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LOYOLA MARYMOUNT UNIVERSITY

Addressing Teacher Shortage:

A Historical Policy Study on Teacher Credentialing in California

by

Liza Moritz Mastrippolito

A dissertation presented to the Faculty of the School of Education,

Loyola Marymount University,

In partial satisfaction of the requirements for the degree

Doctor of Education

2019

Addressing Teacher Shortage:

A Historical Policy Study on Teacher Credentialing in California

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Liza Moritz Mastrippolito

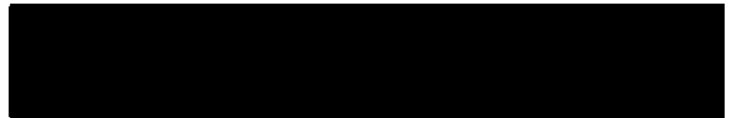
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This dissertation written by Liza Moritz Mastrippolito, under the direction of the Dissertation Committee, is approved and accepted by all committee members, in partial fulfillment of requirements for the degree of Doctor of Education.

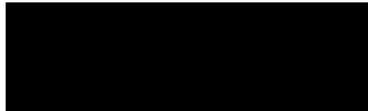
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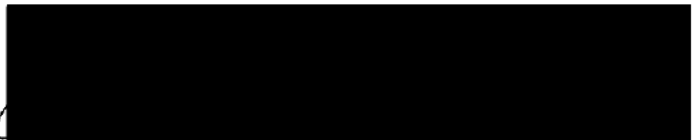
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DEDICATION

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
DEDICATION	v
LIST OF TABLES	xi
LIST OF FIGURES	xiii
ABSTRACT	xiv
CHAPTER 1: INTRODUCTION	1
Background	1
The Problem	2
Connection to Social Justice	4
Research Questions	5
Purpose, Design, and Methodology	6
Theoretical Framework	8
Analytical Approach	8
Interpretive Presuppositions.....	10
Communities of Meaning.....	11
Significance.....	13
Limitations and Delimitations.....	14
Limitations	14
Delimitations.....	15
Definition of Key Terms	15
Organization of Dissertation	19
CHAPTER 2: A REVIEW OF THE LITERATURE ON TEACHER SHORTAGE:	
ESTABLISHING BACKGROUND	21
Teacher Shortage.....	22
The Pipeline: Teacher Preparation and Credentialing	23
Decline in Enrollment in Teacher Preparation Programs	25
Decline in Teacher Credentialing	26
Teacher Attrition and Retention.....	27
The Leaking Bucket.....	28
Job Satisfaction and its Connection to Retention.....	28
Factors that Influence Attrition and Retention: Induction and Teacher Support.....	30
Factors that Influence Attrition and Retention: Self-Efficacy	31
Factors that Influence Attrition and Retention: Compensation	32
Factors that Influence Attrition and Retention: Teaching Conditions	35
Factors that Influence Attrition and Retention: Collaboration.....	37
Factors that Influence Attrition and Retention: Leadership.....	37
Credentialing Pathways.....	39
Connection between Pathway, Attrition, and Retention	40
Connection between Pedagogical Training, Attrition, and Retention in Alternative and Traditional Teacher Preparation.....	41

The Revolving Door.....	43
Alternative Pathways Concentrated in Urban Schools	43
Shortage as a Social Justice Issue	45
Summary	46
CHAPTER 3: METHODOLOGY	48
Introduction.....	48
Research Questions	49
Methodology	49
Steps to Interpretive Policy Analysis.....	49
Using an Adaptation of Yanow’s Approach to Interpretive Policy Analysis as a Framework	50
Methodology Based on Adaptation of Pigott’s Research Synthesis and Meta-Analysis	51
Research Tools.....	53
Structure and Timeline.....	56
CHAPTER 4: TEACHER CREDENTIALING: A HISTORY OF POLICY IN THE UNITED STATES AND IN THE STATE OF CALIFORNIA	58
Introduction.....	58
The Historical Context at the Federal Level	59
The Growth of Federal Involvement.....	61
The Historical Context in California.....	63
Early Education Codes.....	63
The Shift from Local to State Control	66
The Debate over Standards and Content in Credentialing.....	68
The Fisher Act and a Shift in Credentialing	69
The Ryan Act	71
The Shift to Requiring Basic Skills.....	72
Exploring Alternative Pathways and Beginning Teacher Support	73
The SB 2042 Preliminary Credential	74
Key California Cases on Teachers and Credentialing	75
Federal Cases on Teachers and Credentialing	78
Conclusion	79
CHAPTER 5: ADDRESSING SHORTAGE	81
Introduction.....	81
Methodology	82
Emerging from Recession.....	83
Immigration and a Second Baby Boom Cause Shortage	84
Expanding Alternative Pathways to Certification.....	85
Expanding University-Based Alternative Pathways: SB 1479 (1967) and AB 1161 (1993).....	85
District Intern Programs: SB 813 (1983) and AB 1782 (1987).....	86

Special Education District Intern Program: SB 1657 (1994).....	87
Emergency Permits and Credential Waivers: SB 322 (1994).....	88
Pre-Intern Programs: AB 351 (1997).....	90
Training for Emergency Hires: SB 321 (2001).....	91
CAP Single-Subject Credential: AB 1242 (1999)	91
Policies to Improve Recruitment Efforts	93
Recruiting Paraprofessionals: SB 1636 (1990) and SB 862 (1991).....	93
Troops to Teachers.....	94
Cal Teach: SB 824 (1997).....	96
Reciprocity for Out-of-State Teachers: AB 877 (2000).....	97
Private School Experience Waiver: SB 57	97
Community Colleges: AB 1241 (2001)	98
Financial Assistance.....	99
Loan forgiveness: Federal programs	100
Loan forgiveness: Assumption Program of Loans for Education—SB 813 (1983)	100
Cal Grant T—SB 1644 (2000)	104
Recruitment of retirees and financial incentives – SB 1666 (2000).....	104
Raising salaries—B 1643 (2000).....	106
Policies to Increase Retention.....	108
Increasing Retention: Beginning Teacher Support and Assessment – SB 148 (1988) and SB 1422 (1992)	109
Teacher Education Reform: SB 2042 (1998).....	111
National Board Certificate Incentive Program: AB 858 (1998)	112
Teacher Performance Incentives: AB 1114 (1999) and AB 657 (1999).....	113
Housing Subsidies and Loan Programs: AB 2060 (2000)	114
Tax Credit: AB 2879 (2000)	115
Conclusion	115
CHAPTER 6: MEASURING RESULTS	124
Introduction.....	124
Methodology	124
Review of Alternative Pathways.....	126
Emergency Permits and Credential Waivers	129
Misassignments	133
Increase in disciplinary actions	134
Pre-Intern Programs	135
Review of Recruitment Efforts	139
Paraprofessional Teacher Training Program.....	139
Cal Teach	143
Troops to Teachers.....	145
Reciprocity for Out-of-State Teachers	147
Assumption Program of Loans for Education.....	149
Governor’s Teaching Fellowship.....	154

Cal Grant T.....	155
Salaries	156
Review of Retention Approaches	160
Beginning Teacher Support	161
Teacher Education Reform	169
National Board Certification Merit Award	170
Housing Initiatives and Tax Credits.....	173
Conclusion	176
CHAPTER 7. CURRENT POLICY	182
Introduction.....	182
Alternative Pathways: Emergency Certificates, Permits, and Fast Tracks	182
Recruiting.....	184
Paraprofessional Teacher Training Program.....	185
Community College Pathway	186
Recruiting Centers, Residencies, and Undergraduate Programs.....	186
Retention: Housing Assistance and Tax Deduction Programs	187
Education in the State Budget.....	189
Teacher Residency Programs.....	190
Summary	191
Conclusion	192
CHAPTER 8. IMPLICATIONS FOR FUTURE POLICY	194
Introduction	194
Methodology.....	195
Steps 1 and 2: Mapping the Field and Problem Formulation	196
Steps 3 and 4: Data Collection and Evaluation.....	196
Steps 5 and 6: Data Analysis and Interpretation and Recommendations	197
Limitations.....	197
Discussion of Findings	201
Historical Context	201
Addressing Shortage through Policy.....	202
Alternative pathways	202
Recruiting	203
Retention.....	203
Evaluating Policy Effectiveness.....	204
Evaluating alternative pathways.....	205
Evaluating recruitment efforts	206
Evaluating retention efforts	209
Current Policies.....	210
Alternative pathways	211
Recruiting	211
Retention.....	212
The Governor’s budget.....	212

Recommendations for Policy	213
A New Alternative Pathway: The Residency Model	214
Retention	217
Compensation and Housing	219
Cost of Teacher Preparation.....	223
Investing in Public Education	225
Statewide Database to Track and Understand the Field	227
Evaluation of Legislation	229
Summary of Recommendations	229
Future Research	231
Conclusion	232
REFERENCES	236

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Changes in Students' Career Aspirations Between 1966 and 2015	24
2. Attrition of Beginning Teachers after First Year of Teaching	31
3. Five Steps of Interpretive Policy Analysis	49
4. Research Methodology Using Adaptations of Pigott's Steps to Policy Analysis and Interpretation	52
5. Assumption Program of Loans for Education Program Benefits	101
6. Categorized Legislative Summary	116
7. Total California Credentials Issued	127
8. Alternative Teacher Preparation Enrollment	128
9. Emergency Teaching Permits Issued.....	131
10. Credential Waivers Issued	133
11. Misassignments of Monitored Staff	134
12. Emergency Permits, Credential Waivers, and Pre-Interns	137
13. Paraprofessional Training Program Participation	141
14. Paraprofessional Teacher Training Program Participants Serving as Teacher of Record.....	143
15. Cal Teach Website Traffic.....	145
16. Out-of-State California Credentials Issued	148
17. History of Assumption Program of Loans for Education Allocations, Awards, and Loan Assumption Payments.....	151
18. Distribution of Assumption Program of Loans for Education Participants by Shortage Area	152
19. Average Teacher Salaries in California.....	158

<u>Table</u>	<u>Page</u>
20. Beginning Teacher Support and Assessment Program Service History	163
21. National Board Certification in California	171
22. Evaluation of Categorized Legislative Summary	178

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Decline in enrollment in teacher preparation programs.....	25
2. Percentage of teachers leaving teaching after one year, 2004-2005	41
3. Timeline of legislation	122
4. Summary of recommendations	230

ABSTRACT

Addressing Teacher Shortage:

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by

Liza Moritz Mastrippolito

Teacher education enrollment has decreased 74% since 2013. Simultaneously, attrition rates have increased, with 20-50% of new teachers quitting within the first five years. These combined factors have brought California into a new teacher shortage, necessitating fast-track pathways to credentialing. Fast tracks and lowering of requirements often result in teachers not being prepared to teach as they begin their careers, and as data illustrates, children in high-poverty communities of color are those who are predominantly taught by non-credentialed teachers. This dissertation is a historical policy study on how educational policies enacted in California to address shortage have affected the supply and demand of teachers and how effective these policies have been in terms of recruitment and retention. Findings revealed a search for balance between maintaining high standards for teacher education, while still meeting the needs of the field through creating alternative pathways to credentialing. An interpretive analysis of these policies and corresponding data informed the formulation of a set of recommendations, including the need to increase retention through ensuring high quality teacher education and ensuring the support of new teachers. The residency model is one recommended approach that increases the

clinical component of teacher education while making it more affordable. Also recommended is greater attention to making compensation competitive with other fields, as well as increasing financial assistance for tuition and providing housing subsidies. A last recommendation is to create a state-wide database to track teachers and their career paths in order to maintain a greater understanding of the field.

CHAPTER 1

INTRODUCTION

Background

I became a teacher in 1998. Before having my own classroom, I had taken graduate courses in pedagogy, content, and methodology. I had observed classrooms in action, tutored children in different community organizations and churches, and was a full-time student teacher for a full semester. I had the support of two master teachers and a university fieldwork supervisor, who observed me each day, took notes as I taught, and then met with me to debrief on how my practice was progressing. They helped me with my lesson plans, and they gave me space to try my ideas. Sometimes, things were amazing: Discussions were rich, and students were engaged. Other times were a mess, and I did everything I could to hold back my tears of frustration, not understanding how my perfectly planned lessons had failed so miserably. I was fortunate to have had two strong master teachers. I was also fortunate to have completed a teacher education program at the University of California, Los Angeles (UCLA) that focused on culturally relevant and social justice pedagogy with an emphasis on content methodology and the practical application of theory in praxis. Through the course of the term, I learned as much from my failure as I did from my success. At the end of the term, one of my master teachers was promoted to a coordinator position, out of her English Language Development (ELD) classroom, and I was offered the job to replace her. During that summer, I moved into her room and made it my own, and my first year teaching felt like a continuation of what had begun the year before.

My preservice coursework and clinical practice prepared me to enter my first year of teaching feeling competent. I still had so much to learn, but it was a type of learning that could

only begin once in my own classroom, with hands-on experience. Even as I continued to learn during my first year, I felt prepared, and I also felt a deep satisfaction in my work. This is unfortunately not the experience that many new teachers have when they enter the classroom for the first time. If they are lucky, some of these teachers will begin teaching in schools that offer intensive support systems and comprehensive induction programs, and this may help compensate for their lack of preparation, but too often, new teachers get little meaningful support as they begin their careers in education. New teachers report feeling overwhelmed, not only in the basics of classroom management, planning and assessing lessons and learning, but also by the entirety of what being a teacher really entails. Many burn out and quit within the first year, and even more leave in the first few years after that. What this means for new teachers and more importantly to children is that there is a revolving door of teachers who are not prepared to teach and who quit when the difficult reality of the work hits them. Without spending a considerable amount of time in the classroom before beginning to teach and without a solid foundation in pedagogy, methodology, and theory, there is no way to actually know what it will be like: how difficult it will be to be effective; to connect to the students and their families; and to focus not only on academic needs, but also on the wide spectrum of physical, psychological, and socioemotional needs. Teaching is difficult, and sadly, 20-50% of new teachers quit within the first five years (Gray & Taie, 2015; Ingersoll & Smith, 2003).

The Problem

California is in the beginning of what is predicted to be a devastating teacher shortage. In addition to new teachers who quit within the first few years, other factors have contributed to the shortage. Due to the recession in 2008, many teachers who were set to retire stayed in their jobs,

which resulted in fewer positions becoming available each year. In addition to this, the recession caused districts to cut class-size reduction programs and increase student-teacher ratios, as well as eliminate many teacher specialist positions. This meant that there were fewer new positions opening up each year, and in many areas, teachers faced layoff notices every March. This was heavily reported by the media, and for many years, the public saw that jobs in teaching were disappearing (Guthrie & Peng, 2010). They also saw a growing focus on standardized, often scripted content and curriculum and a push toward holding teachers accountable. Accountability was often measured by linking teacher practice to student achievement, which was largely assessed through student scores on standardized tests. What was once seen as a promising and creative field to enter into as a lifetime career now offered little inspiration or draw for young people.

Almost 10 years have passed since the height of the 2008 recession, and the economy is recovering. Districts have started to focus on class-size reduction again, and the teachers who waited to retire have now begun their exodus. The California Teachers Association (2016) predicted that the number of retirees will exponentially grow over the next few years. In 2016 44% of teachers were 50 years or older and intended to retire within the next 10 years. This means that over 106,000 teaching positions will need to be filled, and California does not have the teacher pipeline to fill all of these positions (California Teachers Association [CTA], 2016). In fact, there has been a drastic reduction in the number of people entering the teaching profession each year. The California Commission on Teacher Credentialing (CTC) reported that enrollment in teacher preparation programs has fallen from 78,000 a dozen years ago to a low of 18,984 in 2013-2014, which is a reduction of 74%. Enrollment numbers increased slightly to

21,365 in 2015-2016, yet these numbers are far below what they once were (California Commission on Teacher Credentialing [CTC], 2002b; 2016b). Similarly, the number of teaching credentials that have been issued by the state dropped from 23,926 in 2000 to a low of 14,810 in 2014 (CTC, 2002b; 2016b; Ellison & Freeberg, 2015). While the latest data available from CTC has shown an increase in these numbers to an enrollment of 16,516 candidates in the 2016-2017 academic year (CTC, 2017a), it is only a slight increase, and it will not be sufficient to meet the state's need.

The immediate crisis is one of shortage, but the larger crisis is how this will affect the children in greatest need of quality public schools. Communities that are not in the privileged position to subsidize the costs of providing the many programs required to run a successful school, both basic and enriching, are being hit the hardest. They are the ones whose teachers leave at the highest rates and whose quality of environment and systems of support are unable to take these new and underprepared teachers and help them grow into stronger, more effective teachers so that they will become successful and stay in the profession (CTC, 2015b; Smith & Ingersoll, 2004).

Connection to Social Justice

The current teacher shortage is a crisis in many ways and for many people, but as the data illustrates, children in high-poverty communities of color are those who suffer most (Johnson, Berg, & Donaldson, 2005; Redding & Smith, 2016). This is a very real threat to social justice, as it creates a system of schooling that is inequitable. All children should be taught by highly-qualified teachers; yet, shortages and “emergency” fast-track pathways to credentialing mean that not all teachers will have experience and background in pedagogy and content before they

enter their first day of teaching. Since this occurs predominantly in high-poverty communities of color, these are the children who are being inequitably served, and the purpose of this historical policy study is to find solutions to this very serious threat to social justice.

Our schooling system in the United States is not an equitable one, and as our country moves toward allowing greater flexibility in offering parents a choice in their children's schooling, undermining public schools by decreasing their funding, it becomes more important than ever to reform the policies that govern education and how teachers make their way to the classroom. We must continue to look at our history and how our economic landscape has shifted to serving the needs of and protecting the market rather than our citizens, democracy, and society (Zeichner & Peña-Sandoval, 2015). This analysis is important in order to build upon and learn from both the successes and failures in policy and approach. My hope in doing this work is to develop a series of recommendations, grounded in an analysis of our past and current policy. We must focus our future work in teacher education on taking a hard look at what has happened to the field and how it has come to be regarded by the rest of society, particularly young people making decisions about their careers. We must work to understand the current state of the field, then focus on ensuring equitable access to a quality education in every school and every community by grounding our work in a social justice agenda, informed by a retrospective and interpretive analysis of policy.

Research Questions

1. How has policy regarding teacher credentialing developed in California since 1850?
2. What educational policies were enacted between the late 1980s and early 2000s, during California's last teacher shortage, and what connections can be found between

specific policies and the supply and demand of the teacher workforce during that time?

3. How can an interpretive policy analysis of this time period inform current policies regarding teacher shortage?

Purpose, Design, and Methodology

The story of credentialing and licensure is a story that moves in waves and recurring cycles. In the 1850s, there were no formal requirements for the teaching profession, and decisions about who was permitted to teach were left to local decision and control. In 1863, policy was enacted that placed responsibility for teacher examinations in the hands of the State Board of Education, yet counties continued to hire those they determined to be fit to teach based on subjective and often personal processes. As the century drew to a close, the state seized control of certification. At the start of the 20th century, the state required that a teacher complete a preparation program at a university or normal school in order to be eligible for a Life Diploma. California became the first state to require an additional year of graduate study for secondary credentials and remained the only one for 30 years. The rigor and ability of normal schools to adequately train elementary teachers came into question during the 1920s, so these schools were gradually turned into four-year teacher's colleges that were approved to grant degrees and credentials by the 1930s (Hendrick, 2011).

