and development interactive guide<br>- Research repository |

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| | - Supervising Pre-service Teachers, an interactive and self-directed online professional learning program <br> - Teacher Feature videos |
| **Evaluation committee** (Who evaluates promotion for teacher leadership or forward movement on the ladder?) | The teacher regulatory authority in each state and territory is responsible for the registration process of teachers (the movement from Graduate to Proficient) and determine the requirements for evidence to demonstrate achievement of standards.[54] In each jurisdiction, one or more certifying authorities will manage the certification process for Highly Accomplished and Lead teachers, with arrangements negotiated within each jurisdiction, although every certifying authority must agree to certify teachers based on the Australian Professional Standards for Teachers to ensure national consistency for rigor and quality.[55] <br><br> For Highly Accomplished and Lead teacher certification, the personnel involved in the process are:[56] <br> - The applicant <br> - Three to five referees nominated by the applicant (colleagues and peers) <br> - Principal/supervisor <br> - Two trained assessors external to the school, who ultimately make the final recommendation to the certifying authority |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | For performance and development, or annual appraisals, sources of evidence may include the following, though this list is not exhaustive:[57] <br> - Impact of teaching on student outcomes, such as performance data <br> - Observations <br> - Impact on colleagues and the school <br> - Student feedback <br> - Peer and supervisor feedback <br> - Parent feedback <br> - Teacher self-assessment <br> - Participation in professional learning and self-reflection on its impact <br><br> For certification of Highly Accomplished and Lead teacher career stage:[58] <br> - Direct evidence (e.g., annotated samples of student work, at least two reports of classroom observations, lesson plans, collaboration with colleagues, documentation of assessment strategies and links to their intended outcomes, student and parent feedback, parent and community engagement, and participation in professional learning) <br> - Teacher reflection on the direct evidence <br> - Referee statements |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, new and/or additional roles and responsibilities, mentoring, etc.?) | Highly Accomplished and Lead teachers take on new and additional responsibilities that demonstrate higher levels of teaching expertise:[59] <br> - Model sound teaching practices <br> - Collaborate with colleagues to plan, evaluate, and modify instructional programs and practices <br> - Mentor and guide teachers and pre-service teachers <br> - Contribute to their colleagues' learning by developing their knowledge, practice, and engagement <br> - Lead processes to improve student performance (e.g., evaluate and revise programs, analyze student data, and incorporate parent feedback) |

| | - Synthesize current research on effective teaching and learning |
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| **The role of the union** (What was/is the role of the teachers unions in the design and/or implementation of the career ladder?) | Teacher unions and principal associations collaborated with AITSL to develop the Australian Teacher Performance and Development Framework.[60] |
| **Outcome measures** (What are major indicators of success?) | - National consistency on what constitutes teacher quality,[61] and improved quality of teaching in all government schools through effective teacher performance and development[62]<br>- Teachers having access to a rigorous and transparent certification process that recognizes and rewards expert teaching[63]<br>- Number of teachers certified at the Highly Accomplished and Lead levels based on the Standards, and receiving one-off teacher reward payments[64]<br>- Number of annual registrations for certification at the Highly Accomplished and Lead teacher levels[65]<br>- Range of professional development and support provided to teachers and school leaders under the Framework[66]<br>- Improved student outcomes[67] |
| **Registry of promotion and/or certification** (Who keeps and maintains this information?) | Local certifying authority (maintains jurisdiction database)[68]<br>AITSL (maintains summary data on Highly Accomplished and Lead teacher certification)[69] |

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# Appendix D: Iowa's Career Pathway System

| Context | The statewide Teacher Leadership and Compensation (TLC) System and the Teacher Leadership Supplement (TLS) of categorical funding were established in 2013 by bipartisan legislation, which created a four-year process to develop the system across districts, with the goal of having all school districts voluntarily participating by 2016-2017.[1] The legislature appropriated $3.5 million for planning grants made available to school districts during the first year (2013-2014); $50 million per year for school district implementation for the 2014-2015, 2015-2016, and 2016-2017 school years; and $150 million per year, plus an annual growth factor, once the program is fully implemented in 2016-2017.[2] Districts applied for planning grants to develop their TLC plan and to participate in the first and second years of the system.[3] |
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| **Model** | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | The Teacher Leadership and Compensation (TLC) System provides teachers with opportunities for leadership development and higher pay through extra responsibilities and fosters collaboration between teachers so they can learn from each other.[4] The legislation provides districts with three options to design their own local teacher leadership and compensation model—the teacher career pathway model, instructional coach model, or comparable plan model.[5] The criteria all local plans must meet are: 1) having a minimum salary of $33,500; 2) providing additional coaching, mentoring, and opportunities for observing expert instructional practice for new teachers; 3) differentiated, multiple, and meaningful teacher leadership roles; 4) rigorous selection process for leadership roles; and 5) professional development aligned with the states' Professional Development Model.[6] These five comparable system criteria provide flexibility by allowing districts to customize the teacher career pathways model or the instructional coach model to meet their needs. The teacher career pathways model includes the initial/beginning teacher and career teacher, as well as the additional teacher leadership pathways of model teacher, mentor teacher, and lead teacher—at least 10 percent of teachers should be designated as model teachers, 10 percent as mentor teachers, and five percent as lead teachers.[7] The instructional coach model is similar, with the initial teacher, career teacher, and model teacher levels, plus an instructional coach and curriculum and professional development leader.[8] While model, mentor, and lead teacher assignments last for one year, instructional coach and curriculum and professional development leader assignment lengths are unspecified, although they are subject to annual reviews.[9] School districts are not required to implement a teacher leadership and compensation system, and systems that are not approved by the Department of Education will not receive TLS funding.[10] However, all schools in a district with an approved TLC plan must implement the teacher leadership system.[11]<br><br>Cedar Rapids Community School District, one of the largest school districts in Iowa, offers one example of how the statewide TLC System was translated at the district level. Its approved TLC plan outlined three teacher leadership levels that range from extra duty to full-release positions: Level 1 – Intensive Coaching; Level 2 – Professional Development/Curriculum/Technology; and Level 3 – Building Based Support.[12] Teacher leaders will receive extensive and ongoing professional development and, in turn, will provide all teachers with professional development, with the objective of achieving the district's three goals of closing the achievement gap, implementing the Professional Learning Community (PLC) Framework, and providing quality instruction.[13] |
| **2) Appraisal system** (How are appraisals connected to career advancement? How often are | Locally designed by Local Educational Agencies (LEAs), teacher evaluation plans must: 1) be aligned to and support the Iowa teaching standards and criteria; 2) include a comprehensive evaluation of beginning teachers that review progress on the teaching standards using the Department of Education's comprehensive evaluation instrument; 3) require performance reviews of career teachers once every three |