Between 1910 and 1990, there was a balance of supply and demand of credentialed teachers for only 13% of the time (Hobart, 1992). The pendulum swung from overabundance of qualified teachers and little demand to times of serious shortage. Prior to the 1980s, waves of shortage were generally attributed to the effects of war or rapid population growth leading to

increased school enrollment. Starting in the 1990s, California started seeing new reasons for shortage, including attrition rates sky rocketing as the Baby Boomer generation began to retire (Hobart, 1992) and policy enactments that increased or decreased the need for teachers. The last century has witnessed an ebb and flow in the supply of teachers, and it would be meaningless to study this phenomenon without simultaneously studying state policies that were proposed and enacted throughout these same years (Hendrick, 2011).

It is with all of this in mind that I conducted a historical policy study on how educational policies enacted in California have affected the supply and demand of teachers. I engaged in an interpretive policy analysis of how we have approached credentialing in times of teacher shortage, specifically on how past shortages were dealt with at the policy level and how effective these policies were in terms of teacher recruitment and retention. As is discussed in greater detail in Chapter 3, an adaptation of Yanow's (2000) and Pigott's (2009) approaches to policy analysis and interpretation framed the methodology of this study. The intent was to analyze what we can learn from recurring cycles in the past in order to more effectively confront the shortage we are currently facing.

The study of policy included, where possible, a comparative analysis of the corresponding data that derived from the enacted policies. The purpose was to assess whether any connections can be made, and if so, how the policy outcomes related to the intended outcome of the policymakers. The aim was to look for connections between the policy and the data on teacher credentialing, as well as on supply, retention rates, and teaching assignments. This analysis informed the formulation of a set of recommendations for decisions regarding

certification and how we should approach teacher credentialing, support, and overall shortages going forward.

Theoretical Framework

Analytical Approach

Policy analysis is often a quantitative practice of assessing the costs and benefits of a certain policy and then evaluating whether a specific action is the most practical and effective manner of achieving an intended outcome. Dvora Yanow (2000) proposed a different, interpretive approach to policy analysis that could either be used independently or as a qualitative complement to the traditional quantitative approach. Rather than focusing on the costs and benefits of a policy enactment, Yanow's approach aims to uncover the meaning.

Interpretive techniques begin with formulating questions. Yanow (2000) suggested that these questions start with the intent to uncover what the policy means and to identify for whom the policy is intended to have meaning. As with all experience, meaning will differ for different people and different communities, depending on positionality. At the outset, the work of interpretive policy analysis includes the identification of the different parties and communities that will be involved and affected by the policy. These are what Yanow referred to as "communities of meaning" (p. vii).

Policy analysis in general seeks to focus on impact and whether the desired outcome will be likely by utilizing the intended approach, thus whether the proposed policy will be the best way to address a particular issue. In traditional quantitative approaches to policy analysis, a comparative analysis of survey results or test scores may be conducted, seeking to give a policymaker an objective recommendation based on actions, costs, benefits, and possible

outcomes. Yanow (2000) suggested that interpretive policy analysis “shifts the discussion from values as a set of costs, benefits, and choice points to a focus on values, beliefs, and feelings as a set of meanings, and from a view of human action as expressive (of meaning)” (p. ix).

A common criticism of the interpretive approach is that of subjectivity and lack of rigor, yet Yanow (2000) contended that although interpretive practices do indeed focus on the “centrality of human interpretation,” the process is nevertheless a methodological approach, following a specific set of steps that are rigorous and systematic. Yanow additionally argued against the supposition that a focus on symbolic politics is in and of itself a separate entity from “real” politics and that “policies and political actions are not *either* symbolic or substantive: they can be both at once” (p. x). Yanow discussed traditional approaches to policy analysis, such as those presented in textbooks on policy analysis by Bonser, McGregor, and Oster (1996) and Patton and Sawicki (1993), describing the steps prescribed, all of which are detached from positionality or experience and appear to suggest that policy occurs in a void, separate from human knowledge, experience, values, and beliefs. Yanow suggested that we need to engage instead in a qualitative, analytic interpretive process that is not restricted to cost-benefit analysis or the assumption that objective facts are even possible as separate from the social world. She proposed that policy analysis must include the experience of communities and that they must play an integral role, beginning with the formulation, implementation, and retrospective evaluation of policy outcome. The questions asked in setting out to conduct analysis must be generated from the context of the values and beliefs of the communities upon which the policy will be enacted.

In drafting policy, policymakers will generally consult a policy analyst to research the issue being addressed in order to advise the policymaker through the presentation of a set of data, including technical or other knowledge. This information will inform the policymaker in assessing the likelihood that the policy as written will produce the intended outcome. As Yanow (2000) discussed, policy analysis traditionally occurs before policy is enacted to aid in the decision-making process. Analysis can also extend to after a policy has been enacted in order to evaluate its outcome and whether the policy did indeed succeed in its intent. Fischer (1995) explained the process as one in which policy formation and implementation is analyzed, yet it can also extend to evaluation in retrospect in order to assess actual outcome. Fischer proposed that policy analysis provides policymakers as well as the citizen “with an intelligent basis for discussing and judging conflicting ideas, proposals, and outcomes” (p. 3).

Interpretive Presuppositions

At the foundation of Yanow’s (2000) approach is the underlying presupposition that there are no “brute data” that can go uncontested. Instead, there is a recognition that we live in a social reality, wherein meaning is constructed through experience and subject position. Yanow suggested that all aspects of life require sense making, and therefore sense making involves interpretation, and thus through extension, so too should policy analysis. She presented that traditional approaches to analysis “are conducted under the assumptions of positivist-informed science: that it is not only necessary but also actually possible, to make objective, value-free assessments of policy from a point external to it” (Yanow, 2000, p. 5). In contrast, Yanow argued that it is impossible for any analyst to remain truly objective and stand outside of the issue at hand. Her argument maintained “that knowledge is acquired through interpretation,

which necessarily is ‘subjective’: it reflects the education, experience, and training, as well as the individual, familial, and communal background of the ‘subject’ making the analysis” (p. 6). She continued to discuss the position of prior knowledge as inseparable from sense making and analysis and that the position any analyst brings to the process of analysis will always be based on prior knowledge, experience, values, education, and beliefs.

As was previously mentioned, interpretive approaches to analysis focus on meanings. Yanow (2000) extended this discussion to the intersection of the policy text as written by the policymaker and the meaning that is interpreted by varying constituents. Interpretive policy analysis seeks to understand the “contrasts between policy meanings as intended by policymakers—“authored” texts—and the possibly variant and even commensurable meanings—“constructed” texts—made of them by other policy-relevant groups” (Yanow, 2000, p. 9). In such a way, interpretive analysis seeks to establish the clear intent of the initial policy, as authored by the policymaker, and use this as a benchmark on which to base the analysis and evaluation of the implementation process and the retrospective “success” of the policy’s enactment.

Communities of Meaning

Yanow (2000) focused on the importance of community, contending that it cannot be separated from any aspect of a policy. She presented the idea of community as traditionally rooted in a geographical location, yet she proposed a shift in this concept so as to consider the many communities of meaning that interact through the policy process and the importance of considering these communities in the interpretive process as integral to analysis. In addition to a particular geographic location, policy also occurs within the context of many varying

communities, including organizational structures, professional memberships, political parties and persuasions, gender groups, and demographics. She argued that within any policy situation, there exist at least three communities of meaning: policymakers, those implementing the policy, and the citizens and communities whose lives are affected by the policy. Yet even within these three groups, there are many internal sub groups that make up the whole, and each of these contribute to the process and meaning.

In considering these communities, an awareness of and attention to how each will interpret the meaning and intent of the issues and policies is important, as is the awareness that these interpretations may differ widely between the policymaker and the citizen. Yanow (2000) thus suggested that “the central question, then, for interpretive policy analysts is, ‘How is the policy issue being framed by the various parties to the debate?’” (p. 11). She proposed that consideration of the framing of a policy question becomes inextricably tied to the meaning that is constructed by any particular party. As each community seeks to construct meaning through analysis, particular frames may focus on certain aspects more than others, just as they may choose to ignore certain aspects that are seen by that particular group to be irrelevant. She argued,

That which is highlighted or included is often that which the framing group values.

Frame conflict occurs not only because different interpretive communities focus cognitively and rationally on different elements of a policy issue, but because they value different elements differently. (Yanow, 2000, p. 11)

As such, Yanow suggested that interpretive policy analysis must map the “architecture” of the varying elements and debates connected to the policy by understanding the positionality of each

community involved in a particular policy landscape. She concluded that the interpretive approach to analysis is then one in which the focus is centered on the meaning of a policy, including the values and beliefs that the policy expresses and how these meanings are “communicated to and ‘read’ by various audiences” (Yanow, 2000, p. 14).

Significance

Success in the classroom and positive dialectical relationships with students feed teachers’ intrinsic motivation and feeling of satisfaction in their work (Hughes, 2012; Johnson et al., 2005; Perrachione, Rosser, & Petersen, 2008). Without this feeling of satisfaction, there is very little holding them back from looking for it elsewhere, whether that be at a different school or in another field. We must move to address the factors that lead to high turnover and rebuild schools into environments where there is a culture of care and respect, where the facilities are adequate and safe, necessary supplies are available, texts are up to date and relevant, curriculum is motivating and challenging, teachers are prepared and enthusiastic, parents and community members are invited and welcome as vital stakeholders in the process, and a community of learning, dialogue, and collaboration is promoted. This must happen in all schools, regardless of demographics or financial capital in the area.

We must also pay closer attention to how teachers are being prepared so that they begin their first day in the classroom with confidence and have a deep respect for and understanding of the children and communities they will serve. If we are going to allow faster tracks, where time will not permit for the same level of preparation before entering the classroom as the teacher of record, schools must be supported by the state and mandated to offer the support needed to help new teachers get there. The state must support districts and schools in taking on a larger role in

teacher preparation by offering comprehensive induction and support programs. If we want teachers to stay in the field and students to succeed, these issues must be addressed.

My aim in conducting the research in this historical policy study is to learn from policies that have been enacted in the state in the past. By analyzing the span of California Assembly and Senate policy enacted in connection to the data from the California Department of Education (CDE) and CTC, I identified policies that were successful, as well as policies that were less so, wherein success was measured in the policy's ability to achieve its intent. I used this information in looking at policies that have recently been proposed or enacted as we enter into the current teacher shortage and to make recommendations for teacher education as well as future policy design in regard to teacher credentialing. While many researchers, policymakers, and educators propose solutions to the current growing shortage, there is a gap in the literature where these proposals are connected to past policies and practices based on an analysis of the data following their enactment. This study sought to make these connections by analyzing historical and recent policy, practice, data, and outcomes.

Limitations and Delimitations

Limitations

Due to the nature of a study that is historical, one of the primary limitations of this study was that the majority of the content studied happened in the past, generally decades ago, which can lead to difficulties with accessibility to complete and accurate data or primary sources. Another limitation was the difficulty in ascertaining whether a specific policy can be correlated to an outcome as evidenced in a set of data. If a few policies whose intent was to increase recruitment to the field of teaching were enacted in the same time period for instance, and the

credentialing data in the years following showed a noticeable increase, it would be difficult to prove impact by correlating the outcome data and one particular policy.

Delimitations

The primary delimitations were those set by the span of time that is being focused on, as the cycles of supply and demand, shortage and surplus, continue backward in time for much longer than the focus of this study allowed. Another primary delimitation was that due to the constraints of time in this dissertation, Yanow's (2000) approach to interpretive policy analysis needed to be adapted. She presented that the methodology for interpretive policy analysis is through the process of interviews, observation, and document analysis. This study primarily utilized the third methodology of document analysis with the recommendation that further study be conducted in which interview and observation are incorporated.

Definition of Key Terms

Terminology pertaining to the field of education or teacher credentialing that is commonly used throughout this study is outlined and defined below:

Alternative teacher preparation: Alternative teacher preparation refers to non-traditional programs for teacher certification or credentialing that generally involve a candidate teaching concurrently with taking teacher education coursework. In such a case, the teaching assignment takes the place of required clinical practice such as early fieldwork observations or student teaching. The agency responsible for the program can be a university, but it can also be a school district or other private organization. According to the Title II Glossary, an Alternative Teacher Preparation program “primarily serves candidates who are the teacher of record in a classroom while still completing their pedagogical preparation for the preliminary credential.

Alternative route teacher preparation programs are defined as such by the state. In California, this term also refers to an intern program” (CTC, 2017b, para. 1).

Certified: “Refers to a California educator holding a valid credential appropriate to his/her role and/or responsibility” (CTC, 2017b, para. 1).

Classified: A classified school employee does not need certification or licensure for the job that they are employed for, as teachers, administrators, or counselors do. Examples are clerical staff, instructional aides, cafeteria workers, and bus drivers.

Clear Credential: “A Clear Credential is a teaching credential with no further academic requirements to be completed that was issued prior to September 1, 1985. Professional growth and successful service are not required for renewal, only submission of an application and current processing fees. With the implementation of Senate Bill 1209, signed in September 28, 2006, professional growth requirements are no longer a prerequisite to renewal” (CTC, 2017b, para. 1).

Clinical experience (also fieldwork): “Refers to student teaching, internships, and/or clinical practice that provide candidates with an intensive and extensive culminating activity. Within the field-based/clinical experiences, candidates are immersed in the learning community and are provided opportunities to develop and demonstrate competence in the professional roles for which they are preparing. Field-based experiences are provided to the candidate under the supervision or guidance of an experienced individual who has the knowledge and skills the candidate is working to attain” (CTC, 2016a, para. 1).

District Intern: District Intern programs are alternative teacher certification programs in which a school district is the responsible agency. “An educator preparation program approved by

the Commission that is developed and implemented by a school district or county office of education. Participants in a district intern program serve as the teacher of record while completing their teacher preparation program and they receive mandatory specified guidance and supervision during this process” (CTC, 2017b, para. 1).

Emergency 30-Day Substitute Permit: “The Emergency 30-Day Substitute Teaching Permit authorizes the holder to serve as a day-to-day substitute teacher in any classroom, including preschool, kindergarten, and grades 1-12 inclusive, or in classes organized primarily for adults. The holder may serve as a substitute for no more than 30 days for any one teacher during the school year, except in a special education classroom, where the holder may serve for no more than 20 days for any one teacher during the school year” (CTC, 2017c, p. 1).

Field-based supervision: Field-based supervision “refers to supervisory activities undertaken to evaluate a candidate’s competence by a qualified person designated to assist a candidate in mastering the required knowledge, skills and abilities expected of the candidate, and/or to support the candidate during clinical/field-based activities” (CTC, 2016a, para. 1).

Induction program: A program that is designed to offer support and mentorship to beginning teachers who have earned their preliminary credential. The program helps each candidate work to meet the *California Standards for the Teaching Profession* (CTC & California Department of Education [CDE], 1997).

Preliminary Credential: “A Preliminary Credential is a teaching or services credential that is valid for five years. Preliminary credentials require the holder to complete a bachelor’s degree, an approved educator preparation program, CBEST [California Basic Education Skills Test], subject matter competence, and additional specific requirements. Out-of-state prepared

applicants may be issued a five-year preliminary credential. Additional academic requirements must be completed to qualify for the clear credential” (CTC, 2017b, para. 1).

Short-Term Waiver: “The Short-Term Waiver gives local employing agencies the ability to cover unanticipated, immediate and short-term needs. The waiver allows employers to assign teachers who hold a basic credential to teach outside of their credential authorization for one semester or less with the teachers’ consent” (CTC, 2015c, p. 1).

Supervisor: A supervisor is “an individual from a Commission-approved program and/or employing district assigned to provide supervision and support and/or to assess candidates during field experiences and clinical practice” (CTC, 2016a, p. 5).

Teacher residency program: A “program that partners with one or more teacher preparation programs accredited by the Commission and in which a prospective teacher teaches at least one-half time alongside a teacher of record, who is designated as the experienced mentor teacher, for at least one full school year while engaging in initial preparation coursework” (CTC, 2018c, p.7).

Teacher retention: The term *retention* is used to when discussing teachers who stay in their jobs over a sustained period of time (Johnson et al., 2005). Teachers who remain in their jobs for longer periods are classified as *stayers* (Bobbitt, Faupel & Burns, 1991).

Teacher turnover: Teacher turnover refers to *attrition*, or when teachers leave their specific job or the field altogether. This teacher can also be classified as a *leaver* (Bobbitt et al., 1991). Retirement also classifies as cause for *attrition*. When a teacher transfers to another school or district, the term used is *migration*, and the teacher may be classified as a *mover*. The broader term that encompasses all of the modes of departure is *turnover* (Johnson et al., 2005).

Traditional teacher preparation: In a traditional or pre-service teacher preparation program, candidates are enrolled in a college or university for coursework and clinical practice, including student teaching. The candidate is eligible to apply for a teaching credential at the culmination of the program, at which point the candidate would apply for employment as a teacher of record.

University-based intern: A teacher who is participating in “a program which is a cooperative effort between a school district and an institution of higher education (IHE). Internship programs must be approved by the Commission prior to enrolling students and may not be available in all school districts. The program allows credential candidates to be employed while completing a credential program” (CTC, 2017b, para. 1).

Variable Term Waiver: “The Variable Term Waiver is a document issued for employers who meet the waiver criteria when a fully credentialed teacher is not available for the assignment. It allows the employer to fill the assignment while searching for a fully credentialed teacher in the subject area of the assignment and gives the waiver holder additional time to complete requirements” (CTC, 2015c, p. 1).

Organization of Dissertation

Because this dissertation involves a historical policy study on issues of teacher credentialing and shortage rather than an empirical study, the format for how it was approached, conducted, and written was different as well in that it does not follow the traditional five-chapter structure. The study of policy, data, and the impact of the policies necessitated a departure from the traditional format toward primarily a literature-based dissertation. The study investigated policy enactments through California’s history since certification became a relevant

consideration, beginning around 1850. The study additionally included an analysis of data on teacher credentialing, policy evaluations, and staffing surveys in order to search for connections between the data and the policies and whether the data are able to measure and/or ascertain impact. That being said, the first three chapters follow the traditional structure, while the fourth through seventh chapters present a literature review-based exploration of relevant policies and a presentation and analysis of the corresponding data.

The second chapter is a review of the literature relevant to laying the foundation for this dissertation and establishing the background on the topic. This literature has addressed data pertaining to credentialing pathways and teacher shortage, as well as the ways in which credentialing and shortage have affected different schools and populations differently, depending on socioeconomic and demographic factors within school communities. The literature reviewed in Chapter 2 establishes the case as to the need for this study, especially as it presents a set of recommendations for current and future policy work in teacher education and credentialing.