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| teachers assessed?) | years and include a review of progress on the teaching standards and additional standards and criteria, a review of progress based on the teacher's individual professional development plan, and supporting evidence from other evaluators, teachers, parents, students; and 4) require annual peer reviews.[14]

To be promoted to any of the teacher leadership roles, teachers must engage in a review process and be selected by a site-based review council, which is appointed by the school board and comprised of equal numbers of teachers and administrators.[15] The review council will make recommendations to the superintendent, based on the selection process determined by local school districts.[16] |
| **3) Compensation and recognition system**<br>(How are compensation and recognition connected to career advancement?) | Teacher leaders are provided with a salary supplement for the additional responsibilities and additional days required to fulfill their duties and responsibilities. Model teachers receive a supplement of at least $2,000, have five additional contract days, and teach full-time.[17] Mentor teachers receive at least an extra $5,000, have 10 additional contract days, and have a teaching load of no more than 75 percent instruction.[18] Lead teachers receive a supplement of at least $10,000, have 15 additional contract days, and have a teaching load of no more than 50 percent instruction.[19] Instructional coaches receive an annual supplement of between $5,000 to $7,000, have 10 additional contract days, and engage full-time in instructional coaching.[20] Curriculum and professional development leaders receive an annual supplement of between $10,000 to $12,000 and have 15 additional contract days, with no specified teaching load.[21]

National Board certified teachers will continue to receive the award in addition to any teacher leadership stipend.[22] |
| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | Teacher leaders need to demonstrate competency on multiple criteria highlighted within the eight Iowa teaching standards, as specified in Iowa Code section 284.3:[23]<br>- Demonstrates ability to enhance academic performance and support for district goals<br>- Demonstrates competence in content knowledge<br>- Demonstrates competence in instructional planning<br>- Uses strategies to meet varied and multiple student learning needs<br>- Monitors student learning<br>- Demonstrates competency in classroom management<br>- Engages in professional growth<br>- Fulfills professional responsibilities established by district |
| **Policy guidelines** (Local school board, legislation, or union contract?) | Legislation: House File 215[24] |
| **Program design** (Who was responsible for the design? Special task force? Local planning groups? Union support?) | In Senate File 2284, the Iowa Legislature established a Teacher Performance, Compensation, and Career Development Task Force, whose charge was to develop recommendations for a new teacher compensation system (it was originally formed in February 2012 as the Task Force on Teacher Leadership and Compensation).[25] The membership of the task force included teachers, principals, superintendents, union leadership, school board leadership, university leadership and faculty, leaders from the Department of Education, and other key stakeholder groups.[26] |
| **Funding source** (Local city council? Local supplements?) | State legislation[27] |
| **Selectivity** (High, considerable | - Diversity across the state |

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| diversity?) | It is unclear at the moment whether the system is highly selective. If districts limited the top levels of teacher leadership to only the most accomplished and effective teachers, the system would be highly selective. However, the percentage of teacher leaders will vary between districts because, as the policy currently stipulates, at least 10 percent of teachers should be designated as model teachers, 10 percent as mentor teachers, and five percent as lead teachers.[28] |
| **Emphasis** (Professional development, merit pay, extra duty?) | The goals of the TLC System are:[29]<br>- Attract promising new teachers by offering competitive starting salaries and professional development opportunities<br>- Retain effective teachers by providing varied and multiple career opportunities<br>- Promote collaboration between teachers<br>- Reward professional growth and effective teaching through career pathways that offer leadership opportunities and increased compensation<br>- Improve student achievement through improved instruction |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | - Professional development facilitated by teachers and other education experts[30]<br>- The TLC Online Community (AGORA) facilitates collaboration between teacher leaders and administration across the state and includes helpful resources, such as on-demand learning, community forums, a toolbox, and an events calendar with training opportunities.[31]<br>- Coaching of teacher leaders, principals, and superintendents[32]<br>- Teacher leadership roles and responsibilities can be integrated with the peer review process for the purposes of coaching and improvement,[33] but it is unclear how or if this coaching specifically contributes to the development of future teacher leaders (versus coaching to improve instructional practice). |
| **Evaluation committee** (Who evaluates promotion for teacher leadership or forward movement on the ladder?) | Local site-based review councils that include teachers and administrators[34] |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | Site-based review councils shall use the following criteria to determine selection of teacher leaders:[35]<br>- Measures of teacher effectiveness and professional growth<br>- Needs of the school district<br>- Performance and professional development |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, new and/or additional roles and responsibilities, mentoring, etc.?) | New roles and responsibilities for teacher leaders, but responsibilities may vary depending on the local design of the teacher compensation and leadership model.[36] |
| **The role of the union** (What was/is the role of the teachers unions in the | - The Executive Director of the Iowa State Education Association served on the Teacher Performance, Compensation, and Career Development Task Force for the design process.[37] |

| design and/or implementation of the career ladder?) | |
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| **Outcome measures** (What are major indicators of success?) | The Department of Education is currently working to develop a formal evaluation process for all TLC districts, which were required to identify local goals and specify how they would measure the effectiveness of TLC implementation.[38] Evaluation will focus on the primary goals of the TLC system, which will include:[39]<br>- Attracting promising individuals to teaching<br>- Higher retention rate of effective teachers<br>- Improved student achievement<br>- A collaborative professional learning environment |
| **Registry of promotion and/or certification** (Who keeps and maintains this information?) | Districts<br>There is currently no certification for teacher leaders, and it is unclear whether the state maintains a record of all teacher leaders within districts with approved TLC plans. |

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## Appendix E: New York's Career Pathway System

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| **Context** | The New York State Education Department (NYSED) developed and maintained EngageNY.org to support reform initiatives that include the Teacher and Leader Effectiveness (TLE) program, in which the state has developed a career ladder framework and resources to help Local Education Agencies (LEAs) implement career ladder pathways as part of their use of the TLE Continuum.[1] Since 2012, through Race to the Top (RTTT), New York has provided funding through rounds of Strengthening Teacher and Leader Effectiveness (STLE) grants to help districts and schools recruit, develop, support, retain, and equitably distribute excellent teachers and principals.[2] The STLE grants serve roughly 42,000 teachers and 1,000 principals in 221 LEAs, reaching half a million students (about one-third of the state).[3] |
| **Model** | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | New York State's proposed Framework for Career Ladder Pathways was designed to: 1) establish clear expectations for pathways, while providing local education LEAs flexibility and autonomy to develop their own customized career ladder pathway models to meet their needs; 2) ensure all students have equitable opportunities and are career and college ready; 3) serve as a foundation of the core beliefs and expectations for career ladder pathways, which are seen as a critical lever in the state's equity strategy; and 4) have four main components informed by stakeholder feedback and best practices through the Strengthening Teacher and Leader Effectiveness (STLE) program.[4] (See Figure 1.) This framework emphasizes that career ladder pathways should be implemented and refined through continuous improvement processes.[5]<br><br><br><br>**Figure 1. New York State's Framework for Career Ladder Pathways**<br>(Engage NY, n.d.)<br><br>During the STLE 2 and 3 grant periods, eligible grant activities required that career ladders have a minimum of three rungs—novice, professional, and leader—that had specific roles and responsibilities, and optional compensation incentives as defined by each LEA.[6] Currently, the Department recommends that the state do the following: specify minimum criteria for teacher and principal leaders (to ensure educator leaders are those rated at a minimum Effective); provide guidance and tools to support implementation; facilitate peer-to-peer learning; and help secure funding for promising practices.[7] A majority of the stakeholder groups believe that decisions regarding requirements, qualities, and qualifications should be determined at the local level.[8]<br><br>Career ladder pathway models vary across the state, based on the unique context of the districts and schools. For example, Greece Central School District created a career ladder that established the positions of Teacher Leaders, Lead Principals, and Turnaround Initiative Principal, who receive stipends for the completion of additional responsibilities.[9] Teacher leaders spend part of their time teaching the lowest performing students and the other part of their time coaching their colleagues, whereas Turnaround Principals provide professional development for all Novice Principals, coach principals who are rated lower than Effective, and develop custom leadership curriculum in collaboration with a strategic partner (the NYC Leadership Academy) to build leadership capacity of school leaders.[10] Syracuse City School District is another district that won a STLE grant and created a career ladder pathway. It established three teacher positions: Novice Teacher (standard teacher responsibilities); Professional Teacher (standard responsibilities plus models effective instruction and |

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| | classroom management in open classroom); and Teacher Leader (Mentor Teachers, who provide support to early career teachers, and Multi-Classroom Leaders, who work to develop teachers in curriculum development, instruction, and assessment).[11] The district also created a similar pathway for principals: Novice Principal (who share content expertise during induction and cerates content for distribution), Professional Principal (who mentor new principals), and Principal Leaders (who support and coach other principals in various roles).[12] |
| **2) Appraisal system** (How are appraisals connected to career advancement? How often are teachers assessed?) | New York teachers and principals are evaluated based on the state's Annual Professional Performance Review (APPR). They receive an overall rating of Highly Effective, Effective, Developing, or Ineffective based on three effectiveness subcomponents: state growth or other comparable measures, locally-selected measures, and other measures of educator effectiveness.[13] Teachers who are rated "Highly Effective" and "Effective" meet the minimum selection criteria for teacher and principal leadership.[14] |
| **3) Compensation and recognition system** (How are compensation and recognition connected to career advancement?) | It is unclear how compensation and recognition are related to career ladder pathways at the state level, and it appears to vary between districts across the state. For example, some districts have created stipends for those on the career ladder pathway, such as in Syracuse City School District, where principals on the pathway can earn a stipend amount ranging from $5,000 to $17,500, so long as they meet the eligibility criteria and are selected.[15] |
| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | Career ladder pathways and educator leader positions should be aligned to the NYS Teaching Standards.[16] The state teaching standards cover 36 competencies in the following seven areas:[17]<br>- Knowledge of students and student learning<br>- Knowledge of content and instructional planning<br>- Instructional practice<br>- Learning environment<br>- Assessment for student learning<br>- Professional responsibilities and collaboration<br>- Professional growth<br><br>Currently, the Department does not recommend that the state mandate, develop, or formally adopt certification for educator leaders, teacher leader standards, title of rungs, or required roles and responsibilities of positions.[18] |
| **Policy guidelines** (Local school board, legislation, or union contract?) | - Varies across the LEAs. For example, in Greece Central School District, the Teacher and Principal Career Ladder Pathways policies are stipulated in new contract language in the new Greece Teachers Association (GTA) and Greece Administrators and Supervisors Association (GASA) agreements,[19] but this is not necessarily the case for every district. |
| **Program design** (Who was responsible for the design? Special task force? Local planning groups? Union support?) | - LEAs design career ladder pathway model based on their unique context[20]<br>- Comprised of superintendents and members of their leadership team, the STLE Advisory Board provide guidance and support, and represent the geographic and demographic diversity of the state[21]<br>- The New York State Career Ladder Pathways Team is comprised of Department staff and nominated teacher and principal leaders, who create resources and provide support for local career ladder pathway implementation[22] |
| **Funding source** (Local city council? Local supplements? State?) | - Much of current funding comes primarily from STLE grants, through Race to the Top funding [23]<br>- Future potential funding sources:[24]<br>  - Federal funds |