As briefly stated above, the third chapter outlines the research design and methodology utilized in this study, delving deeper into Yanow (2000) and Pigott's (2009) approach to policy analysis and interpretation. This approach was adapted and used as the methodology of this study. The fourth and fifth chapters present extended reviews of the literature and policies as they answer the research questions respectively. Chapter 6 outlines the corresponding data on teacher supply and demand in California. Chapter 7 discusses current policy that has been proposed and enacted in response to the current teacher shortage. Chapter 8 is a discussion of the findings, particularly what the implications of these findings are. Chapter 8 also proposes a set of recommendations for future policy work in education based on the findings of the study.

CHAPTER 2

A REVIEW OF THE LITERATURE ON TEACHER SHORTAGE:

ESTABLISHING BACKGROUND

This chapter focuses specifically on the background of teacher shortages in California to establish the relevance and urgency of studying the topic thoroughly before rushing to enact further policy. The literature has revealed that shortage is a recurring event, as is the surplus of teachers. As mentioned in Chapter 1, a balance of supply and demand of teachers occurred during only 13 of the 80 years from 1910–1990 (Hobart, 1992). With this in mind, it becomes more important than ever to examine repeating patterns and to identify the factors that lead to shortage or surplus as well as solutions that have been attempted in the past with greater or lesser success.

The California recession of 2008 forced districts to severely tighten budgets, leading to austerity measures that resulted in massive and continual lay-offs. These lay-offs ended around 2012, and since then, the nation has seen its teacher workforce increase by about 400,000 teachers as districts sought to reinstate the positions that had been cut during the recession (Darling-Hammond, 2017). We are at the beginning of yet another teacher shortage, which research has shown can be devastating to the educational experience of students, especially those in low-income communities of color (Darling-Hammond, 2017; Darling-Hammond, Furger, Shields, & Sutchter, 2016; Howard, 2003; Johnson & Birkeland, 2003; Johnson et al., 2005). In order to address the shortage, it is important to look at all contributing factors, such as the severe decline in interest in the field; how the economy contributes to rates of supply and demand of teachers; predicted rates of retirement over the next 10 years; and issues of turnover, attrition,

and retention. This literature review focuses on laying a foundation for a historical policy study on teacher credentialing as it connects to times of shortage. Subsequent chapters delve more deeply into the history and policies, as well as data on hiring, credentialing, and supply and demand of teachers, and the repeating patterns that emerge through their study. This serves as a lens through which to review and analyze current policies being proposed and enacted to address teacher shortage in order to conclude with a set of recommendations for confronting and mitigating shortage in ways that do not compromise the educational experience of any child, regardless of background.

Teacher Shortage

Along with most of the nation, the state of California is preparing for a teacher shortage (CTA, 2016; Darling-Hammond, 2017; Darling-Hammond et al., 2016; Sutchter, Darling-Hammond, & Carver-Thomas, 2016a). Some parts of the state have not yet begun to feel its effect, whereas others, especially rural or low-income urban areas, were deeply entrenched and struggling to find qualified teachers as early as 2012. According to a report published jointly by the Learning Policy Institute and the California School Boards Association, 75% of districts in California report shortages. They further reported that shortages occur more frequently in cities (87% of districts in cities) and rural areas (82%) and that 83% of districts serving low-income students, English learners, and students of color report shortages (Podolsky & Sutchter, 2016).

Rather than a singular identifiable cause for shortage, there are many converging issues that all contribute in different ways. If each existed on its own, in isolation, there would be less cause for concern and little reason to create the sense of crisis that currently exists.

Unfortunately, these issues are occurring simultaneously, and together they create a situation that is indeed dire.

The Pipeline: Teacher Preparation and Credentialing

In the past, teaching was the most common career path for college students. Yet as years have passed, there has been a steady decline in students choosing to study or enter the field of education. This trend can be carefully tracked by looking at longitudinal data in studies such as the National Survey of College Freshman, conducted annually by UCLA's Cooperative Institutional Research Program. The survey is distributed to college freshman across the nation to learn more about who they are and where they come from, what they are thinking and doing, and what their interests are. The survey was administered for the first time in 1966, and it has been conducted every year since. The researchers aggregate the data in varying ways, publishing summary and analytical reports that focus on many different areas. One of the reports specifically analyzes trends over the 50-year span that the survey has been administered, and of interest to the area of education is the section that focuses on career aspirations (Eagan et al., 2016). In 1966, 23.2% of college students surveyed aspired to teach in elementary or secondary classrooms. The next highest percentage was a tie between business and those who were undecided, each of which carried 10.5% of the population surveyed. The ending year for this report was 2015, and the percentage of students choosing the field of education had plummeted to a very low 4.5%. This represents an 80.7% decrease in students selecting elementary and secondary education as their career choice. Table 1 summarizes the data across three points in time: beginning (1966), midpoint (1990), and present day (2015) (Eagan et al., 2016).

Table 1

Changes in Students' Career Aspirations Between 1966 and 2015

	1966	1990	2015	Relative % Change 1966-2015
Doctor (MD or DDS)	5.6	5.8	11.6	107.1
Health Professional	4.7	5.3	8.2	74.5
Nurse	2.1	2.3	3.3	57.1
Business	10.5	19.2	13.6	29.5
Undecided	10.5	12.4	11.3	7.6
Engineer	8.6	8.7	8.2	-4.7
Artist	6.5	7.0	5.8	-10.8
Research Scientist	4.1	1.9	3.6	-12.2
Lawyer	4.4	6.4	3.3	-25.0
Farmer or Forester	1.6	0.8	0.9	-43.8
Clergy	1.0	0.3	0.3	-70.0
College Faculty Education (elementary/secondary)	23.3	10.0	4.5	-80.7

Note. Adapted from *The American Freshman: Fifty-year Trends 1966-2015*, by Eagan et al., 2016, p. 19, retrieved from <https://www.heri.ucla.edu/monographs/50YearTrendsMonograph2016.pdf>. Copyright 2016 by the Higher Education Research Institute.

As can be seen in the data, college students are no longer flocking to the field as they once did. In 1966, 23.3% represented almost a quarter of college students, which is a high portion to be concentrated in any one particular field. For that number to drop to 4.5% should serve as a real indication that the teaching profession needs to be examined, as do the attitudes of young people today, to understand the underlying causes for the decline in popularity (Eagan et al., 2016).

Decline in Enrollment in Teacher Preparation Programs

The CTC (2017a) similarly reported on this waning interest in the field of education. As is illustrated above, teacher preparation programs across the state have experienced a sharp decline in enrollment. Figure 1 presents enrollment data in teacher preparation programs in the state of California which have revealed that in the 12 years between 2002 and 2014, enrollment dropped 76%, from almost 80,000 to only 19,000. There has been a slight increase since 2014, though enrollment is stalling due to restrictions on enrollment established within the University of California/California State University system, which ties program size to the prior year's enrollment (Darling-Hammond, Sutchter, & Carver-Thomas, 2018).

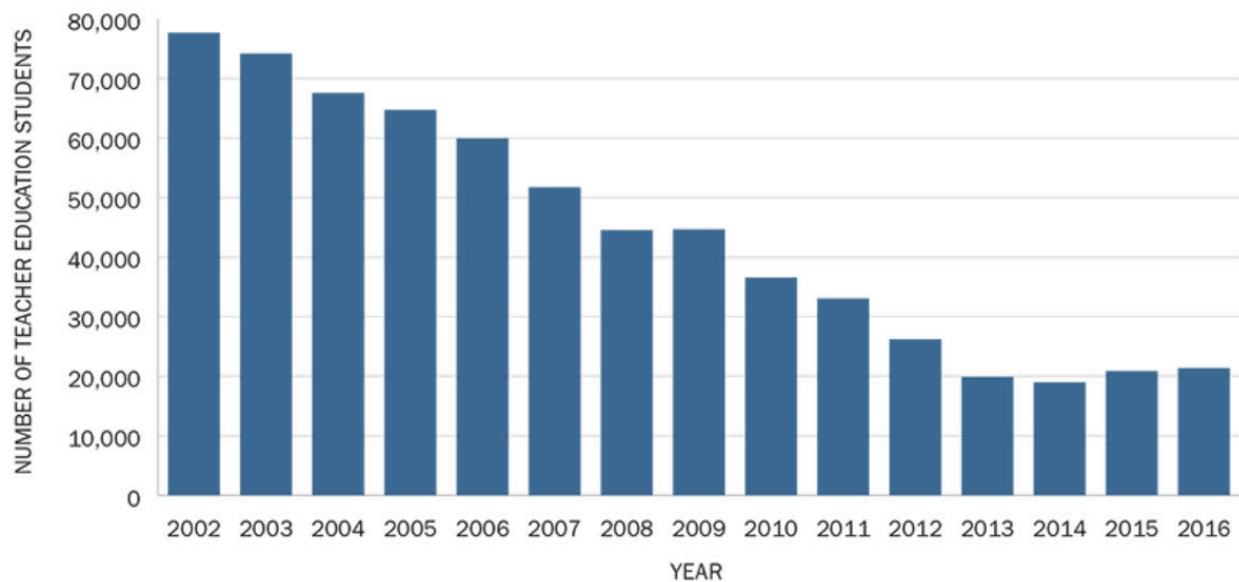


Figure 1. Decline in enrollment in teacher preparation programs. Reprinted from *Teacher Shortages in California: Status, Sources, and Potential Solutions*, by L. Darling-Hammond, L. Sutchter, and D. Carver-Thomas, 2018, Palo Alto, CA: Learning Policy Institute. Copyright 2018 by the Learning Policy Institute. Licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.

Decline in Teacher Credentialing

As is evidenced above, the decline in enrollment in teacher education has been drastic, yet this data does not represent the entirety of the issues concerning the supply of a prepared and qualified teacher workforce. While 19,000 candidates may have enrolled in a teacher education program within an Institute of Higher Education in 2014, this does not necessarily correlate to the number of credentials sought or awarded. The credentialing process in California requires a candidate to select and complete a credentialing pathway, then apply to the CTC for the credential. Not all candidates who enter or even complete a program will pass the final examinations required, such as the California Subject Examination for Teachers (CSET), which measures subject matter competency, or the Reading Instruction Competence Assessment (RICA), which measures an elementary teacher's understanding of teaching reading. Examinations are one factor that could keep a candidate from earning a credential after completing program coursework. There are also many other possible contributing factors, including a candidate's decision to change his or her mind and pursue another field or even something as simple as making a lifestyle change and deciding to get married and be a stay-at-home parent.

Just as the CTC collects and reports the data concerning Teacher Education Program (TEP) enrollment, so does it study credentialing numbers. According to CTC data, the number of credentials issued in California do not align with data on TEP enrollment during the same spans of time. Enrollment in 2011, 2012, 2013, and 2014 was near 30,000, 25,000, 20,000, and 19,000 respectively, though actual credentials issued never surpassed 17,000, even in 2011 when enrollment was near 30,000 (CTC, 2017a). This means that 13,000 of the 30,000 enrolled in

2011 did not receive a California credential. Similarly, in 2015-2016, the last year of available data for enrollment that the CTC has reported on, 21,365 candidates were enrolled. In the following year, only 16,516 credentials were issued (CTC, 2018b, 2018d). In another study, Ellison and Freeberg (2015) found that the number of teaching credentials issued by the state dropped from 16,401 in 2009 to 11,497 in 2014. It is important to keep in mind that these numbers also include credentials issued to those who completed TEP programs in other states but moved to California at a later date and applied for a California credential. These candidates would not have been included in enrollment numbers in California programs. These numbers illustrate a drastic decline and disparity in the number of candidates who enroll in TEP and those who ultimately succeed in obtaining a California credential.

Teacher Attrition and Retention

Each year, districts across the state of California are finding themselves with many positions still vacant as the school year starts. In 2015, there were still 5,116 public school teaching vacancies in the first week of September (Darling-Hammond et al., 2016). As we strive to implement new policies and requirements for students, including the Common Core Standards that many states have now adopted, the concern regarding a highly qualified teacher workforce, a concept brought to greater focus by *No Child Left Behind* (2002), begins to intensify. There are many colliding factors that lead to this concern, including the decreasing interest in graduates entering the profession, a higher than normal rate of retiring teachers, and teacher attrition. Research and survey data estimate that an average of 25% of new teachers leave after the first year, and between 20-50% of new teachers leave the profession within the first five years. The

rates are highest in Title I, high-need schools (Gray & Taie, 2015; Ingersoll & Smith, 2003; National Commission on Teaching and America's Future [NCTAF], 2016; Sutchter et al., 2016a).

The Leaking Bucket

Despite the alarming decline in teacher supply, research has shown that attention to teacher supply alone cannot solve the shortage. Ingersoll and Smith (2003) introduced the notion of the leaking bucket, in which the rate of teachers leaving the field overwhelms the ability to fill the normal vacancies from retirement. In the United States, almost 1,000 teachers leave the profession every day. A thousand more change schools. These numbers do not take into account teachers who are leaving due to timely retirement (NCTAF, 2003). Dissatisfaction with the job or changing fields in search of a better job are the top reasons for teacher attrition (Ingersoll, 2001). This ends up costing districts millions of dollars per year, as they must recruit, train, and mentor new teachers. The combined cost of replacing teachers who leave the profession and those who leave their site is estimated at \$4.9 billion every year. This figure differs from state to state, ranging from \$8.5 million in North Dakota, where there are approximately 10,000 teachers, to \$500 million in Texas, where there are around 250,000 teachers. In California, our teacher workforce is comprised of roughly 300,000 teachers, and the total teacher attrition cost is estimated to be \$455,732,592 per year (Alliance for Excellent Education, 2004).

Job Satisfaction and its Connection to Retention

The Harvard Graduate School of Education published an extensive literature review, *Who Stays in Teaching and Why: A Review of the Literature on Teacher Retention*. In the study, Johnson, Berg, and Donaldson (2005) conducted a detailed investigation into the research and literature pertaining to teacher retention and attrition. They began by suggesting that all of the

literature reviewed clearly indicated that a teacher's decision to remain in the job and the field was connected to the ways in which the work and work environments motivated them in both intrinsic and extrinsic ways. These factors can work separately, or they can intersect. They can also compensate for each other. A common example is how the positive motivation and pleasure experienced by the feeling of efficacy and real success with students can compensate for negative factors, such as lack of classroom supplies or low pay. Research has repeatedly found that job satisfaction correlates to teacher retention, and as satisfaction increases, so does the probability of staying, whereas when satisfaction decreases, the rates of attrition increase (Perrachione et al., 2008).

As the importance of each of these factors can vary greatly from teacher to teacher, it is nearly impossible to simplify the terms under which every teacher will be satisfied. The one thing that does stay relatively consistent is a person's initial motivation for becoming a teacher, which is the desire to be effective in the classroom. If the conditions of the school and the job make it difficult or impossible to feel effective, then teachers cannot feel the intrinsic satisfaction that they were seeking in entering the field, and they will either check out mentally or emotionally, or they will leave the field entirely (Johnson et al., 2005). It is in this way that job satisfaction has a direct correlation to attrition and retention. As satisfaction decreases, a teacher will either look to migrate to another school with better conditions or look to leave the field. If satisfaction remains steady, a teacher is more likely to remain. Johnson and Birkeland (2003) suggested that teachers who feel that they are being effective tend to feel more satisfaction and are thus more likely to stay. Conversely, those teachers who are unable to feel a sense of success with the students with whom they are working are far less likely to feel satisfaction with and

rewarded by their work, which will increase their likelihood of leaving the field (Johnson et al., 2005).

Factors that Influence Attrition and Retention: Induction and Teacher Support

Induction, increased support, mentoring, and professional development are linked to higher levels of retention, which indicates that it is imperative that schools and districts invest in expanding these programs in order to support new and struggling teachers (Carver-Thomas & Darling-Hammond, 2017a, 2017b; CTC, 2015b; Smith & Ingersoll, 2004). Given the brevity of teacher preparation, especially as we see the popularity of fast-track alternatives to traditional teacher credentialing, many teachers enter their first year of teaching unprepared and with a lot of room for growth and improvement. Smith and Ingersoll (2004) found a direct positive correlation between mentoring and new teacher retention in their analysis of the 1999-2000 Schools and Staffing Survey and the 2000-2001 Teacher Follow-up Survey data, as can be seen in Table 2. They studied 3,235 first-year teachers and found that novices who participated in a mentor program were 30% less likely to leave the field after the first year of teaching. They additionally found that new teachers who participated in induction programs that offered common planning time and collaboration, a same-field mentor, supportive communication with the principal or administrator, and a teacher's aide, decreased the risk of leaving by 43% (Smith & Ingersoll, 2004).

Table 2

Attrition of Beginning Teachers after First Year of Teaching

Type of Support	Percent attrition Teachers participated	Percent attrition Teachers did not participate
Induction Program	11.9%	17.6%
Mentoring Program	11.8%	18.6%

Note. Adapted from “What are the Effects of Induction and Mentoring on Beginning Teacher Turnover?,” by T. M. Smith and R. M. Ingersoll, 2004, *American Educational Research Journal*, 41, pp. 681-714. Copyright 2004 by Sage Publications on behalf of the *American Educational Research Journal*.

Induction programs vary widely in their offerings. They can range from a one-day intensive to a comprehensive, seven-component induction program, including collaboration/common planning time, mentoring, supportive administrator communication, seminars, teacher networks, a reduced course load, and the assistance of an instructional aide. Those who do not receive any induction support have a 41% predicted probability of leaving, while those in a basic bundle, which includes mentoring and support of an administrator, drop down to 39% probability of turnover, which seems a disappointingly small difference. A stark contrast to this are the novices who receive the entire seven-component bundle, whose probability of turnover is a low 18%. Unfortunately, only 1% of teachers in the United States are offered a comprehensive induction program (Smith & Ingersoll, 2004).

Factors that Influence Attrition and Retention: Self-Efficacy

Gail Hughes (2012) surveyed a random sample of public school teachers to study how teacher, school, and organizational characteristics, as well as teacher efficacy influenced teacher retention. She found that with each year that teachers stay in the field, their specific capital increases, and they are less likely to leave. Specific capital refers to the knowledge, skills, and expertise specific to teaching that teachers accrue as they accumulate experience in the

profession. Specific capital differs from human capital, which includes more general skills such as communication or leadership. Specific capital is not transferable to other fields in the way that human capital is. Specific capital can also refer to years accrued on the salary scale or toward retirement. Specific capital, therefore, will attenuate attrition as a teacher stays in the field longer (Hughes, 2012). Teachers who have accrued more specific capital will have less motivation to leave the field and start over in a new field. Therefore, if new teachers can be supported until they reach a stage in their teaching where their level of efficacy and satisfaction are consistently solid, there is less of a chance that they will leave the field.

Knowing that a teachers' sense of efficacy connects to whether they stay or leave their school or the field altogether, investing in comprehensive induction programs that support new teachers as they adjust to the work and grow stronger in their practice becomes imperative. As teachers continue to work in the field, their efficacy increases, and their feeling of satisfaction from the work will increase as well. If novice teachers are supported until they get past the early stages, where they are still learning to teach effectively, the chances of attrition will decrease (Hughes, 2012; Perrachione et al., 2008; Smith & Ingersoll, 2004; Sutcher et al., 2016a).