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| | - Federal competitive grant programs<br>- New York State competitive grant programs |
| **Selectivity** (High, considerable diversity?) | - Diversity across the state<br>It is unclear whether local career ladder pathway systems are highly selective, but it appears that selectivity may be low statewide. Based on 2012-2013 APPR ratings for districts and Board of Cooperative Educational Services (BOCES) with a stated-approved APPR plan, 51 percent of nearly 126,000 educators were rated "Highly Effective" and 44 percent were rated "Effective."[25] These teachers, roughly 95 percent of teachers, would meet minimum selection criteria for teacher and principal leadership.[26] |
| **Emphasis** (Professional development, merit pay, extra duty?) | - Transform teaching and learning by providing diverse career advancement opportunities for excellent teachers and school leaders[27]<br>- The Framework for Career Ladder Pathways was designed to address local education agencies' specific needs, including five common talent management challenges:[28]<br>  - Prepare high quality teachers<br>  - Recruit high quality teachers<br>  - Retain top talent<br>  - Professional development (have top talent develop peers)<br>  - Ensure equitable access to the most effective educators |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | - Coaching and mentorship based on local models, and in collaboration with local partners[29]<br>- Engage NY created an online New York State Career Ladder Pathways Toolkit where teacher and principal leaders can find resources, such as professional learning modules, conversation protocols, and observation templates.[30] |
| **Evaluation committee** (Who evaluates promotion for teacher leadership or forward movement on the ladder?) | Evaluations are conducted at the local school and LEA level,[31] so there is likely to be variation regarding how individuals are selected to be teacher or principal leaders. |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | Varies depending on the local design of the career ladder pathway model[32] |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, new and/or additional roles and responsibilities, mentoring, etc.?) | - NYSED did not mandate or create specific roles or responsibilities of educators on career ladder pathways.[33]<br>- Roles, duties, and responsibilities of teacher and principal leaders vary depending on the local design of the career ladder pathway model. |
| **The role of the union** (What was/is | Management of LEAs and local unions collaborate on career ladder pathway models and implementation.[34] Using the examples of the |

| the role of the teachers unions in the design and/or implementation of the career ladder?) | two districts presented in this document, Syracuse City School District worked with the American Federation of Teachers to develop additional roles for its teacher career ladder pathways,[35] while Greece Central School District worked with the local union to build long-term sustainability for the program by including teachers' union representatives on a district Career Ladder Committee.[36] |
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| **Outcome measures** (What are major indicators of success?) | - Raised overall quality of teaching and learning[37]<br>- College and career ready students[38]<br>- Equitable access to the most effective educators[39]<br>- Excellent teachers and administrators who are recognized, rewarded, and retained,[40] so possible indicators of success could include higher job satisfaction and increased retention rates among effective educators |
| **Registry of promotion and/or certification** (Who keeps and maintains this information?) | Districts<br>At the moment, there is no certification for teacher or principal leadership. It is also unclear if the state maintains a registry of teachers and principals who are selected for leadership roles. |

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# Appendix F: Arizona's Career Pathway System

| Context | Established through legislation ARS §15-918, Arizona's Career Ladder was launched in 1985-1986, with fourteen districts initially participating in the program.[1] Roughly 31% of the state's 865,000 students attended schools in the 28 career ladder districts, out of the state's 200+ districts; 40% of the state's 43,000 teachers worked in these career ladder districts, with 70% of eligible teachers participating in the program.[2] There has been no new funding appropriation for additional district participation since FY 1993-1994.[3] <br><br> The program is being phased out in 2015 as a result of a 2007 lawsuit from the Gilbert School System, which claimed that the 28 school districts participating in the Arizona Career Ladder program had an unfair competitive advantage in recruiting teachers because the extra funding provided better support for teachers and higher salaries; the court ruled in favor of the Gilbert School System and required the state to either fund every school district or phase out the program.[4] |
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| **Model** | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | While the state required specific criteria for local career ladders, districts had flexibility to design their own and develop a plan that addresses the local context.[5] Each career ladder consisted of multiple levels, each with multiple steps.[6] District Career Ladder programs had to promote and support: 1) increasingly higher levels of demonstrable student progress using a variety of assessment methods; 2) improved teaching skills based on multiple measures of performance that must include instructional performance, student progress, and responsibilities; 3) higher levels of teacher responsibility; 4) professional growth providing by appropriate staff development activities; and 5) teacher pay based on performance.[7] In addition, district plans had to have provisions specifying the criteria for placement at each level and step.[8] The State Board of Education approved the programs, while the State Career Ladder Advisory Committee reviewed district plans each year for compliance purposes, and the Arizona Department of Education provided districts with technical assistance.[9] The local career ladder programs were supposed to be integrated with all district programs and aligned with district and state goals.[10] To assist with the administration of district career Ladder programs, a steering committee consisting of teachers, administrators, parents, and board members had to be established to assist with program development and refinement.[11] <br><br> Moving forward on the career ladder required teachers to demonstrate higher levels of performance, and higher rank teachers provided district leadership by coaching, mentoring, and serving as professional development trainers.[12] New teachers in career ladder districts were evaluated for placement on the career ladder, and teachers could choose whether they remained on the career ladder; those who exited the program remained on the traditional salary schedule.[13] Each district Career Ladder Program is reviewed and evaluated based on teacher and parent surveys, interviews, open forums, and data analysis.[14] |
| **2) Appraisal system** (How are appraisals connected to career advancement? How often are teachers assessed?) | State statute specified that local evaluation procedures and instruments must be valid and fair.[15] Teacher performance was evaluated at the local level using the locally designed evaluation system, which needed to include at least the following: a minimum of one evaluation consisting of announced and unannounced observations; procedures for ongoing review and improvement of evaluation instruments and procedures; higher levels of instructional criteria corresponding to higher career ladder levels; and provisions for formative evaluations and other opportunities to improve teacher performance.[16] Multiple people would be responsible for teacher placement decisions on the career ladder, with clear criteria and an appeal process to support the structure, including requiring a plan to establish inter-rater reliability.[17] |

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| | The State Board of Education passed the Arizona Framework for Measuring Educator Effectiveness in 2011, following the passage of SB 1040 that directed it to adopt a teacher and principal evaluation system that incorporates quantitative data on student progress for between 33 and 50% of evaluation outcomes.[18] The framework was amended in 2014, with teacher evaluations based on classroom-level elements such as state assessments and student learning objectives (at least 33%), teaching performance on a district level and state approved rubric (between 50-67%), and school-level data such as aggregate assessment results and survey data (no more than 17%).[19] For teachers with limited or no available classroom-level student achievement data, teacher evaluations are based on classroom-level elements such as district or school level benchmark assessments aligned to state standards and school-level data such as aggregate assessment results and survey data (the sum of school- and classroom- level data will account for between 33% and 50%), as well as teaching performance on a district level and state approved rubric (between 50-67%).[20] Teachers are classified in one of the four performance categories: Highly Effective, Effective, Developing, and Ineffective.[21] |
| **3) Compensation and recognition system** (How are compensation and recognition connected to career advancement?) | The compensation structure of the state's career ladder program varied with each participating district because they constructed their own advancement structure. Each level of a district's career ladder had its own salary range, and teachers qualified based on their evaluation or classroom performance, student progress, and additional responsibilities for each level.[22] Teachers were paid according to skill attainment and demonstrable student achievement gains, and districts were able to apply to implement incentive programs for school district level personnel.[23] The state career ladder program also provided awards at the group, team, school, or district level.[24] Rewards to incentivize individuals and groups could be based on improved school performance, principles of effective organizations, teamwork, and parental and student involvement using measures of quality that include satisfaction.[25] |
| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | It is unclear if and what specific standards were used to determine forward movement on the career ladder.<br><br>In 2012, the Arizona State Board of Education amended R7-2-602 to ensure its Professional Teaching Standards aligned with the Interstate Teacher Assessment and Support Consortium (InTASC) standards,[26] which are the basis for approved teacher preparation programs and the Arizona Teacher Proficiency Assessment.[27] |
| **Policy guidelines** (Local school board, legislation, or union contract?) | Participating districts were required to comply with requirements established in ARS §15-918.[28] |
| **Program design** (Who was responsible for the design? Special task force? Local planning groups? Union support?) | In 1985, the Arizona legislature created the state's Career Ladder Program as a five-year pilot.[29] Each participating district constructed its own career ladder and determined the process and criteria for teacher placement on different levels of the ladder, including forward movement based on performance.[30] |
| **Funding source** (Local city council? Local supplements?) | The Career Ladder Program was partially funded by state appropriations based on a formula using student count, with district programs currently budgeted at the 5.5% level and districts allowed to increase their base funding level by 5.5%. A local tax also contributed to a portion of the funding. For each percentage increase, the common school district tax rate is based on two cents and the unified district tax rate is based on four cents.[31] |
| **Selectivity** (High, considerable diversity?) | It is unclear whether local career ladder systems were highly selective because there is no data showing the number or percentage of teachers who reached the highest rungs on the career ladders. However, the intention was to have challenging criteria in place so that not all teachers could advance to the highest levels.[32] |
| **Emphasis** (Professional development, | The goals of the program are the following:[33] |