Factors that Influence Attrition and Retention: Compensation

The fact that teachers are underpaid compared to fields requiring comparable degrees is a known fact in the United States. In a review of salaries that *Education Week* presented in 1998, the salary gap between teachers and professionals in other fields who had a comparable education was \$24,648. By 2015, the gap not only remained but had grown. Allegretto and Mishel (2016) contended in their report, which was published by the Economic Policy Institute, that the teacher pay gap was -1.8% nationally in 1994, and it grew much larger by 2015

to -17.0%. Similarly, the Organisation for Economic Co-operation and Development released its annual *Education at a Glance* report (2017) and found that in the United States, teachers make less than 60% of what workers earn in other professions that require similar levels of education. According to this study, the only other participating country that presented that large of a disparity in pay was the Czech Republic (Organisation for Economic Co-operation and Development [OECD], 2017). This is an important factor in drawing new teachers to the field, which is vital to curb the teacher shortage. It is also a factor to consider in our focus to retain teachers.

Darling-Hammond, Furger, Shields, and Sutcher (2016) conducted an analysis of California's emerging teacher shortage crisis and outlined recommendations for policy and practice that the state must institute in order to address the issue. In terms of compensation, they found that in 2015, even after adjusting for the shorter work year, teachers in California made 15-30% less than college graduates in other fields. They suggested that even though individuals who choose to enter the field of teaching may be more altruistic in nature, it is imperative that the teaching profession competes with other occupations. They continued to suggest that in addition to the low wage, the high debt that many teachers enter into in order to become teachers exacerbates the feeling that the profession is not worth the sacrifice and debt. They made the argument that in order to attract teachers, states and the federal government should make teacher education affordable and create financial incentives such as loan forgiveness and mortgage guarantees or subsidies for affordable housing, especially in cities where the cost of living has sky-rocketed in recent years, such as San Francisco and Los Angeles.

Connecting to the earlier discussion of extrinsic and intrinsic factors affecting attrition and retention, salary is an extrinsic factor that will play a lesser or greater role for different teachers, depending on their personal situations and the general economy. A teacher who already owns a home or has a partner that earns more may feel less drawn to a different career where the pay would be higher, whereas a person starting out or trying to establish a home and life may be discouraged by the inability to compete in today's market. Similarly, a person who feels highly successful in the classroom and who feels real intrinsic motivation by the work and the rewards that come from that may feel that the lower pay is a worthy sacrifice. Conversely, a teacher who feels extreme dissatisfaction and a lack of support may see the low salary as a tipping point, the final straw in making the decision to leave the field.

At the Harvard Institute for International Development, Kirby and Grissmer (1993) presented a Rand Corporation-sponsored report that examined teacher attrition and defined policies that could aid in reducing attrition. Kirby and Grissmer explained that the majority of former teachers who were surveyed would not have considered a 10% pay raise as a sufficient incentive to remain. In fact, two out of three were adamant that even a 20% pay raise would not have made a difference in the decision to leave. Nevertheless, the report found that salary was in fact a significant factor in *attracting* new teachers, and the negative impact of the low, non-competitive salary contributed to the decision to leave consistently, especially as it collided with other dissatisfying factors.

In another recent poll conducted jointly by the Policy Analysis for California Education research center at Stanford University and the Rossier School of Education at the University of Southern California (2016), an astonishing 76% of respondents believed that salaries for all

teachers should be raised in order to draw more people into the field, especially in times of shortage. Additionally, 95% of respondents viewed education as an important field and felt that teachers have the ability to make an important difference in the lives of children. This widespread respect for teachers is in stark contrast to the lack of respect that many teachers feel the profession is given, particularly as evidenced by the low compensation for the high level of education required.

Factors that Influence Attrition and Retention: Teaching Conditions

As has been discussed previously, one of the great extrinsic factors that affect job satisfaction is the condition and circumstance under which a person works. When the physical environment and the resources available are substandard, teachers can feel very limited in their ability to be successful. They will very often feel discouraged and disrespected as professionals in a field when the work being done is not valued enough to invest in optimal or even basic supplies, equipment, and facilities (Johnson et al., 2005). In addition to the physical environment, the conditions of the work itself are another factor that lead to frustration and burn out. The load that a teacher is given, the number of different courses to prepare for (preps), crowded classrooms, lack of time to collaborate, and inordinate amounts of bureaucracy and paperwork all lead to frustration, and they need to be addressed if the focus is going to shift toward retention rather than simply staying afloat.

Poor working conditions are most present in low-income, high-minority schools. The U.S. General Accounting Office (1995) examined the adequacy of school facilities, and through surveying approximately 10,000 public schools, it found that 54% of all public schools had unsatisfactory space for conducting effective instruction. What was also found was that schools

in inner cities with a 50% or more population of students of color were much more likely to have inadequate conditions and supplies. The U.S. General Accounting Office has not conducted a follow-up study since 1995, but research has shown that teachers in low-income schools are more than twice as likely to leave the field due to feelings of dissatisfaction. Darling-Hammond et al. (2016) suggested that this is in large part due to the poor working conditions of low-income schools, which include substandard facilities, inadequate supplies, out-of-date texts, fewer administrative supports, minimum induction and mentoring, larger class sizes, and unsafe environments.

What is significant to consider when looking at these working conditions is that while they lead to a much higher attrition rate and a revolving door of underprepared teachers, they also create conditions that make it incredibly difficult for children to learn. This becomes especially important when looking at accountability expectations that all schools achieve high standards (Johnson et al., 2005). In order for children to successfully learn, an environment that demonstrates the vital value of their education is important, as is knowing that they have a teacher who is prepared and equipped to teach them. Similarly, teachers need to feel that the conditions in which they work allow them to be effective and successful. These conditions begin with the physical space, equipment, supplies, and safety, but perhaps of even greater importance is the condition of support and collaboration. A poll by the Public Agenda Foundation found that close to 80% of teachers would prefer to work in a school that had strong administrative support, whereas only 20% would choose a school based on a higher salary (Darling-Hammond et al., 2016). This is essential to consider when analyzing attrition. Beginning teachers may take a job in an urban, low-income school because that is where jobs are available, but if they do not quit

within the first few years, they are highly likely to migrate to a more affluent school if a job opportunity becomes available in order to work in conditions that actually support them in increasing their levels of effectiveness and success.

Factors that Influence Attrition and Retention: Collaboration

Current research indicates that teacher retention increases when schools give space and time for collaboration and collegiality and are guided by supportive leadership (Johnson et al., 2005). Schools such as this foster the rewards of intrinsic and extrinsic motivation, which lead to a feeling of satisfaction with the work. This satisfaction is directly related to retention. It is interesting to examine the evolution of collaboration, as privacy was at one time and is still for some teachers highly valued. Lortie (1975) conducted interviews with a group of randomly selected teachers in Dade County Florida, and he found that teachers perceived the privacy of teaching to be preferred, as they regarded other adults as a possible hindrance rather than a support or opportunity for enrichment. It was not until the 1980s as a result of the school reform movement that teachers began to perceive collaboration as an effective tool for teaching, yet sustained collaboration remained uncommon. In addition to the reform movement, teacher retirement and the subsequent presence of a younger teacher workforce has led to the development of a strong interest in and desire to collaborate (Johnson, 1990).

Factors that Influence Attrition and Retention: Leadership

Research has shown that school leadership is highly correlated to retention in that it influences the satisfaction of the work as well as the environment. It is up to the principal to institute systems of collaboration and support in that work. School culture and climate is a direct result of leadership. The former president of the American Federation of Teachers, Edward

McElroy (2004), reasoned that an agreeable culture and work environment was one of the factors that had the most impact on a teacher's job satisfaction and rate of retention. In the 2000-2001 Teacher Follow-up Survey, conducted by the National Center for Educational Statistics and published by the U.S. Department of Education, a third of the teachers who migrated to new schools cited their dissatisfaction with the support from leadership as their primary reason for leaving (Luekens, Lyter, Fox & Chandler, 2004).

In the way that support and the creation of a positive school culture and climate increases retention, the converse is true for increasing attrition rates. McConney, Ayres, Hansen, and Cuthbertson (2003) studied key human resource issues found in an evaluation of reform efforts in the Baltimore City Public School System (BCPSS). One of the four areas studied was mentoring and other retention strategies, and the authors found that a perceived lack of support was a key reason for attrition in the district, wherein 40% of teachers left BCPSS by the end of the third year, and as many as 60% of teachers were leaving after the fifth year of teaching. The study concluded the following:

Many focus group participants expressed a high level of negativity, frustration, and even anger toward the BCPSS administration. Lack of follow-through, lack of support, lack of communication, lack of service coordination, and lack of opportunity for input were common themes heard in these discussions. Addressing these issues would go a long way toward improving the trust teachers and principals have in the "system" and perhaps ameliorating the continuing high rates of attrition among Baltimore City teachers.

(McConney, Ayres, Hansen, & Cuthbertson, 2003, p. 97)

This indicates that leadership must place a greater focus on promoting social interaction, collaboration, and communication and that it must support teachers in their work in order to create environments in which teachers will feel invested and choose to remain. Given that the new generation of teachers place such a high value on collaboration, schools must transition to move away from the isolation and privacy that was prized in the past. Principals are generally the ones who drive mentoring and support within a school site, which adds additional influence that they will have over teacher retention.

Credentialing Pathways

There are two main pathways that lead to credentialing in California. One can choose the traditional, pre-service route or a faster-tracked, alternative route. Generally, traditional programs are university-based programs that begin with coursework in theory, pedagogy, methodology, and subject matter content and include clinical practice and fieldwork. Alternative programs, often offered by districts or funded by private, special interest, venture philanthropists (such as the Teach for America program), offer the possibility of expedited entry to the field. Intern and practitioner programs allow a person to begin teaching and to complete coursework concurrently, sometimes with a brief but intense summer institute to prepare the pre-service teachers in areas such as lesson planning, classroom management, and assessment (Zeichner & Peña-Sandoval, 2015). District intern or waiver permits allow a person to enter the classroom without any comprehensive preparation at all. These are most commonly found in hard-to-staff schools and locations, such as low-income communities of color, rural areas, or hard-to-staff subjects and programs such as bilingual education, special education, math, and science. Some district

programs partner with universities to offer coursework, and others offer coursework directly through the district (McKibbin, 2001).

Connection between Pathway, Attrition, and Retention

In *Retaining Teachers, How Preparation Matters*, Ingersoll, Merrill, and May (2012) analyzed data from the National Center for Education Statistics's nationally represented 2003-2004 School Staffing Survey and its supplement, the 2004-2005 Teacher Follow-up Survey. They found that at that time, 40% of teachers had come into teaching through alternative credentialing pathways. They sought to find out whether the type of preparation and the amount of education a new teacher received before entering the classroom impacted their probability of staying in teaching. The discussion centered largely on the value of subject matter content knowledge versus pedagogical skills and which was of greater value. They hypothesized that the amount of preparation that a teacher had in these areas would depend largely on the type of program in which they were prepared. What they found in their study, especially related to math and science teachers, was that pedagogical training was vital to retention. They found a direct correlation between higher rates of retention and beginning teachers who had taken courses prior to teaching in teaching methodology, child psychology, learning theory, and course selection. In addition to coursework, significant time, usually a semester or more of clinical practice in teaching; receiving constructive and evaluative feedback on their practice; and having the opportunity to observe other experienced teachers were all correlated to retention.

The study used a statistical clustering technique to empirically divide the teachers from the survey into two distinct groups, with the two extremes represented: one with extensive pedagogical training prior to teaching, and the other with minimal pedagogical preparation and

little or no clinical practice before beginning their teaching. As can be seen in Figure 2, what they found was that those who had undergone little or no pedagogical preparation were more than twice as likely to quit after the first year of teaching.

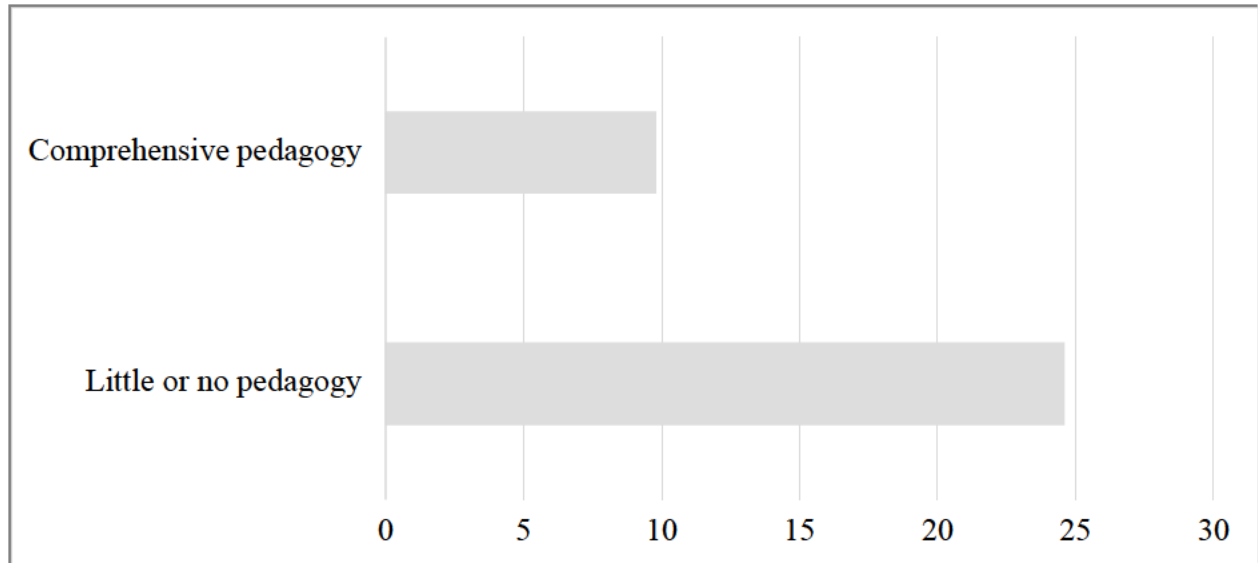


Figure 2. Percentage of teachers leaving teaching after one year, 2004-2005. Adapted from “Retaining Teachers: How Preparation Matters,” by R. Ingersoll, L. Merrill, and H. May, 2012, *Educational Leadership*, 69, pp. 30–34. Copyright 2012 by Association for Supervision and Curriculum Development (ASCD).

Connection between Pedagogical Training, Attrition, and Retention in Alternative and Traditional Teacher Preparation

Shen (2003), using data from an earlier longitudinal study conducted by the National Center for Education Statistics, 1993-1997 Baccalaureate and Beyond, examined attrition rates of 1,702 teachers who had graduated within the last five years. He found that in total, 34% of these teachers had left teaching, but that those who had little or no pedagogical training prior to teaching were 3 1/3 times more likely to quit each year. This is supported in many studies, all of which argue that preparation in both pedagogy and content matters, as well as exposure to observing teaching, opportunity for clinical practice in the classroom, and the chance for

continual feedback on practice (Ingersoll, Merrill, & May, 2012; Redding & Smith, 2016; Shen, 2003).

Redding and Smith (2016) similarly studied how the turnover rate compared for teachers prepared in traditional and alternative programs, and they found that overall, alternatively certified teachers were more likely to quit. Rather than focusing on how the teachers were prepared, as Ingersoll et al. (2012) had done, they found that the reasons for the higher rate of attrition could be attributed to concentration in low-income schools, where support and resources were at a consistently subpar level. These findings were corroborated by Johnson et al. (2005), who additionally showed that alternative programs draw a higher percentage of men, people of color, math and science teachers, and people who are making a mid-career change.

As has been discussed, much of the research found that teachers who entered via alternative credential programs were less likely to treat teaching as a lifelong career and were more likely to leave the field within the first five years (Ingersoll et al., 2012; Johnson et al., 2005; Redding & Smith, 2016; Shen, 2003). Fowler (2003) studied the Massachusetts alternative certification program, in which participants received substantial bonuses for entering and remaining in the field for at least four years (\$8,000 for entering, then an additional \$4,000 for the next three years). Even with the added incentive of these financial bonuses, participants left the field at rates that were more than twice as high as the national average. Forty-six percent of all participants left within the first three years, and 55% of teachers in urban schools left. In their study of the Teach for America (TFA) program, Vasquez Heilig and Jez (2014) analyzed available data and research and found that an average of 80% of TFA graduates left the field after the third year.

The Revolving Door

In a recent policy conference presented by the Learning Policy Institute at the Carnegie Endowment for International Peace Conference Center in Washington, DC, Linda Darling-Hammond (2017) opened the session with a discussion of the revolving door of underprepared teachers. Attrition and teacher turnover affect all schools, but we need to remain constantly focused on the disproportionate way that schools serving low-income students and students of color are affected in a much more detrimental way. Particularly important to note is that these are the students who need capable teachers with sophisticated skills the most (Darling-Hammond, 2017).

Students at these schools are more likely than their counterparts at low-minority, affluent schools to experience inconsistency in staffing, high teacher turnover from year to year, and a large percentage of teachers who are underprepared or not prepared at all, as in the case of long-term substitute teachers (Johnson et al., 2005). Additionally, Johnson and Birkeland (2003) argued that these schools do not have a higher rate of attrition due to teachers preferring to work with wealthier students, but rather because these schools have neither systems in place nor resources available to support new teachers as they struggle to become effective.

Alternative Pathways Concentrated in Urban Schools

Johnson et al. (2005) suggested that teachers who enter the field through alternative routes are more likely to teach in urban, high-poverty schools. What needs to be studied further is whether the higher rate of attrition in these schools is due to the mode of preparation or their conditions, or if it is a combination of less pre-service preparation, then a lack of comprehensive support once in the field.

In the last teacher shortage that California faced in the 1990s, 40,000 teachers, or one in seven, were underqualified to teach, meaning that they had no preparation before entering the classroom. In his study on the ways in which the teacher shortage impacts urban schools disproportionately, Howard (2003) suggested that while the intentions of those entering the field through alternative routes may be altruistic, there is reason to feel concerned with the level to which they are prepared to teach when they first enter the classroom and start working with children. He explained that more than 80% of urban districts hire teachers who are not certified, and 60% hire teachers with emergency permits—meaning they have no preparation at all—and 60% hire long-term substitute teachers.

Howard (2003) further stated that when students in traditional teacher preparation programs were surveyed, only 4% indicated that they were interested in teaching in an urban school. The unfortunate aspect of this is that the majority of them will nevertheless end up teaching in urban schools, as this is where the majority of available jobs are, and many of these new teachers will enter the classroom with a deficit perspective toward students of color (Howard, 2003). Coupled with the substandard working conditions of urban schools and lack of support for novice teachers, these teachers will likely leave as soon as they can find a different position or job outside of education. What this means for urban schools and the students who are receiving their education there is that they will be taught by a revolving door of underprepared, often begrudging teachers, and the education they receive will not prepare them to achieve at a comparable level to students in more affluent and low-minority schools.

Shortage as a Social Justice Issue

As teachers quit, often partway through a school year, they need to be replaced. Depending on the quality of the school, the replacement is often a long-term substitute or an intern teacher who has received a waiver or emergency permit to teach who will enroll in credentialing coursework during the first year of teaching. The students in these schools are very often being taught by underprepared teachers, and the sobering though too predictable truth is that this is occurring at disproportionate rates in high-poverty communities of color (Howard, 2003; Johnson et al., 2005; Redding & Smith, 2016; Vasquez Heilig & Jez, 2014).

There is a vicious cycle occurring in these schools: They have inadequate facilities, resources, supplies, and staffing. Teachers get little support, so they quit, and other underprepared teachers or substitutes are hired to replace them. Their programs have been cut, and the communities are unable to make up for this through fundraising, the way more affluent public schools do. In affluent communities, a depressed economy means parents hold fundraisers and silent auctions to pay for drama, music, science, art, physical education, and computer teachers themselves, in addition to paying for aides in every class and additional teachers to keep class-size reduction in place. Most communities are not able to raise this considerable amount of money, so the disparity between the quality of education that children of varying socio-economic backgrounds receive grows ever wider. Because of this, how we address shortage must take the disproportional ways that communities are affected into account and do more to balance the quality of school site facilities. If the shortage of qualified and credentialed teachers forces us to allow faster tracks that do not allow the time for extensive preparation prior to entering the classroom as the teacher of record, then we must commit to ensuring that these novice teachers

are supported in their practice in real and meaningful ways that will increase their likelihood of success.

Summary

In this chapter, I have presented a background on teacher shortage, specifically as it relates to the state of California. Recognizing that teacher shortage is one stage in a recurring cycle of supply and demand of teachers, it is important to study the repetitive patterns that can be seen in causation and prevention. This is particularly important for policymakers and those seeking to bring about change in the educational landscape. Rather than rushing to call for reform or enact policy in a reactive attempt to find quick fixes or Band-Aid solutions, the history of shortage and policy connected to shortage and credentialing can be studied to help inform the planning and decision-making process.

This chapter reviewed the literature concerning teacher shortage specifically, without delving into the area of policy, as this is explored in subsequent chapters. This chapter instead focused on setting the stage and identifying the need for a historical study of educational policy. I did so by investigating the different reasons for shortage as identified in the literature on the topic and research in the field. This began with an exploration of the pipeline to teaching, particularly the decline in enrollment in teacher preparation programs. The last 50 years have seen an 80.7% drop in interest in careers in elementary and secondary teaching (Eagan et al., 2016). Similarly, CTC data has revealed a sharp decline in credentials awarded in the state, and these numbers do not align with the already bleak figures for teacher education enrollment, with a discrepancy of as many as 13,000 people in 2011 who were enrolled in a program but did not receive a credential (CTC, 2017a).

In this chapter, I discussed the concept of the leaking bucket, which refers to the importance of paying attention to attrition, not only recruitment, as attrition represents the greatest threat to a reliable and steady teacher workforce (Darling-Hammond, 2017; Ingersoll, 2001; Ingersoll & Smith, 2003). I presented intrinsic and extrinsic factors that influence attrition and retention, noting that they would have varying impact on individual teachers depending on their positionality. Factors that influence attrition and retention included job satisfaction, induction and support, the importance of a sense of self-efficacy as a motivating factor, compensation, teaching conditions, collaboration, and leadership.

I then explored credentialing pathways, looking at the different routes that lead to credentialing, and how they connect to rates of attrition and retention. Research conducted by Ingersoll et al. (2012) found that 40% of teachers came into teaching through alternative pathways in which they began their first day of teaching without a solid foundation in pedagogy, theory, and clinical practice, but instead took courses concurrently during their first year of teaching. They further found that teachers who had undergone extensive pedagogical training in a traditional pathway that included teaching methodology, child psychology, learning theory, and clinical practice prior to teaching were twice as likely to stay in the field than those who entered via alternatives routes.

The section concluded with a discussion of the revolving door of teachers who begin teaching, then leave shortly afterward and how this disproportionately affects low-income communities of color in urban and rural areas (Darling-Hammond, 2017; Howard, 2003; Johnson & Birkeland, 2003; Johnson et al., 2005). The next chapter presents the research design and methodology that were used in this historical policy study.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this historical policy study was to identify educational policies enacted in California in regard to teacher credentialing and certification, particularly during times of decreased supply or shortage. In conjunction with the analysis of legislative policy, data on the supply and demand of teachers in the state were analyzed in an attempt to find a connection between legislation and the supply of teachers to reach conclusions about the effectiveness of legislative trends. This information was then compared to current legislation being proposed or enacted in the effort to make a set of recommendations for teacher education and future policy enactments.

The study was framed as an interpretive policy analysis of how we have approached credentialing in times of teacher shortage, using an adaptation of Yanow (2000) and Pigott's (2009) approaches to policy analysis and interpretation, which differ from traditional policy analysis primarily in that Yanow proposed a qualitative rather than a quantitative methodology. Yanow's interpretive approach to policy analysis focuses on more than quantifiable data on costs and benefits. She instead shifts to an analysis where meaning, values, community and subjectivity are considered and regarded as inseparable from the policy formation, implementation, and evaluation. Approaching historical policy analysis from an interpretive qualitative lens gives meaning and credence to the social world and the impact of the subjectivity of the people and communities involved.

Research Questions

1. How has policy regarding teacher credentialing developed in California since 1850?
2. What educational policies were enacted between the late 1980s and early 2000s, during California's last teacher shortage, and what correlations can be found between specific policies and the supply and demand of the teacher workforce during that time?
3. How can an interpretive policy analysis of this time period inform current policies regarding teacher shortage?

Methodology

Steps to Interpretive Policy Analysis

Yanow (2000) presented five steps in her approach to interpretive policy analysis, as is illustrated in Table 3.

Table 3

Five Steps of Interpretive Policy Analysis

1. Identify the artifacts that are significant carriers of meaning for the interpretive communities relative to a given policy issue,
2. Identify those communities relevant to the policy issue that create or interpret these artifacts or meanings,
3. Identify the discourses of the communities involved; that is, identify the specific meanings being communicated through these specific artifacts and their entailments,
4. Identify the points of conflict and their conceptual sources that reflect different interpretations by different communities,
5. Show the implications of different meanings/interpretations for policy formulation and/or action; show that these differences reflect different ways of seeing; suggest reformulation or reframing of the issue in some way in order to bridge the differences between the different communities.

Note. Adapted from *Conducting Interpretive Policy Analysis*, by D. Yanow, 2000, Thousand Oaks, CA: Sage, pp. 20-22. Copyright 2000 by Sage Publications.

Using an Adaptation of Yanow's Approach to Interpretive Policy Analysis as a Framework

The steps outlined above can be carried out and applied through a few approaches.

Yanow (2000) suggested that the central methodology for conducting interpretive policy analysis is through the process of interviews, observation, and document analysis. This study focused mainly on document and data analysis, as it evaluated policies in retrospect, after implementation, in order to learn from California's history of policy regarding teacher education and credentialing in the hopes of being able to make a set of recommendations for future policy.

A primary aspect of this study was the research and initial identification of policies related to teacher credentialing in California, and much of its content was the presentation of these policies, along with descriptions of how they have been implemented and what data exists concurrent with the policy enactments. As such, a large portion of the study was a factual presentation of policy and data, using Pigott's (2009) approach to research synthesis and meta-analysis, which is discussed in the following section. Yanow's interpretive approach is implemented in Chapter 8, where what she refers to as sense making occurs through seeking to understand how policies and data relate directly to and affect specific communities.

The search for and focus on meaning and subjectivity become integral to the ability to formulate a set of recommendations for future policy. The initial intent of a policymaker may be to address the shortage by simplifying the pathways that lead to getting teachers into classrooms by lessening the requirements and/or preparation needed before beginning to teach. However, as the research has clearly shown, these policies have not applied to all communities in like ways. It is therefore important to identify communities that have been adversely affected by policies related to credentialing and to pay attention to their story, as well as to learn from their

experience. In doing so, we can attempt to shift the way in which policy is written to begin with or ensure that implementation does not occur in ways that disproportionately affect certain communities in negative ways while other communities remain unaffected.

Methodology Based on Adaptation of Pigott's Research Synthesis and Meta-Analysis

Heck (2004) suggested that methodology “is concerned not only with the products of scientific inquiry, but also with the underlying assumptions, and the processes associated with the construction of knowledge from a particular scientific approach” (p. 186). He went on to discuss the ways in which policy research differs from other types of research, such as social or technical research. Policy research generally focuses on societal problems that have been addressed through policy. The research itself entails first identifying the specific issue to be studied, then researching what policies were proposed, approved, and implemented in response to the particular issue being focused on. The purpose of policy research thus is to present a set of policies as they were enacted in response to a particular issue. In this study, that specific issue is teacher certification and credentialing, particularly in times of shortage. Once these policies have been identified and presented, “The information can be used to generate implications and recommendations that can ultimately lead to future policy actions that reduce or alleviate the problem” (Heck, 2004, p. 186).

As Heck (2004) pointed out, there is very little guidance on specific methodologies for historical policy analysis. In such a way, the methodology for this study consisted of steps borrowed from a combination of sources. As discussed above, Yanow (2000) has informed the approach to interpretive analysis. In addition to Yanow, Pigott (2009) outlined a series of steps to research synthesis and meta-analysis, and they have been adapted and used in conjunction with

Yanow’s interpretive approach. Pigott argued that “comprehensive research synthesis and the statistical tools of meta-analysis provide a set of systematic methods for organizing and mapping the knowledge that exists in a literature” (p. 154). Without specifying numbered steps, Pigott discussed a series of actions, and it is from them that the methodology for this research was drawn. As can be seen in Table 4, six steps have been adapted to create the research

Table 4

Research Methodology Using Adaptations of Pigott’s Steps to Policy Analysis and Interpretation

Step	Action
1. Mapping the Field	Conduct background research including literature review on policy, existing research, and data.
2. Problem Formulation	Present the issues connected to teacher shortage, and how credentialing pathway and teacher preparation connects to attrition and retention. Draw connections between policy and practice.
3. Data Collection	Use search engines such as ERIC, ProQuest, the California Legislature search engine, the California Assembly Archive, CTC Data Dashboard and data archive, CDE data archive and reports, and the National Center for Education Statistics online data tools.
4. Data Evaluation	Evaluate history of how policies were written, in connection to political climate at the time. Evaluate how policies were implemented, and how different communities were affected.
5. Data Analysis and Interpretation	Use Yanow's (2000) approach to interpretive policy analysis
6. Recommendations	Based on research of policy and data and the subsequent analysis, develop a set of recommendations for future policy on teacher credentialing.

Note. Adapted “Research Synthesis and Educational Policy,” by T. Pigott, 2009, in G. Sykes, B. Schneider, D. Plank, & T. Ford (Eds.), *Handbook of Education Policy Research*, pp. 154-162, New York, NY: Routledge. Copyright 2009 by Routledge; and “What are the Effects of Induction and Mentoring on Beginning Teacher Turnover?” by T. M. Smith and R. M. Ingersoll, 2004, *American Educational Research Journal*, 41, pp. 681-714. Copyright 2004 by Sage Publications on behalf of the *American Educational Research Journal*.

methodology for this study. These six steps incorporate Yanow's approach in the fifth step, Analysis and Interpretation.

Research Tools

I conducted research to find the relevant and seminal literature for this study online, primarily in the research database ERIC. I also used ProQuest to access specific referenced dissertation works. When searching for referenced pieces that did not exist in ERIC, I used the Internet to track down copies of articles and studies. All searches conducted in library databases were for works that were peer reviewed and available in full text. The search began as a broader topic, using the key words "teacher shortage," "teacher attrition," and "teacher retention," then these terms were searched again in conjunction with the keywords "policy," "legislation," and "laws." In order to narrow down these areas or to find greater focus or specificity, I used secondary or tertiary keywords such as "theories," "hard-to-staff," "equity," "demographics," and "data."

Many of the articles found and referenced for this study are expansive literature reviews themselves, the seminal piece being the Harvard Graduate School of Education's Project on the Next Generation of Teachers, *Who Stays in Teaching and Why: A Review of the Literature on Teacher Retention* (Johnson et al., 2005). Another category consisted of quantitative studies in which broad survey data, such as the School and Staffing Survey, were analyzed with a specific focus. These extensive reports often led to publications, such as the report, *Addressing California's Emerging Teacher Shortage: An Analysis of Sources and Solutions*, written by Linda Darling-Hammond, Roberta Furger, Patrick Shields, and Leib Sutcher for the Learning

Policy Institute (2016). The third category was comprised of smaller, individual studies, usually conducted through interviews or surveys.

As the literature contained a combination of survey data and interview response analysis, I reviewed a balanced representation of quantitative and qualitative research. In trying to find broader, overarching patterns in attrition and retention, I made an attempt to focus primarily on larger studies in order to find a pattern across large populations of teachers. The smaller studies, focusing on a handful of teachers, felt limited in their ability to draw conclusions that applied to the field in general.

In regard to policy, the primary research was conducted through the search engine available on the California Legislature website (leginfo.legislature.ca.gov). The site allows for searches by bill number as well as by author or keyword. For legislative activity occurring between 1999-2018, there is an additional capacity to conduct a more advanced text search using one of two available routes, specifying either multiple or singular key words and phrases. The same keywords that were used in the search for the literature review were used again in the search for policy. For legislative activity occurring between 1993-1998, the search is limited to searching by bill number, author, or keyword. Only legislative activity occurring after 1993 is available online through one of these search tools. Archived legislation dating as far back as 1850 was found through the Assembly Chief Clerk's archive (clerk.assembly.ca.gov/archive-list). Scanned copies of assembly journals were organized by session, beginning with the 1849-1850 session. When a session was selected, journals and indices of both assembly and state sessions were available in PDF format.

Once I identified specific bills, I conducted further research online to find supplemental information, data, or commentary on them. The CTC and CDE both have robust websites containing data dashboards as well as archived reports and studies. The CTC (2011) additionally published an extensive history on teacher credentialing and policy in California between the years 1850-2010, which provided a comprehensive presentation of educational policy in California, identifying key policies and enactments.

In order to provide data on the supply of teachers at particular points in time, the CTC publishes annual reports on teacher supply in California, as set forth by AB 471 (O'Connell, Chapter 381, Statutes of 1999), requiring the CTC to report to the governor and legislature on the number of credentials, certificates, permits, and waivers awarded each year (www.ctc.ca.gov/commission/reports/all-reports). These reports are organized by type of authorization, which allows comparisons to be made and analysis undertaken in an attempt to identify patterns, trends, and connections between legislative action and the data on the supply of credentialed teachers. This may not allow for a positive correlation between a particular bill's intended outcome and the data on supply at a particular time following the enactment of legislation, as there may be a multitude of factors that led to particular data. Nevertheless, the intent of this study was to identify patterns and connections between legislation and outcome, as may be evidenced by available data following implementation. In addition to reports on supply and demand, the CTC additionally publishes comprehensive annual reports as program evaluation reports to the legislature, which provide relevant data connected to specific policy enactments.

Structure and Timeline

In order to answer the research questions that were posed for this study, I identified and analyzed historical policies related to teacher credentialing and certification, beginning as early as 1850. The historical policies in response to Research Question 1 are organized in chronological order in Chapter 4, including both a descriptive and interpretive presentation.

Chapter 5 addresses the first part of Research Question 2, focusing on policies that were enacted during California's last teacher shortage between the late 1980s and the early 2000s. Chapter 6 addresses the second part of Research Question 2, presenting data and policy evaluation from the field, particularly focusing on teacher credentialing, supply and demand, and attrition and retention data as published by the CTC and CDE. The aim was to find recurring themes in legislation in order to find whether particular approaches to solving the shortage have shown to be effective repeatedly or, conversely, whether certain historical policies have not been shown to be effective, yet similar policies are introduced again, nevertheless. Chapter 7 outlines policies that have been proposed and enacted in response to the current shortage, beginning in 2016. Chapter 8 concludes this study by analyzing the effectiveness of the previously discussed policies and comparing them to current policy proposals and enactments that seek to address the current teacher shortage. Based on this comparison and interpretive analysis, I make recommendations for future policy and research that will offer solutions to the teacher shortage, including policies that focus on the recruitment, retention, and support of teachers. Whereas a certain limitation was that positive correlations cannot be made between a policy and its intended outcome and the actual data in a particular timeframe, a pattern of connections helped to

construct these recommendations for current policy, as well as to create an informed lens through which to view current proposed and enacted legislation.

The timeframe for this research took place between spring 2018 and winter 2019. Data collection differed from traditional, empirical research, as it primarily entailed the searching, reading, and presentation of policy, program evaluation, and data. Once I collected and studied the data, I conducted and wrote the interpretive analysis from late fall 2018 to winter 2019.

CHAPTER 4
TEACHER CREDENTIALING:
A HISTORY OF POLICY IN THE UNITED STATES
AND IN THE STATE OF CALIFORNIA

Introduction

In our current political climate, public education is a recurring and often controversial topic of debate, especially as it connects to teacher qualifications, funding of schools, parents' right to choice in their child's education, and whether taxpayer money should be able to be used at a school of choice, even if that school is a private and even religious one. The distinction of secular education was made specifically for public education systems in countries where there is a clear separation between church and state. In today's political climate, where that separation is becoming more and more blurred, there is a strong movement to allow taxes to fund non-secular schools if parents choose independent or religious schools as the best educational environment for their children.

This ongoing debate about the purpose of public education has often focused on the role of the teacher and what exactly a qualified teacher should be required to do in order to earn certification and be able to teach. In studying the history of credentialing in the United States, a pattern begins to emerge. As each territory became a state and state governments and legislatures were formed, there were immediate conversations about the role of public education, as well as who could and should teach and who could and should govern schools, curriculum, and certification (Tierney, 2011). This debate still continues today, both at the state and federal level. This chapter investigates the legislative history of teacher certification and credentialing within

the context of the field of education. It begins with the ways in which the federal government has become increasingly involved, but its focus is primarily on the state level, where the responsibility for educational policy has historically resided. Key court cases are highlighted in order to illustrate the ways in which policy has been enacted and enforced through time. This chapter seeks to answer the first research question:

1. How has policy regarding teacher credentialing developed in California since 1850?

The Historical Context at the Federal Level

The first section of this chapter will focus on education within the federal context, in order to situate the way that issues pertaining to educational matters are distributed at the local, state, and national levels. In the United States, education has always been a local and state responsibility. Currently, only eight percent of education spending is funded by the federal government, and the other 92% comes from the state and private organizations. Of the federal funds, the majority are directed to subsidize and support higher education (U.S. Department of Education, 2018). The Department of Education was not formed until 1867, over 200 years after the Boston Latin School, the first public school, opened in the Massachusetts Bay Colony in 1635 (Boston Latin School Archive, 2018). The Department of Education was established primarily “to collect information on schools and teaching that would help the states establish effective school systems” (U.S. Department of Education, 2018, para. 4). The federal government did support and believe in the value of an educated populace, yet it sought to support it mainly by collecting and providing information to help policymakers and educators at the state level make informed decisions and enact policy based on research and data.