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| merit pay, extra duty?) | - Increase student academic achievement by attracting and retaining talented teachers<br>- Promote and support the professional development of teachers<br>- Support and encourage collaboration and teamwork<br>- Provide opportunities for leadership and professional growth |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | Teachers who are on higher levels of the career ladder coach, mentor, and deliver professional development to other less experienced colleagues.[34] Other than staff development focused on improving instructional skills,[35] it is unclear what specific supports exist to support the continued career and leadership development of higher rank teachers, or what other support mechanisms helped these teachers reach a higher level. |
| **Evaluation committee** (Who evaluates promotion for teacher leadership or forward movement on the ladder?) | Although the state statute specifies that more than one person was responsible for determining a teacher's placement on the career ladder,[36] it did not specify who had to be represented during this decision-making process, which suggests that districts may have had some latitude to decide the composition of the evaluators or evaluation committee. |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | Multiple measures of teacher performance:[37]<br>- Announced and unannounced observations<br>- Students' academic progress, through various methods of assessment and that are appropriate for each teacher's unique circumstances<br>- Higher levels of instructional responsibilities |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, new and/or additional roles and responsibilities, mentoring, etc.?) | - New and additional higher level responsibilities as teachers progress on the career ladder[38]<br>- Teachers on higher levels of the career ladder coach, mentor, and deliver professional development training[39] |
| **The role of the union** (What was/is the role of the teachers unions in the design and/or implementation of the career ladder?) | It is unclear if and how the union was involved in the design and implementation of district career ladders. |
| **Outcome measures** (What are major indicators of success?) | Every participating district was required to review and evaluate its career ladder program on an ongoing basis, usually through teacher and parent surveys, interviews, open forums, and data analysis.[40] Since local districts designed their own career ladders, some variation may exist regarding what constitutes success. |
| **Registry of promotion and/or certification** (Who keeps and maintains this information?) | Districts<br>It is unclear if the state maintained a registry of teachers who advanced on the career ladder, particularly those who reached the highest level. |

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[37] Ibid.

[38] Ibid.

[39] Arizona Department of Education. Arizona Career Ladder Program: Student success through teacher accountability. Retrieved September 2015 from http://www.azed.gov/wp-content/uploads/PDF/CL_Components.pdf.

[40] Ibid.

# Appendix G: District of Columbia's Career Pathway System

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| **Context** | The District of Columbia Public Schools (DCPS) created the Leadership Initiative for Teachers (LIFT) in 2012. It is the district's teacher career ladder and provides DCPS teachers with opportunities for growth, recognition, and leadership.[1] |
| **Model** | |
| **1) Career advancement structure** (What is the structure for career advancement? Is it for teachers, school leaders, or specialists, or all?) | The Leadership Initiative for Teachers (LIFT) is a five-stage career ladder that provides effective teachers with opportunities to develop their expertise, receive recognition and higher compensation, and advance in their leadership and careers through new and increased responsibilities.[2] (See Figure 1.)<br><br><br>**Figure 1: LIFT Stages** (DCPS, 2015)<br><br>Teachers at the Teacher stage are new or beginning teachers with typically 0-1 years of experience, while Established Teachers typically have 2+ years of experience and can start taking on leadership roles within their school or the district.[3] The Advanced Teachers have taken leadership roles and have been effective for several years.[4] Distinguished Teachers have a demonstrable record of exemplary student achievement and a deep understanding of best instructional practices, in addition to serving as models to new and less experienced teachers.[5] Expert Teachers are master teachers who have a demonstrable record of exceptional student learning gains over many years, have served in various leadership roles, and mentor less experienced teachers.[6]<br><br><br>**Figure 2: Criteria to advance up the LIFT Ladder** (DCPS, 2015)<br><br>Advancement along the LIFT ladder is determined by a teacher's annual IMPACT rating and makes teachers eligible for increasing opportunities and benefits, such as additional compensation, reduced IMPACT observations, and various leadership opportunities.[7] (See Figure 2.) Teachers remain in a stage until they earn the requisite and consecutive ratings to move forward to the next stage, and they can never move backwards.[8] In addition to all opportunities at the Teacher and Established teacher stages, Advanced, Distinguished, and Expert teachers are eligible to pursue the positions of Assistant Principal, Early Childhood Education Instructional Specialist, Instructional Coach, Master Educator, and Principal.[9] |

| **2) Appraisal system**<br>(How are appraisals connected to career advancement? How often are teachers assessed?) | Created in 2009, IMPACT is the district's system for assessing the performance of teachers and other school-based staff, and describes performance expectations tailored to specific job responsibilities; provides teachers with feedback and support through opportunities to discuss their strengths and areas for growth with managers, as well as data to inform instructional coaching and mentoring; and recognizes outstanding performance.[10] Formal and informal observations occur throughout the year, but the frequency of observations depends on the stage of individual teachers.[11] (See Figure 3.) While principals and vice principals observe teachers, Master Educators are expert practitioners who also conduct observations of DCPS teachers, engage in one-on-one conferences with teachers to discuss strengths and areas of growth following observations, and provide coaching to select teachers.[12] |
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**Figure 3. IMPACT Observations**

| LIFT STAGE | Number of Formal Observations | Number of Informal Observations* |
|---|---|---|
| Teacher | 4 | 1 |
| Established Teacher | 4 | 1 |
| Advanced Teacher | At least 3 | 1 |
| Distinguished Teacher | At least 2 | Not required |
| Expert Teacher | At least 1 administrator observation | Not required |

*Does not count toward IMPACT rating
Source: (DCPS, 2015)