Education remained a state responsibility and primarily within state control until 1957, when Russia successfully launched Sputnik, the world's first satellite able to orbit the earth in space. Though federal attention to education had started in modest ways prior to Sputnik, its launch brought education into the national spotlight. Shamed by Russia having achieved a launch first and afraid that the United States lagged behind the world in its technological abilities, focus turned to the educational system. Worry intensified at the federal level that the current educational system was unable to create the types of scientists, mathematicians, and engineers that modern times necessitated. Prior to Sputnik, the federal government had been wary of getting involved in the funding of education, as it maintained that it was and should be a state function and responsibility. In fact, the three Congresses before Sputnik had passed legislation to federally fund educational programs, yet none of these bills made it past the House. On the day that Sputnik launched, Stewart McClure, the chief clerk of the U.S. Senate's Education and Labor Committee, suggested to Democratic U. S. Senator Lister Hill that perhaps if educational funding was renamed and connected to defense funding, the bill would have an easier time getting buy-in and being passed. Given the public outcry and focus on needing to catch up to the world, especially in the areas of math and science, the National Defense Education Act did indeed pass in 1958, and federal funding for education began on a larger, nationwide scale. Whereas funding was primarily for higher education, support for math, science, and foreign language programs in elementary and secondary schools was also included (U.S. Senate Archives, 2018; U.S. Department of Education, 2018).

In the 1960s and 1970s, the U.S. Department of Education, turning its focus to anti-poverty and civil rights work, passed a series of laws that involved the federal government in

education on a much larger scale than before. It included Title VI of the *Civil Rights Act* of 1964, the *Elementary and Secondary Education Act*, the *Higher Education Act* of 1965, Title IX of the Education Amendments of 1972, and Section 504 of the *Rehabilitation Act* of 1973. Through the passage of these laws, the federal government tied federal funding to state educational systems to the state's compliance with these laws (U.S. Department of Education, 2018). Though these laws worked to ensure equal access for all students, the federal government still involved itself mostly through funding, leaving the curriculum and certification of teachers in the domain and control of the state.

The Growth of Federal Involvement

The *Elementary and Secondary Education Act* of 1965 (ESEA) was an integral part of President Lyndon Johnson's War on Poverty. President Johnson called for Congress to "declare a national goal of full educational opportunity" (Johnson, 1965). The *Elementary and Secondary Education Act* provided federal funding to districts that served low-income populations. It also provided grants to state educational agencies to improve the quality of educational programs for all children (U.S. Department of Education, 2018). Part of the funding was directed to teacher preparation, specifically in supporting professional development for science and math teachers

In 1983, President Ronald Reagan presented the findings of an 18-month study conducted by the National Commission on Excellence in Education. The report, titled *A Nation at Risk* (1983), condemned the state of education in the United States. The focus of the report was on declining test scores, extreme drop-out rates, low teacher salaries, and high teacher turnover. The report lamented the nation's failing schools and the high illiteracy rates of graduating high school students. The report argued that compared to other advanced nations, U.S. students were failing,

and the teaching profession garnered little respect. In 1984, Title II of *ESEA* was reauthorized, and in 1985, expanded funding began for the professional development of teachers, though in this expansion all core areas were included, not only math and science, as had been the previous focus of *ESEA*. Ultimately, the report became a call to action, and while much of the data used in the report have been called to question and even disputed, the report did bring the focus on education to the national forefront, and in the 35 years since the report, that focus has remained.

In 2001, President George W. Bush signed the *No Child Left Behind Act* (NCLB) with strong bipartisan support. It was another reauthorization of *ESEA*, this time placing greater focus on the nation's achievement gap, paying particular attention to accountability, standardized curriculum and content, and the results of standardized testing. The *No Child Left Behind Act* also called for all teachers to be “highly qualified” in order to ensure that all children, especially high-risk children, be afforded a quality education (NCLB, 2002; U.S. Department of Education, 2018). This was the first time that the federal government took an active role in teacher certification and quality. Up until that time, funding had been offered after Sputnik for professional development in particular areas, but compliance and accountability to high expectations or standards were left to the purview of the states, and certification had been entirely left at the discretion of the states. In 2015, *ESEA* was reauthorized again by President Barack Obama through *Every Student Succeeds Act* (ESSA), relieving some of the prescriptive requirements of *NCLB* by narrowing the federal role and returning parts of this responsibility back to the states (Darrow, 2016; *Every Student Succeeds Act* [ESSA], 2015).

The Historical Context in California

California officially became a state in 1850. During the 1850s, there was no official mandate for level of education or degree required for teachers, though through the 1850s and 1860s, state superintendents brought teachers together for conventions to inform and inspire the direction of the field (Hendrick, 2011). In 1859, state superintendents did push the state legislature to create a state board of examiners to grant teacher licenses. They also established the first normal school in the state for teacher training in 1857 in San Francisco. Normal schools were started to train high school graduates to become teachers. The first was in the state of Vermont in 1823. In 1901, applicants who desired a lifetime certificate were required to graduate from an approved program at a normal school or university within the state in addition to passing examinations (Cheek, 2018).

Early Education Codes

California Political Code §1768, which was enacted in 1872 and amended up to and including 1905, required that every county have a county board of education consisting of a county superintendent and four other members who would be appointed by the board of supervisors of the county (Deering, 1906). This was amended in 1893 in subdivision three of §1769 to include that at the last meeting of the year, before the first of July, the board of supervisors must appoint two members, and at least one of them must be an experienced teacher. These members served for one year. Another two members were appointed, and again, at least one had to be an experienced teacher. These two members served for two years. After this first appointment in 1893, new appointees would always serve for two years. In such a way, two new

members would be appointed each year from then on, so two members would be returning, and two would be new (Deering, 1906).

Subdivision seven of §1769 specified that three members would constitute a quorum, and all certificates could only be issued, renewed, or revoked by the affirmative vote of at least three members of the board. Teachers certified through a local board were only allowed to teach within the county in which they had received their certification. The second subdivision of §1770 specified that the examination of applicants for teaching certificates would occur only at the scheduled, semi-annual meetings of the board, though certificates could be granted, renewed, or revoked at any meeting, as additional meetings could be called by the superintendent, but they would not be for the purpose of examination.

Education Code §1771 focused on the powers of the board, specifically that the board was able to adopt rules and regulations that could not be inconsistent with the laws of the state or government and further that the board could prescribe and enforce rules for examining teachers for certification, examine applicants, and set the standard of proficiency that would grant certification. The code specified that the certificates granted were valid throughout the county. It also set a varied structure for the length of validity according to grade. For high school teachers, the certificates were valid for six years, and they additionally allowed the holder to teach grammar or primary grades. Grammar grade certificates were also valid for six years, and they allowed the holder to teach grammar or primary grades. Primary grade certificates were only valid for two years and allowed only teaching in primary grades. The boards had the power to grant special certificates that would be valid for six years in the primary grade level and for special branches or areas, as deemed necessary by the board in a specific county (Deering, 1906).

The board was also granted power to set the curriculum by prescribing and enforcing the use of specific textbooks and the course of study, grant diplomas of graduation, and then to revoke or suspend teaching certificates for “immoral or unprofessional conduct, or evident unfitness for teaching” (Fifth subdivision of §1771, 1893). Education Code §1772 required that certificates could only be granted to those who had passed a written examination, as prescribed by the board.

Subjects covered were extensive, including reading, English grammar and advanced composition, English and American literature, orthography and defining, penmanship, drawing, vocal music, bookkeeping, arithmetic, algebra to quadratics, plane geometry, geography (physical, political, and industrial), elementary physics, physiology and hygiene, history of the United States and civil government, history (ancient, medieval and modern), school law, and methods of teaching. (Deering, 1906, p. 393)

In addition to the written examination, the board was also required to orally examine applicants to verify that they “shall have the tendency to demonstrate the fitness of the applicant to assume the duties of teacher” (§1773, 1905). In order for a certificate to be valid, it was required to be endorsed on the back side of the certificate by the county board (§1774, 1905).

Education Code §1775 provided an exception to the examination requirement, outlining specific instances in which the board *may* grant certificates without examination. Several exceptions were given, including for those holding life diplomas from other states; holders of San Francisco normal class diplomas when accompanied by the recommendation of the superintendent of public schools; graduates of the California State University when accompanied by the recommendation of the faculty; holders of normal school diplomas from other states; and

holders of diplomas from other universities in the United States that the board deemed equivalent to the California State University, accompanied by the recommendation of a faculty member, providing that the holder possessed the skills and abilities required by the state board of education. The board was also granted power to renew certificates upon expiration without requiring examination if the board deemed it appropriate (Deering, 1906).

Certain larger cities were granted their own examination boards, per §1792, and these boards had the same power as county boards to grant certificates as well as revoke them on the basis of “immoral or unprofessional conduct, profanity, intemperance, or evident unfitness for teaching” (§ 1792, subdivision 4, 1905). The holders of certificates were eligible to teach in the county or city that the certificate was granted. In 1901, boards were given the power to grant permanent certificates in §1778, which were valid for teaching within the city or county in which the certificate was granted, and they remained valid “during the life of the holder, or until revoked” (Deering, 1906, p. 395).

The Shift from Local to State Control

While local board certification was prevalent through the late 1800s, control over certification requirements began to shift to the state in 1893, when the state was given the power to issue grammar school and lifetime diplomas to graduates of teacher education programs provided in normal schools or state universities. In 1897, the California Supreme Court ruled in *Mitchell v. Winnek* that the state legislature had the authority to prescribe the requirements for teacher education. By 1901, all new teachers were required to graduate from an approved teacher education program, most commonly in a normal school or university (Hendrick, 2011).

In 1900, the State Educational Commission called for the centralization of certification through the empowerment of the University of California to set the standards for teacher education programs and certification. The state and institutions of higher education worked together to increase and standardize the requirements, and even though many local boards disagreed, the commission's report stated that teachers were demanding a centralized process as opposed to cities and counties having the discretionary power to award certificates for widely varying qualifications. For the next 20 years, the state board of education and higher education faculty continued to grapple with the correct requirements for coursework and content in teacher preparation, and the main subject for debate centered on the balance of content expertise and pedagogy—a point of dissention that continues to this day. In 1917, a very new Commission on Teacher Credentials joined the discussion as an official body that assisted the state board, and the legislature gave complete control over standards and requirements for teacher education in normal schools and universities to the state board of education (Hendrick, 2011).

In 1920, a special legislative committee on education convened and published a report calling for the raising of teacher preparation standards and the extension of the two-year normal school programs to four-year teachers' colleges that could award credentials. By 1930, these programs had become official four-year baccalaureate programs. The year 1930 also brought the beginning of the Great Depression, and with it, the state's first overabundance of certified teachers. The surplus gave greater leeway for the state to increase teacher preparation standards with the intent to improve the quality of the teacher workforce. It was during this time that local city and county board certification was finally abolished (Hendrick, 2011).

Shifting from the surplus of teachers during the Great Depression of the 1930s, World War II brought extreme shortage. In 1944, the U.S. Commissioner of Education, John Studebaker (1944), reported that “as many as 115,000 teachers had left the nation’s classrooms in order to help the war effort in one form or another” (para. 4). Shortage left the nation’s schools in desperate need to fill the vacancies left in the classroom, so standards were relaxed, and exceptions were made to create alternate routes to teaching (Hendrick, 2011).

As teacher preparation programs migrated into the college realm, normal schools were brought into state university systems, forming the Universities of California in Los Angeles and Santa Barbara. The rest of the schools became teachers’ colleges and California State Universities by the 1960s. The debate over the correct balance of pedagogical versus subject matter content coursework continued within the universities, but the State Department of Education began assuming greater control over the credentialing requirements and process (Hendrick, 2011).

The Debate over Standards and Content in Credentialing

In the late 1950s, and especially after the launch of Russia’s Sputnik satellite, the nation grew anxious about the quality of the American educational system and worried about how well students were being prepared compared to children in other nations. The longstanding debate over content, both in teacher education and K-12 schools continued, and the national consensus was that the current approach of progressive education was not preparing children to leave schools with real skills in math, science, foreign language, and technology. In Southern California, a committee formed, comprised entirely of university faculty whose aim was to address credential reform once again in order to influence policy to raise the standards and

requirements for teacher credentialing, which had been lowered during and after the teacher shortage following World War II. The committee called itself the Committee for Improving Teacher Education. The committee worked for years on establishing new standards, and it was an influential force behind the Fisher Act of 1961 (Inglis, 2011a).

A big debate during these years occurred between the California Teachers Association, the Committee for Improving Teacher Education, the State Department, the Legislature, and the Citizens Advisory Committee, another committee created by the legislature in 1958 to study education and make recommendations for standards and credentialing. The main issues surrounded the number of credentials that should be available; raising the standards for teacher education; the correct balance between methodology, clinical practice, and theory; the lack of strong subject matter emphasis in teacher education; the high number of administrators who came from physical education backgrounds; and cleaning up licensure in the education code (Inglis, 2011a).

The Fisher Act and a Shift in Credentialing

The Fisher Act, SB 57, officially titled “The Licensing and Certified Personnel Law,” was passed on May 24, 1961. It received full approval, including by then-Governor Edmund G. Brown (father to a later California governor, Jerry Brown), who signed it into law in June 1961. The Fisher Act proposed five major changes, beginning with a reduction in the number of credentials offered to five from 57. The five credentials were for elementary grades (K-6), secondary grades (7-12), an administrative credential, a credential for junior college, and credentials for standard designated subjects such as career, technical, and vocational programs.

The bill also increased the requirements of teacher education, mandating that all candidates must complete a fifth, post-baccalaureate year of study.

One of the big changes was the requirement that undergraduate students must major in an academic area. Secondary candidates were now required to major in the field that they were seeking to teach, and elementary candidates majored in diversified academic subjects. The education major was no longer allowed in California, and in this way, the debate over academic content taking precedence over pedagogy and methodology was felt to be settled for the time being. The Fisher Act conclusively eliminated the education major, which was considered a watered-down major and part of the Sputnik-era fear that U.S. teachers were not properly prepared in content areas. The education major has stayed unavailable in California until AB 170 (O'Donnell, Chapter 123, Statutes of 2017) reversed the law in 2017. A fourth provision of the Fisher Act was that secondary teachers could only teach in subjects they had majored in and were qualified to teach, meaning they could no longer be assigned to any subject based on school needs, which restricted school administrators in teacher assignments. Lastly, the bill required those seeking administrative credentials to have majored in an academic field. This was in response to the common criticism over the preponderance of administrators with a background in physical education rather than academic content (Inglis, 2011a).

Although the *Fisher Act* had been unanimously approved, its implementation was more difficult. The State Board of Education was responsible for its implementation, but from the very onset, implementation was met with multiple challenges. Even though the state was once again facing a teacher shortage, these stricter standards and the removal of flexibility on the part of schools to assign teachers where they were needed rather than where they were qualified to teach

was cause for concern. Transition plans were introduced that allowed for some exceptions to the new, stricter guidelines. By 1965, the *Fisher Act* had yet to be successfully implemented, mainly due to the two camps that fought for higher standards in the profession and the necessity to meet the shifting and often desperate needs in the field (Inglis, 2011a).

The Ryan Act

In the years that followed, varying forces continued to debate standards and credentialing, and after a few years of heavy negotiation and a few failed attempts at bills, AB 122, The Teacher Preparation and Licensure Act of 1970, what became known as The *Ryan Act*, was signed into law in 1970 by then-Governor Ronald Reagan. Leroy Lowery, one of the Act's authors, stated that the act was a compromise to try to find a middle ground in the long-standing debate (Inglis, 2011b). A major part of the *Ryan Act* was the forming of the California Commission on Teacher Credentialing (CTC), which was given the responsibility to set state standards for teacher education, oversee the licensing and credentialing of public school professionals, and enforce the professional practices of educators by implementing standards for the profession. It was also made responsible for overseeing and enforcing the discipline of credential holders in the state (CTC, 2018a).

Other important aspects of the *Ryan Act* included changes to credentialing requirements and standards. Like the Fisher Act, it also focused on five major principles. The first was the previously referenced creation of a separate licensing agency, the Commission on Teacher Preparation and Licensing, which later was renamed the Commission on Teacher Credentialing (CTC). It also placed a strong emphasis on subject matter preparation, as the *Fisher Act* had done. The *Ryan Act* expanded this emphasis by creating a clear pathway to assessing subject

matter competency through examination in addition to the ability to waive this examination through completion of a verified subject matter preparation program. The advent of subject matter examinations also opened the door for teachers to add additional content area credentials through examination without having to complete further coursework. Other components of the *Ryan Act* were the new Multiple and Single Subject titles for the type of credential, depending on the whether the teacher would work in a self-contained versus single-content classroom. It also established one credential with specific authorizations based on grade level and content, thus the Multiple and Single Subject Credentials. Lastly, in addressing the fifth post-baccalaureate year, the Ryan Act allowed a teacher to be credentialed as an undergraduate student, then take up to seven years to complete the “fifth” year (Inglis, 2011b; Lane, 1979).

The Shift to Requiring Basic Skills

In the early 1980s, Assemblyman Gary Hart proposed a requirement for teachers to pass a basic skills assessment. This was again part of the ongoing discussion about whether standards for teacher education were high enough and whether teachers were indeed professionals. Hart referenced writing samples from teachers and aides and pointed to the prevalence of low-level writing ability. This was at the same time that *A Nation at Risk* (1983) had been published, and the national focus had once again returned to a lack of academic rigor in American schools. In 1983, the *Hughes-Hart Education Reform Act* (SB 813, Hughes-Hart, Chapter 498, Statutes of 1983) was signed into law by then-Governor George Deukmajian. One of the major changes in this reform was the removal of a Life Credential and the introduction of the Clear Credential, which added the requirement that teachers must complete 150 hours of continued education in order to renew their credential every five years. Another major change was the introduction of an

alternative route to credentialing, requested by Los Angeles Unified School District (LAUSD), which would authorize districts to create their own teacher preparation programs to address teacher shortage. In response to Hart's attention to the importance of basic skills, Education Code 44254 was also amended to include a requirement that all teachers must pass the California Basic Educational Skills Test (CBEST) in order to receive certification (Brott, 2011).

Exploring Alternative Pathways and Beginning Teacher Support

The focus on strengthening and expanding the teacher workforce continued, and in January 1988, Governor Deukmajian announced an increase in funding to the CTC and Department of Education, with the intent that both study alternative models for beginning teacher support and assessment as well as alternative routes to credentialing, such as intern pathways. The two bodies conducted the research as part of the California New Teacher Project, which was a pilot study to test alternative models of assessment and support for new teachers (Santa Barbara County, 2018). In September of the same year, Governor Deukmajian signed SB 148 (Bergeson, Chapter 1355, Statutes of 1988), the Bergeson Act, which sought to reform teacher credentialing once again by streamlining the credentialing process while giving districts greater flexibility in teacher assignments (Fitch & Tierney, 2011).

In 1990, incoming Governor Pete Wilson continued the interest in expanding alternative routes to credentialing, as well as funding a new teacher support system aimed at increasing retention rates of new teachers. In 1992, Governor Wilson signed SB 1422 (Bergeson, Chapter 1245, Statutes of 1992), authored again by Bergeson, which initiated the Beginning Teacher Support and Assessment (BTSA) program. It sought to help new teachers transition into the field, receiving support in the form of mentoring and continuing education to help alleviate high

attrition rates. SB 1422 additionally gave the CTC authority to review once again the requirements for credentialing. In 1992, the CTC added the requirement for teachers to be educated in methodologies for working with English Language Learners through achieving the Crosscultural, Language, and Academic Development (CLAD) or the Bilingual Crosscultural, Language, and Academic Development (BCLAD) certification as an additional component to their Clear credential (Fitch & Tierney, 2011; Santa Barbara County, 2018). In 1997, the California Standards for the Teaching Profession were published, seeking to support teachers in developing their practice through prompting reflection on practice and student learning; formulating professional goals to improve practice; and guiding, monitoring, and assessing a teacher's progress toward professional goals and benchmarks (CTC & CDE, 1997).

The SB 2042 Preliminary Credential

In 1998, teacher preparation saw its first major change in credentialing since the Ryan Act of 1970. California State Senate Bill 2042 was approved and signed in to law, requiring the CTC to establish new curriculum and standards for teacher education (Alpert & Mazzoni, Chapter 548, Statutes of 1998). By 2004, 91 of 104 program submissions had been approved to prepare candidates for the new, two-tiered credential, which incorporated CLAD certification as part of the credential and was preliminary in nature, requiring that new teachers participate in induction programs in order to clear their credentials within five years of receiving the initial preliminary multiple or single-subject credential (CTC, 2004).

Since 2004, the California SB 2042 Preliminary Credential for Multiple and Single Subjects has remained the same, though standards for teacher preparation and the profession have changed. The recurring issue that is returned to again and again, regardless of the political

leanings of state leadership, is the debate between the need for flexibility and alternative routes to credentialing during times of shortage and the need to raise standards and requirements in order to ensure rigor and the professionalism of the field. Even though all teacher preparation programs require accreditation through the CTC in order to have the authority to prepare and recommend candidates for credentialing to the CTC, some programs additionally seek national accreditation. National accreditation was formerly awarded through the National Council for Accreditation of Teacher Education and more recently through the Council for the Accreditation of Educator Preparation to establish added weight and validity to teacher preparation programs by meeting the rigorous, evidence-based standards set for the profession and the academic community.

Key California Cases on Teachers and Credentialing

In order to illustrate the intricate ways in which policy and law have been interpreted and applied in the state, it is useful to examine certain key cases. *Kemble v. McPhaill* (1900) was one of the earlier cases concerning teacher licensure that reached the Supreme Court in California. The respondent had been favored in an earlier County of San Francisco Superior Court judgment, in which she had sought a high school teaching certificate based on Section 1775 of the political code. As discussed earlier, §1775 focused on school law and the ability for county boards to grant teaching certificates without examination to people who had received life diplomas in states outside of California for grammar and primary grades and for those who had graduated from California State Universities. The code specifically stated that “the board *may* also, without examination, grant county certificates” (§1775), and the respondent felt that the word *may* in fact meant *must*, and as such, the county board should be compelled to grant her a

certificate based on her diploma from a California State University. The court reversed the earlier decision and held that the language of the code was not mandatory; rather, it gave permission to the boards to grant certificates at their discretion.

In *Mitchell v. Winnek* (1897), the petitioner appealed a judgment from an earlier case in 1893 from the Superior Court of San Diego County, in which her petition for a writ of mandate, or formal written command, was denied after the county board denied her teacher certification after graduating with a diploma from a state normal school. The concern being argued was whether the county board had the legal authority to enact a rule that superseded the political code. The California Supreme Court reversed the earlier judgment on the basis that county boards did not have the power to adopt rules and regulations inconsistent with the laws of the state. The same language, *may*, was included in Code § 1771, yet in this case, the petitioner was granted the writ of mandate.

A few decades later in *Matteson v. Board of Education* (1930), an appellant teacher had been terminated from his teaching position and had his name removed from a city list of eligible teachers. In this case, the teacher was seeking to reverse a Superior Court judgment that sustained the demurrer, or objection to the legal sufficiency of the teacher's claim, filed by the board of education. The Court of Appeals affirmed the earlier judgment, sustaining the board's demurrer to the teacher's petition for a writ of mandate. The ruling was determined based on Political Code 1696, which mandated the recording of a life diploma, yet did not mandate the restoration to the list of eligible teachers, nor did it require the board to employ him.

In *Jones v. Oxnard School District* (1969), the plaintiff Sadie Jones was appealing an earlier judgment by the Superior Court of Ventura County, which had sustained the demurrer

filed by the school district. The plaintiff argued that the district was obligated to employ her before employing others who were only provisionally credentialed or not certificated. The original Superior Court found no cause for action, which the Appeals Court upheld. It was found that superintendents and school boards have the discretionary power to determine qualification for employment and that this authority was privileged against tort liability, meaning that they could not be held liable for any damage caused by their actions.

Years later, in 1992, another case was appealed that concerned the rights of districts to hire non-credentialed teachers when credentialed teachers had also applied and were available to work. In *CTA v. CTC* (1992), a group of credentialed teachers had petitioned the Superior Court of Imperial County for a writ of mandate, requiring the school district to hire credentialed teachers before they hired teachers with emergency credentials. The Superior Court had dismissed the petition, and the Court of Appeals affirmed this decision. The judgment was again based on the discretionary power of districts and boards of education to determine hiring practices, including the ability to issue and hire emergency credentialed teachers.

In all of the cases concerning hiring, a common pattern of leaving it to the discretion of the districts was found, which could in some cases be deemed problematic as the importance of supplying children with highly qualified teachers comes into question. The possibility exists that a district would hire a provisional, emergency, or non-credentialed teacher when in fact credentialed teachers were available in order to save substantial amounts of money on salaries and benefits. Nevertheless, the courts have found that districts maintain the discretionary right to act in the best interest of their students in determining the best hiring practices. This issue will

most likely continue through waves of supply and demand and fluctuations in the state of the economy may change the landscape in terms of who districts want to hire and why.

Federal Cases on Teachers and Credentialing

In 1975, the United States brought suit against the state of South Carolina in *U.S. v. State of South Carolina* (1977). The case centered on a state practice that used National Teachers Examination scores for selection and compensation of teachers, and the plaintiffs claimed that the practice violated the equal protection clause of the 14th Amendment due to the fact that more black than white people had received low scores on the test. The court found that it was unable to find any discriminatory intent in the practice and therefore rejected as irrelevant the equal protection challenge. The finding stated that “the inference that plaintiffs would have us draw from the statistics which indicate that blacks as a group have lower average scores than whites is rebutted by the evidence with respect to the construction of the tests and their content validity” (*U.S. v. State of South Carolina*, 1977, para. 38). The case confirmed the state’s right to set standards for certification.

Due to the fact that teacher certification was always seen as a state responsibility and right, very few cases concerning certification of teachers have been heard at the federal level before *No Child Left Behind* was enacted in 2001. Up until then, cases that made it to the U. S. Supreme Court were generally focused on state issues on appeal. When *NCLB* (2002) was enacted, this changed due to the entry that the federal government was now making into teacher certification. If states wanted to receive federal funding, they had to submit plans for and later show compliance, which included the issue of only employing teachers who were highly qualified.

One of the more difficult points of *NCLB* to navigate was the requirement that all districts employ “highly qualified” teachers, though each state was individually responsible for ensuring compliance in order to receive federal funds through Title I. In *Renee v. Duncan* (2010), a group of parents, students, and organizations sought a rehearing in a suit that they brought against Arne Duncan and the U.S. Department of Education, challenging the notion that an alternative-route teacher who is still in the process of obtaining full state certification can be characterized as a *highly qualified* teacher, as defined under *NCLB*. The appellants presented evidence that a disproportionate number of under-qualified interns were teaching in California schools that served predominantly low-income communities of color. In rehearing, the court reversed its earlier decision and affirmed the plaintiff’s standing. The effect of this decision was important in that it set the standard that teachers-in-training must be fairly spread across all schools, not concentrated in low-income communities of color. Unfortunately, the judgment in the case was never able to take effect due to Congress passing an amendment that in effect changed the classification of a highly qualified teacher to include teachers-in-training.

Conclusion

In studying the history of teacher certification, particularly the ways in which teachers have been prepared, a pattern emerges of a constant search for finding a balance between raising and maintaining high standards and the ability to meet the needs of the field. Since the earliest days of the country and the state, this debate has been waged, and clearly it continues today. As events, economies, catastrophes, and politics continue to occur and fluctuate, as they will in any society, the supply and demand of teachers will continue to vary as well. In order for the field of teaching to be accorded the full respect that other professional fields earn, proponents of high

standards and raising requirements argue that respect and professionalism will only be won if requirements, coursework, and examinations are rigorous. At the same time, many factors have led to a waning interest in the field, and when this combines with social factors, shortage turns into a local, state, and national crisis.

Immediate solutions to relieving shortage have historically involved the need to lower standards, creating exceptions and alternative fast-track pathways into teaching, including emergency credentials and permits, intern tracks, residencies, and early completer options (Darling-Hammond, 2017; Darling-Hammond et al., 2016). While this is a necessity in order to fill vacant positions and ensure that every classroom has a teacher, the real work of finding ways to ensure quality has yet to be successfully done. As *Renee v. Duncan* (2010) revealed, underqualified teachers are disproportionately placed in low-income communities of color. The judgement in this case sought to correct this by ordering that these placements be evenly distributed throughout all schools, yet this practice has still not been enforced. More needs to be done to ensure equitable access to quality education and teachers who are indeed *highly qualified*. The findings of this chapter corroborate the importance of reaching this balance, and the hope is that through continued focus and research in the area, beginning with a clear understanding of our history, a balance will indeed be found, and equity ensured. The next chapter focuses on policies that were enacted during California's last teacher shortage from the late 1980s to the early 2000s.

CHAPTER 5

ADDRESSING SHORTAGE

Introduction

Chapter 4 examined the history of teacher credentialing at both the federal level and the state level in California. Through that investigation, a pattern emerged of recurring cycles of teacher shortage and surplus. There have been many factors that contribute to both shortage and surplus, including increasing or declining birthrates, war, fluctuating levels of interest and enrollment in teacher education, concentrated ages for retirement, and increasing attrition rates, and the state has consistently tried to address the needs of the field through policy. Policy can also inadvertently be the cause of shortage, as in the case of SB 1777 (O’Connell, Chapter 163, Statutes of 1996), the Class Size Reduction initiative, which added 18,400 new teaching vacancies overnight, an increase of 28%, by reducing the average number of students in K-3 classrooms from 29 to 20 (Stecher & Bohrnstedt, 2002; Wexler et al., 1998). However, policies have generally been proposed and enacted to create solutions in addressing teacher shortages.

This chapter studies the last widespread teacher shortage that California faced, which began in the late 1980s and lasted through the early 2000s. Although certain areas, such as math, science, and special education, have consistently remained in a state of shortage since that time, other areas realized surplus again and in fact engaged in continued annual layoffs when the economy crashed in 2008 until its slow recovery in 2012 (Darling-Hammond, 2017; Guthrie & Peng, 2010). This chapter answers the first part of the second research question:

2. *What educational policies were enacted between the late 1980s and the early 2000s, during California’s last teacher shortage, and what connections can be found*

between specific policies and the supply and demand of the teacher workforce during that time?

By exploring policies during the last teacher shortage in this chapter, then analyzing data and reported results on credentialing and retention in Chapter 6, I am able to make connections between successful policy solutions and positive results in the field. I compare these connections to policies that are currently being proposed, which are discussed in Chapter 7, in order to respond to the current growing teacher shortage crisis.

Methodology

In conducting the research necessary to answer the first part of Research Question 2, which asked about the educational policies enacted during the last major shortage that California experienced from the late 1980s through the early 2000s, I found 35 enacted policies that sought to remedy the teacher shortage directly. I found these policies by searching the legislative database, which begins in 1999, as well as the legislative archives, then cross-referencing them with CTC and CDE reports and publications, as well as other published studies of the time and topic. Interestingly, I found a gap in publications that compiled complete legislative information pertaining to education and teacher credentialing, which necessitated the extensive cross-referencing described above. I found the only comprehensive list of legislation for education, both proposed and enacted, through the Golden Gate University School of Law Digital Commons. Its Government section held a vast archive of California Assembly reports dating back to 1963. Within them, I reviewed Legislative Summaries for each year being studied in order to identify relevant bills. The Legislative Summaries provided only a brief description of each bill and its status, including whether it had been chaptered, vetoed, was pending, or was

never heard. Further investigation was necessary in order to find full texts of the bills and the activity surrounding the bill proposal, deliberation, and enactment.

Emerging from Recession

The history of credentialing and credential reform in California was outlined and explored in Chapter 4. In tracking this history, which began in 1850 when California was first incorporated as the 39th state, recurring themes and patterns emerged. One of the major influences in the waves of teacher shortage and surplus had been the economy, both within the state and at the national level. The last teacher shortage that California faced, which began in the mid- to late-1980s, was similarly preempted by recession. Many factors contributed to that recession, including a changing economy and government reduction in military spending, yet specific policy changes within the state affected California in particular (Fitch & Tierney, 2011). In California, Proposition 13 (1978), which rolled back property tax assessments to their 1975 values, cut the state revenue received from property taxes in half. In the 1978-1979 fiscal year, the first after Proposition 13's enactment, revenue fell from \$10.3 billion to \$5.6 billion. While the proposition was intended to protect property owners by limiting tax increases, which often hurt elderly property owners the most, it also had an unintentional effect on education funding, which was closely tied to property tax revenue (California Assembly Revenue and Taxation Committee and California Assembly Local Government Committee, 1982; Hirsch, 1981; Sexton, Sheffrin & O'Sullivan, 1999).

Beginning in the late 1980s, California and the nation finally found themselves emerging from economic recession (Feldstein, 1994). The devastating effects that Proposition 13 had on education funding had by this time been addressed by shifting funding from local city and county

sources to state ones. Assembly Bill 8 (Greene, Chapter 283, Statutes of 1979) had passed in July of 1979, in which the state assumed the costs that cities and counties had earlier been responsible for through the use of property tax revenues (Hirsch, 1981). As the economy was rebounding, attention turned to the shift from a largely industrial economy to a knowledge-based one, especially as jobs in manufacturing were disappearing and ones in Silicon Valley and like industries increased. Employees and policymakers in California began to worry about the ability of the state's education system to prepare a competitive workforce that had the requisite skills to fill new needs. This shift in the economy and jobs created by it was the catalyst for the legislature and governor to renew their focus on the state and quality of education (Fitch & Tierney, 2011).

Immigration and a Second Baby Boom Cause Shortage

As the economy grew, so did interest in moving to California. During the early 1980s, immigration increased to the point that a third of all immigrants that came to the United States were coming to California (Fitch & Tierney, 2011). In addition to immigration, California also experienced a second baby boom, caused by the first, post-World War II boomers having children of their own, producing up to 600,000 babies per year in the state (Johnson, 2007). By the middle of the 1980s, the massive population growth created by increasing immigration and booming birth rates led to exponential growth in public school enrollment. As many as 600 elementary students were enrolling per day for most of the mid-1980s (Johnson & Li, 2007). Simultaneously as this rapid growth was occurring, the state's teacher education programs were experiencing a downturn in enrollment due to the earlier teacher surplus as well as fallout from

Proposition 13 and its financial strains, which caused layoffs. Together, the two trends set the stage for the beginning of another shortage of qualified teachers (Fitch & Tierney, 2011).

In response to the looming shortage, policymakers turned their focus to finding ways to meet the growing need for more teachers through creating and expanding alternative pathways to credentialing, as well as ways to attract new people to the field, often through financial incentives or assistance. They also looked for ways to stem attrition rates and increase the retention of teachers, especially new teachers who were leaving at increasingly higher rates (CTC, 2000a). All of these approaches are addressed in this chapter.

Expanding Alternative Pathways to Certification

In order to fill the increasing vacancies within the teaching profession, California sought to expand the ways in which people could be credentialed in the state. Rather than a single, traditional pathway into the classroom, the state wanted to provide alternatives and fast tracks that might attract different demographics of candidates, such as older, career-changers and those for whom a graduate university program was cost prohibitive. A number of California State Assembly and Senate Bills during the late 1980s and 1990s were enacted that specifically focused on alternative pathways.

Expanding University-Based Alternative Pathways: SB 1479 (1967) and AB 1161 (1993)

The Teacher Education Internship Act of 1967 (SB 1479, Rodda, Chapter 1010, Statutes of 1967) opened the door for innovative approaches to teacher preparation by authorizing school districts in cooperation with approved public or private colleges or universities to establish teacher education internship programs (SB 1479, 1967). Education Code 44273 authorized the CTC to approve university-based programs that sought new ways to approach teacher

preparation that were nontraditional, experimental, and innovative. In order to be approved, the university had to prove that the proposed alternative program would improve the quality of teacher credentialing. This code set the stage for exploring and pursuing investigational alternative pathways, and as the shortage of teachers expanded through the late 1980s and into the 1990s, a new Assembly Bill was enacted in 1993 to expand on this call. AB 1161 (Quackenbush, Chapter 1147, Statutes of 1993) required the CTC to solicit and review proposals to create or expand alternative pathways to credentialing and provide incentive grants to public educational entities seeking to provide alternative credentialing programs for interns (AB 1161, 1993). In that and the following year, the Budget Acts of 1993-1994 and 1994-1995 both included line items that dedicated \$2 million to support the continued expansion of alternative pathways. Only districts and county offices of education were permitted to apply for the grants though they were allowed to work in partnership with universities if they so desired (Fitch & Tierney, 2011).

District Intern Programs: SB 813 (1983) and AB 1782 (1987)

While SB 1479 (1967), more commonly known as the Teacher Education Internship Act of 1967, created a pathway for universities to establish alternative internship programs wherein candidates could teach as they completed required coursework, SB 813, the *Hughes-Hart Education Reform Act* (Hughes-Hart, Chapter 498, Statutes of 1983), gave school districts the authorization to develop and offer district intern programs. By 1987, AB 1782 (Hughes, Chapter 1468, Statutes of 1987) expanded the *Hughes-Hart Education Reform Act* from focusing exclusively on secondary content areas to include elementary and bilingual education, and its name was officially changed to the District Intern Program. In giving districts the direct authority

to recommend candidates for teaching credentials, the need for candidates to earn a credential through an approved university-based program disappeared (California Assembly Committee on Education, 1987; Fitch & Tierney, 2011; McKibbin, 1988).

The District Intern Program had three specific goals. Its first intended purpose was to allow school districts the immediate ability to respond to their staffing needs and directly address the growing shortage through preparing intern candidates themselves. Its second goal was to allow districts to more directly address their needs, specifically as they pertained to serving low-income, urban and rural populations. The last goal was to attract a diversified body of candidates who may not otherwise have entered the profession, either due to economic inability or because they were more mature, career-changing adults who were unable to stop working to pursue a new degree (CTC, 1996, 2000c; Creeggan & Noelting, 2009; Fitch & Tierney, 2011).