Teachers can receive one of the five IMPACT ratings: Highly Effective (outstanding performance), Effective (solid performance), Developing (below expectations), Minimally Effective (significantly below expectations), or Ineffective (unacceptable performance).[13] Ratings are based on student achievement, instructional expertise, collaboration, and professionalism.[14] Moreover, these different components are weighted as percentages based on a teacher's grade level and subject area or group (each of the 20 groups has its own guidebook to explain the breakdown of their rating).[15] To measure student achievement, the district uses Individual Value-Added Student Achievement Data (IVA) and Teacher-Assessed Student Achievement Data (TAS).[16] A teacher's annual IMPACT rating will determine whether teachers move along the career ladder, with a score between 300 and 349 resulting in an Effective rating and between 350 and 400 a Highly Effective rating.[17] Teachers rated Highly Effective are eligible to advance to the next LIFT stage.[18]

| **3) Compensation and recognition system**<br>(How are compensation and recognition connected to career advancement?) | Teachers are compensated based on their LIFT stage and performance rating, as well as whether their school is low- or high- poverty. Teachers at the Teacher and Established Teacher levels are compensated under the normal salary step, but those at the Advanced, Distinguished, and Expert stages are eligible for additional compensation.[19] To ensure that teachers are compensated as professionals, DCPS and the Washington Teachers' Union (WTU) collaborated to develop IMPACT*plus*, a performance-based pay system with two parts, an annual bonus and an increase in base salary.[20] Teachers who are rated Highly Effective earn an annual bonus. (See Figure 4.) |
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**Figure 4: Annual Bonus**

| YOUR IMPACT RATING | YOUR SCHOOL'S POVERTY LEVEL | YOUR BONUS | YOUR ADD-ON IF YOU ARE IN ONE OF THE 40 LOWEST-PERFORMING SCHOOLS | YOUR TOTAL POSSIBLE ANNUAL BONUS |
|---|---|---|---|---|
| Highly Effective | High | $10,000 | Additional $10,000 | $20,000 |
| | Low | $2,000 | n/a | $2,000 |

(DCPS, 2015)

Once teachers in high-poverty schools enter the Advanced, Distinguished, and Expert Teacher stages, they are also eligible for an increase in their base salary in the form of a service credit, as if they had additional years working in the system (Figure 5).[21]

**Figure 5. IMPACT Compensation and Service Credits**

| LIFT STAGE | Base Salary |
|---|---|
| Teacher | Normal compensation |
| Established Teacher | Normal compensation |
| Advanced Teacher | If in a high poverty school, teachers are eligible for a two-year service credit. |
| Distinguished Teacher | If in a high poverty school, teachers are eligible for a five-year service credit and will move to the master's degree salary band if they are not already there. |
| Expert Teacher | If in a high poverty school, teachers are eligible for a five-year service credit and will move to the Ph.D. salary band if they are not already there. |

Source: (DCPS, 2015)

Over 75 percent of DCPS teachers work in high-poverty schools and are eligible for base salary increases; those who do not work in high-poverty schools are still eligible for leadership opportunities and reduced observations, as well as annual bonuses if they are rated Highly Effective.[22] As such, LIFT and IMPACT*plus* serve to help high-poverty schools attract and retain top performing teachers.[23] Those who are rated Effective progress normally on their pay scales and can earn a base salary increase if they are at the Advanced stage, whereas those rated Developing and Minimally Effective will remain at their current salary step and are not eligible to advance on the LIFT ladder until they earn a rating of Effective or Highly Effective.[24] Furthermore, exceptional teachers are recognized with awards, such as the Rubenstein Awards for Highly Effective Teaching, and varied opportunities to serve in leadership roles within the district: education policy, curricular, school point of contact, recruitment and selection, coaching and mentoring, school leadership, central office, other school-based, fellowships and grants, sabbaticals, and summer and travel opportunities.[25] (See Figure 6.)

| Figure 6. IMPACT Leadership Opportunities | | |
|---|---|---|
| **LIFT STAGE** | **Sample Positions** | **Fellowships and Grants** |
| Teacher | Chancellor's Teacher's Cabinet, Washington Teachers' Union Teacher Leaders Program, and school-based opportunities | Hope Street Group National Teacher Fellowship and Fund for Teachers |
| Established Teacher* | Common Core Reading or Mathematics Corps, Curriculum Writer, Teacher Selection Ambassador, Assistive Technology Specialist, Fundations Facilitator, Sustainability Corps, Instructional Leaders for Wilson Reading System, Teacher Leadership Innovation Teacher Leader, Teaching in Action Consulting Teacher, Washington Teachers' Union Professional Development Instructor, and School Point of Contact (e.g., ACCESS chair, Burst, early childhood grade-level chair, Read 180, etc.) | Teachers Central to Leadership Fellowship, America Achieves Fellowship for Teachers and Principals, Teach Plus Teaching Policy Fellowship, Common Core Reading Corps Summer Curriculum Fellowship, and Family Engagement Collaborative Fellowship |
| Advanced, Distinguished, and Expert Teachers** | Principal, Assistant Principal, Master Educator, Instructional Coach, and Early Childhood Education Instructional Specialist | Fulbright-Hays Seminars Abroad, Mary Jane Patterson Fellowship (DCPS Aspiring Leaders Program), and U.S. Department of Education Teaching Ambassador Fellowship |

* Eligible for all opportunities at the Teacher stage
**Eligible for all opportunities at the Teacher and Established Teacher stages
Source: (DCPS, 2015)

| | |
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| **Standards** (What are the standards for forward movement? Are they transparent and readily available?) | A teacher's instructional expertise is evaluated based on the Teaching and Learning Framework (TLF), which includes three domains: Plan, Teach, and Increase Effectiveness.[26] (See Figure 7.) The TLF rubric describes clear expectations and behavioral indicators for teachers, and teachers are rated on a 1-4 scale, with 4 representing the highest level (Highly Effective).[27] Teachers are currently only assessed on the nine standards associated with the TEACH domain of the TLF.[28] The TLF score will contribute to a teacher's overall IMPACT score.

In addition, teachers are expected to collaborate with and support their school community, as measured through a Commitment to School Community (CSC) rubric, which consists of the following five components: support of local school initiatives, support of special education and English Language Learner (ELL) programs, efforts to promote high expectations (academic and behavioral), partnerships with families, and instructional collaboration with other teachers.[29]

Moreover, teachers are expected to be professionals, which is measured by four components on a Core Professionalism rubric: attendance, on-time arrival, policies and procedures, and respect.[30] |

| | Figure 7: Teaching and Learning Framework* |
|---|---|
| |  *This is only the TEACH component of TLF (DCPS, 2015) |
| **Policy guidelines** (Local school board, legislation, or union contract?) | - District guidelines<br>- Union contract/collective bargaining agreement |
| **Program design** (Who was responsible for the design? Special task force? Local planning groups? Union support?) | - LIFT was developed during numerous focus groups and task force meetings during the 2011-2012 school year, with contributions from hundreds of teachers, school leaders, central office staff members, and other DCPS educators.[31]<br>- For the compensation component of IMPACT, DCPS worked with New Leaders for New Schools and the two asked Mathematica Policy Research, Inc. to design the value-added model.[32] |
| **Funding source** (Local city council? Local supplements?) | - $65 million in private donations gathered by the D.C. Public Education Fund[33]<br>- Race to the Top funding from the District of Columbia[34] |
| **Selectivity** (High, considerable diversity?) | At the moment, it is unclear whether the LIFT ladder system is selective because it appears that all teachers can hypothetically reach the Expert stage, which would not make this initiative highly selective, or limited to only the most accomplished teachers. DCPS also has not published the number or percentage of teachers who have reached the Distinguished or Expert Teacher stages. |
| **Emphasis** (Professional development, merit pay, extra duty?) | The goals of LIFT are:[35]<br>- Retain top performers<br>- Reward performance<br>- Broaden recognition |

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| | - Increase career stability |
| **Supports** (What supports are provided to teachers so they can develop their skills and knowledge, and, thus, move forward on the career ladder?) | - Through IMPACT, teachers are provided with job-embedded professional development:[36]<br>  - Five feedback cycles throughout the school year<br>  - Instructional coaching<br>  - Content-based feedback and guidance for growth from master educators (subject-based expert teachers)<br>  - Access to video library highlighting best instructional practices<br>  - Curricular resources to implement Common Core State Standards<br>- Teachers who are rated Developing or Minimally Effective will be prioritized for professional development.[37] |
| **Evaluation committee** (Who evaluates promotion for teacher leadership or forward movement on the ladder?) | - The principal, vice principal, and a team of independent Master Educators will evaluate teachers within schools, and the teacher's rating on the IMPACT evaluation will determine forward movement on the LIFT ladder (they must earn Highly Effective ratings).[38] |
| **Criteria measure** (What measures are used to determine forward movement on the career ladder? Are they multiple measures, observations, student outcomes, portfolio, self-reflections, feedback from colleagues, etc.?) | IMPACT ratings are used for promotion to the next stage on the LIFT ladder and are based on:[39]<br>- Student achievement (growth on state assessment, or on other assessments if teachers do not teach a grade or subject covered by the state test)<br>- Instructional expertise<br>- Collaboration<br>- Professionalism |
| **Role differentiation** (What is the intended impact on a teacher's role and responsibilities? Minimal change, new and/or additional roles and responsibilities, mentoring, etc.?) | - New and additional responsibilities as teachers progress along the LIFT ladder[40]<br>- Teachers at the Advanced, Distinguished, and Expert stages are eligible to mentor less experienced teachers through a variety of coaching and mentoring opportunities (e.g., early childhood education instructional specialist, instructional coach, master educator, teacher leadership innovation (TLI) teacher leader, teaching in action consulting teacher, and Washington Teachers' Union professional development instructor).[41] |
| **The role of the union** (What was/is the role of the teachers unions in the design and/or implementation of the career ladder?) | DCPS and the Washington Teachers' Union (WTU) collaborated to create IMPACT*plus*.[42] |
| **Outcome measures** (What are major indicators of success?) | - Given the goals of LIFT, measures of success will include higher retention rate of top performers, increased recognition and rewards for exceptional performance, and increased career stability[43]<br>- Most effective teachers in the most struggling schools[44]<br>- Teachers honored as professionals[45]<br>- Student success[46] |
| **Registry of promotion and/or certification** (Who keeps and | DCPS<br>There is currently no certification for teacher leaders. |

| maintains this information?) | |
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# Appendix H:

I created the map for an internal landscape review document for NCEE, as part of the teacher career ladder project. Because each state has its own system, and there is wide variation between states, this is based on my professional judgment of each system against a set of criteria I established.

I conducted a review of state agency websites and legislation for information regarding licensure systems, teacher leadership endorsements and/or designations, and National Board Certification. When I needed further clarification, I contacted state education officials. Over the course of my residency, I collected research and information on state teacher career advancement initiatives, and this informed the map. I also built upon graphs and integrated information found in a 2013 report by Pearson and the National Network of State Teachers of the Year, *Creating Sustainable Teacher Career Pathways: A 21st Century Imperative*.

For consistency, I reviewed information for every state and classified them based on my own criteria and judgment. States that distinguished between levels for teachers who have advanced certification (i.e., National Board Certification, or a Master's degree or higher) and those who do not—through different licensure levels or steps within a level—were designated as having a multi-tier licensure system recognizing advanced certification. States varied in their approach for statewide teacher leadership endorsements and designations, so I identified them in the map if "teacher leadership" was clearly stipulated, or if the description of a role designation aligned with a teacher leadership approach. For career advancement initiatives, states with the purple pushpin have designed and are leading their own initiative, whereas states with the green pushpin are utilizing a career advancement initiative designed by an outside organization (e.g., TAP or Opportunity Culture). I did not identify any states that only had district-led initiatives.