Special Education District Intern Program: SB 1657 (1994)

In 1994, SB 1657 (Hughes, Chapter 673, Statutes of 1994) authorized the CTC to begin issuing district intern certificates in the area of special education to address the shortage of teachers serving students with mild and moderate disabilities. The program was developed as a pilot project in the Los Angeles Unified School District (LAUSD). The program was required to meet CTC criteria and commission guidelines (California Assembly Committee on Education, 1994). Part E of Section 1 of the enacted bill specified that the pilot would address the shortage of special education teachers and serve as a model to other districts of other means of recruiting, preparing, and retaining special education teachers (SB 1657, 1994).

Interestingly, in conducting research for this study and reviewing all California State Assembly and Senate bills proposed for each year, a similar bill was found that had been

proposed in the same year by Hughes, the same author as SB 1657. SB 181 (Hughes, 1993) sought to expand the authority of the CTC in order to allow them to issue district intern certificates for the instruction of students with mild and moderate disabilities. The main apparent difference between SB 181 and SB 1657 was that SB 181 applied to the state as a whole, whereas SB 1657 was specifically a pilot program in LAUSD. SB 181 passed the California State Senate but was vetoed by then-Governor Pete Wilson (California Assembly Committee on Education, 1994). In reviewing Governor Wilson's letter to the California State Senate regarding his veto, he listed his concerns with expanding credentialing options in special education on such a scale and the bill's proposed requirement for the teachers' union to render an opinion about the district's need for a district intern program for special education credentials. He felt the required involvement of the teacher's union would be contradictory to the intent of having a district-designed and funded alternative credentialing program (Wilson, 1993).

Emergency Permits and Credential Waivers: SB 322 (1994)

Some version of emergency permits to teach have always existed in California, as there have always been instances where a credentialed teacher was not available. It may have been because the school was located in a remote, rural area or a low-income, urban one that was hard to staff. There may have been a widespread shortage of teachers across the state or a concentrated shortage within a specific content area or specialization, such as special education, math, science, or bilingual education. Prior to the establishment of the CTC in 1970, the California State Department of Education issued Provisional Credentials to those who had not completed teacher preparation but who met minimum qualifications. The CTC was formed as part of the Teacher Preparation and Licensing Act of 1970. Another component of the act

authorized the CTC to issue emergency credentials that required at least 90 semester units of college work, which was an increase from the 60 units that had been required for provisional credentials before that. Emergency permits continued to develop and evolve through the years, until 1994 when SB 322 (Morgan, Chapter 378, Statutes of 1994) removed the word “credential” and changed the name to “emergency permit,” which would remain until 2005. In addition to the name change, the requirements at this point included the completion of a baccalaureate degree, successfully passing the CBEST and CSET, and obtaining a Certificate of Clearance (CTC, 2002a).

By 1994, an employer who was unable to find qualified, credentialed teachers could apply to the CTC for an emergency permit or credential waiver. The district or county office of education had to file a Declaration of Need for Fully Qualified Educators on an annual basis in order to hire teachers on an emergency permit. Districts were required to offer an orientation program prior to beginning instruction, focusing on instructional technique, methodology, and classroom management. They also had to assign a certificated mentor who had taught for at least three years, who would support and guide the emergency-permitted teacher (CTC, 2002a; SB 322, 1994).

In 1994, there were 11 different types of emergency permits, including ones for multiple subject, single subject, multiple and single subject with a CLAD or BCLAD emphasis, education specialist, and resource specialist. Most emergency permits were issued to people who had completed part of a credential program, and they were required to be enrolled in the program while teaching. In order to extend the permit another year, at least six units of graduate credentialing coursework had to have been completed. Others were fully credentialed but were

now seeking a waiver to allow them to teach in an area in which they were not licensed, such as math or special education (CTC, 2000c, 2002a).

In situations where there were no applicants who qualified for a position even through an emergency permit, the district had to provide proof that it had made every attempt to fill the position with a credentialed teacher, and then it would be granted a credential waiver. There were two types of waivers, short- and variable-term waivers. Short-term waivers were meant as temporary coverage in unanticipated and immediate situations, such as a sudden, longer illness. In such a case, a credentialed teacher in another content area could be granted a short-term waiver to teach for no more than one term. Variable-term waivers were valid for one year at a time, and holders of these waivers had to enroll in a teacher preparation program (CTC, 2000b, 2002a). In situations where someone qualifying for an emergency permit or a waiver was not available, schools were allowed to hire substitute teachers for up to 30 days at a time under the 30-Day Substitute license (CTC, 2000c).

Pre-Intern Programs: AB 351 (1997)

AB 351 (Scott, Chapter 934, Statutes of 1997) called for the establishment of a program that sought to provide emergency permit holders “early, focused, and intensive preparation in the subject matter that they are assigned to teach and development in classroom management, pupil discipline, and basic instruction methodologies” (AB 351, 1997). The bill focused primarily on supporting elementary teachers with emergency permits and specified that if funds allowed, they would be used toward supporting single-subject teachers with emergency permits. As outlined in the bill text itself, there were 100,000 elementary teachers in the state in the 1995-1996 academic year. Of these, 1,100 were enrolled in intern programs, so they were receiving comprehensive

support through the program. In addition to the interns, there were 6,400 elementary teachers working with emergency permits with little prior experience or preparation, and they received much less support than interns. The bill went on to project that due to the Class Size Reduction program in 1996, the number of elementary teachers with emergency permits was expected to reach 8,000 in the 1997-1998 academic year (AB, 351, Section 1.1-4, 1997). With all of this in mind, AB 351 would establish a pre-intern teaching program to hopefully replace emergency permits so that teachers would be better supported and stay in the classroom the following year. The bill also provided funding for the program contingent on appropriation in the annual Budget Act (AB 351, 1997; CTC 2001a).

Training for Emergency Hires: SB 321 (2001)

In 2001, LAUSD, the largest district in the state and the second largest in the country, sought to create a 30-day pilot training program for emergency hires. SB 321 (Alarcon, Chapter 576, Statutes of 2001) authorized the district to develop a program for teachers that it hired on an emergency basis who would be assigned to schools that had 20% or more of its teachers on emergency permits (California Assembly Committee on Education, 2001; CTC 2001a).

California Preliminary (CAP) Single-Subject Credential: AB 1242 (1999)

In 1999, at the height of the teacher shortage in California, AB 1242 (Lempert, Chapter 737, Statutes of 1999) was enacted in order to create another pathway for the credentialing of single-subject teachers, similar to eminence credentials of the past, which were awarded to those who demonstrated knowledge and expertise in a particular area of study (California Assembly Committee on Education, 1999). The bill was a temporary pathway set to expire by January 1, 2005, written specifically to address the shortage. Upon recommendation by a school governing

board, the CTC would issue a California Preliminary Credential to any applicant who could demonstrate subject matter expertise according to specified guidelines that were established by the bill. The minimum requirements were possession of a post-baccalaureate or graduate degree in a hard-to-staff, specified subject. Additionally, the applicant must have worked for five or more years in the field for which the degree was awarded. Lastly, basic skills proficiency as well as the minimum requirements for credentialing, such as Certificate of Clearance, were necessary (AB 1242, 1999).

Districts who hired California Preliminary Credentialed teachers were required to enroll the candidate in a minimum of 40 hours of preservice training in lesson preparation, classroom management, assessment, literacy development, and instructional strategies for English learners, as well as equity, access, and diversity training. The 40 hours were to be completed before instruction in the classroom began. In addition to the 40 preservice hours, an individual program was designed for each candidate that included 150 hours of professional development in the areas listed above (AB 1242, 1999).

The initial California Preliminary Credential was valid for a period of two years. During the two years, the candidate was required to complete the preservice training as well as the professional development program. In order to renew the credential for another two years and to clear the credential and be issued a Professional Clear Credential, candidates had to be enrolled in and complete a two-year induction program and demonstrate teaching competence by successfully passing the Teaching Performance Assessment (TPA), as required for a credential (AB 1242, 1999).

Policies to Improve Recruitment Efforts

Creating multiple pathways to credentialing, most of which were expedited, fast-track paths that allowed teachers to begin almost immediately, was a major part of the policy effort in confronting teacher shortage. As has been discussed earlier, credentialing was not the only reason for shortage, nor was it the only way to address it. While some alternative pathways did help recruit people who may otherwise not have entered the profession, the focus in the previous section was specifically on those credentialing programs. This section explores the many ways in which policymakers sought to improve recruitment efforts.

Recruiting Paraprofessionals: SB 1636 (1990) and SB 862 (1991)

In 1990 and 1991, two senate bills were enacted in a further attempt to address the growing teacher shortage. SB 1636 (Roberti, Chapter 1441, Statutes of 1990) established the California Paraprofessional Teacher Training Program (PTTP), which sought to create career ladders for paraprofessionals and instructional aides who were already employed by school districts. SB 862 (Roberti, Chapter 1220, Statutes of 1991) strengthened SB 1636 by expanding the criteria that the CTC used to select local agencies to participate in PTTP programs, as well as shifting the focus of the program to the recruitment of paraprofessionals who specialized in bilingual and special education (CTC, 2001b). The bill additionally set forth stipulations and language on the requirement that participating paraeducators who failed to meet their obligation to teach in the classroom must repay the financial support that they had received (California Assembly Committee on Education, 1992; CTC, 2000c; Fitch & Tierney, 2011; SB 1636, 1990; SB 1636, 1991). In 1994, the legislature again declared its intent to continue funding the PTTP

program by enacting AB 2112 (Solis, Chapter 255, Statutes of 1994) (California Assembly Committee on Education, 1994; CTC, 2000c).

In the PTTP, paraeducators, such as instructional assistants and aides, were supported through the Career Ladder program of the local education agency through which they were employed. The Career Ladder programs would begin with attainment of the bachelor's degree if one had not been earned yet, which was required for any type of credential, then continue on to support candidates as they completed a teacher preparation program. The program provided financial assistance for tuition, fees, textbooks, and other necessary expenses as long as the participant was working full-time for the local education agency (CTC, 2001a; Fitch & Tierney, 2011). Funding for the PTTP continued as the legislature declared its intent to provide funding to the CTC through further legislation such as AB 2112 (Solis, Chapter 255, Statutes of 1994). It authorized the funding for the CTC to provide grants to districts that supported paraprofessionals in completing their degree and credential programs (AB 2112, 1994; California Assembly Committee on Education, 1994).

Troops to Teachers

Although the focus of this chapter is primarily on state policy enactments, certain programs initiated and run at the federal level did involve state participation. One such program was the Troops to Teachers (TTT) program, which was started in 1993. It sought to support transitioning veterans and service members who were interested in entering the field of education as K-12 teachers. The program was jointly managed and funded by the U.S. Department of Defense and the U.S. Department of Education. Starting in 2013 as a result of the National Defense Authorization Act, the program was moved to the offices of the Defense Activity for

Non-Traditional Education Support. The program was created with a few goals, including the hope to reduce veteran unemployment, increase the number of male and minority teachers, and address teacher shortages across the country, especially in hard-to-staff areas such as special education, math, science, foreign languages, and career technologies. Members had to apply within three years of retirement from active or reserve duty (CTC 2001a; Troops to Teachers [TTT], 2018).

Established at the federal level, the TTT program relied on individual states to run and manage it. There were 31 participating states who received federal funding to help counsel and assist veterans in making the transition from the military to the classroom. The counseling was specific to the state's guidelines for teacher preparation, helping veterans navigate the process of earning their credential. After they had successfully completed credentialing, the TTT program additionally offered assistance through the state office in securing job placements. Participants were eligible for up to \$10,000 in the form of a stipend and/or bonus in exchange for a three-year commitment. Stipends were up to \$5,000 to help with tuition and teacher education program-related costs, yet the bonus could be as much as \$10,000 as an additional incentive to teach in eligible low-performing or hard-to-staff schools. Applicants could be eligible for both, but the total amount could not exceed \$10,000, and eligibility did not extend to those who were already eligible for or receiving the Post-9/11 GI Bill (Bank, 2007; CTC 2001a; TTT, 2018).

Even though the TTT program was a federal one, California was one of the 31 states participating in it since its inception. In preparation for the federal funding, AB 1303 (Lempert, Chapter 1142, Statutes of 1992) focused specifically on recruiting retired military personnel. It appropriated \$50,000 for the CTC to establish and operate a resource center to encourage and

assist retired military personnel in becoming teachers (California Assembly Committee on Education, 1992).

Cal Teach: SB 824 (1997)

The California Center on Teaching Careers (CalTeach) was authorized by SB 824 (Green, Chapter 864, Statutes of 1997) with a single focus of recruiting more people to the teaching profession. The legislation specifically charged the program with six tasks: (a) to develop and distribute public service announcements across the state; (b) to develop and distribute recruitment publications; (c) to provide information on the credentialing process, including all requirements, to prospective applicants; (d) to provide application and enrollment information into both traditional and alternative programs; (e) to create and expand a database for teachers seeking employment; and (f) to develop and conduct outreach activities with high school and undergraduate college students. In the beginning, the program was run out of California State University campuses, Sacramento in the north and Long Beach in the south. In 2000, a third outreach office was opened on the campus of California State University Fresno. At its height, the program employed 16 people, which included five student workers. As funding decreased, the Long Beach center was consolidated into the Sacramento campus, and by 2002, the center employed only eight people. The original legislation intended for the program to run for 10 years and sunset by January 1, 2008 unless new legislation was enacted. In 2005, authorization for continued funding was awarded through SB 65 (Education Finance, Chapter 491, Statutes of 2005), and the recruitment program was able to continue (CTC, 2003b; SB 65, 2005).

Reciprocity for Out-of-State Teachers: AB 877 (2000)

AB 877 (Scott, Chapter 703, Statutes of 2000) made the application process easier for teachers who were prepared in a state other than California. The bill was authored by Assemblyman Jack Scott with the intent of making it easier and less expensive to recruit teachers from out of state. Teachers who had earned their credential outside of California were permitted to apply directly to the CTC if they had met its requirements for credentialing. In many cases, the requirements differed from state to state though, and due to the teacher shortage and the need to expand recruiting areas, AB 877 was written to make the process smoother and extend the time from three to five years that out-of-state teachers had to complete the requirements while teaching, also granting equivalency if the preparation received outside of the state could be shown to be comparable. In order to be issued permission to begin teaching, the out-of-state teacher had only to pass the CBEST and receive their Certificate of Clearance through submission of their fingerprints to the CTC. The remainder of the requirements would be evaluated and could be met once teaching (CTC, 2000c; Darling-Hammond, LaFors & Snyder, 2001).

Private School Experience Waiver: SB 57

In 2001, SB 57 (Scott, Chapter 269, Statutes of 2001) was signed by the Governor, giving the CTC the authority to waive course and clinical requirements of teacher education for teachers who had taught in Western Association of Schools and Colleges (WASC)-accredited private schools (CTC, 2001a). The bill had two provisions, the first of which applied to private school teachers who had taught for a minimum of six years, and the other for those who had taught less than six years but more than three. For those who had taught for more than six years, the bill

allowed them to apply to the CTC to have their years of experience be considered in lieu of completion of a teacher preparation program. The requirements for receiving the waiver included proof of years completed on letterhead and that two years of rigorous performance evaluations be submitted, including notations on effectiveness in a list of six specific areas. For private school teachers from out of state, the school they had taught at must have been a regionally accredited school. If a private school teacher met these requirements, the coursework and clinical practice of a teacher preparation program were waived. For those who had taught between three and six years, only the clinical practice portion was waived. Applicants still had to meet additional credential requirements, such as passing the CBEST and the RICA, obtaining the Certificate of Clearance, demonstrating health and technology education and U.S. Constitution competencies, and submitting verification of subject matter competence (California Assembly Committee on Education, 2001; CTC, 2001a, 2001c).

Community Colleges: AB 1241 (2001)

In 2001, the California Legislature declared that there was still a significant teacher shortage in the state and added that this shortage was exacerbated by the lack of minority teacher candidates. They estimated that there would be a shortfall between 260,000 and 300,000 teachers in the coming decade (AB 1241, 2001). Based on this information, AB 1241 (Pacheco, Chapters 714, Statutes of 2001) was enacted in order to establish a pipeline through community colleges that would create a larger pool of future teachers. The legislature asked that the Chancellor of the California Community Colleges work together with the Chancellor of the California State University system, the President of the University of California, and the Association of Independent California Colleges and Universities to investigate the creation of a teacher

preparation curriculum to be made available at the community college level with the intent of transfer to the university for completion. The intent of the legislation was that if found feasible, implementation of the program would begin in the 2004-2005 academic year (AB 1241, 2001).

Financial Assistance

Financial aid and assistance had long been an area for discussion among policymakers in considering ways to recruit and retain candidates into fields experiencing shortage, including the military, health professions, law, law enforcement, and education (Arfin, 1986; Steele, Murname & Willett, 2010). Financial assistance existed in quite a few forms, including scholarships and grants that were not paid back, loan forgiveness programs wherein portions of qualifying student loans were forgiven in exchange for work in specific high-need fields and areas, signing and retention bonuses, and housing assistance. These forms of assistance were predominantly paid through public funds in an effort to address shortage areas within public service professions. Examples from outside of teaching included loan forgiveness programs and supplemental scholarships for law students who committed to practicing law within the public-interest sector, such as positions as public defenders and legal aid providers for low-income populations. In medicine, most states offered tuition incentives for doctors who planned to work in rural, remote, and low-income communities that experienced difficulty in recruiting and retaining qualified practitioners (Steele et al., 2010).

In 1983, the National Commission on Excellence in Education made a set of recommendations in its report, *A Nation at Risk*, including that “incentives, such as grants and loans should be made available to attract outstanding students to the teaching profession, particularly in those areas of critical shortage” (NCEE, 1983, p.77). The approach was not a new

one at the time, as it had been used to address a national teacher shortage during the Baby Boom era. Title II of the 1958 National Defense Education Act allowed specific student loans awarded through the National Defense Student Loan program to be partially forgiven in exchange for teaching in specific, qualifying public schools. In this program, 10% of the loan was forgiven for every year that the teacher taught, up to a maximum 50% forgiveness (Arfin, 1986).

Loan forgiveness: Federal programs. At the federal level, many loan forgiveness programs had been introduced to attract teachers into the field. Federal Stafford loans qualified for loan forgiveness, as did Perkins loans. At varying times, depending on the needs of the field, the U.S. Congress acted to increase the amount eligible for forgiveness, especially for teachers who committed to teach in low-income and hard-to-staff schools, as well as in high-need areas such as math, science, and special education (Steele et al., 2010). Although federal programs existed throughout California's last teacher shortage, the focus of this chapter is on policies enacted within California to address the policy actions of the state in particular.

Loan forgiveness: Assumption Program of Loans for Education—SB 813 (1983). In 1983, California policymakers turned to the concept of loan forgiveness, building it into SB 813, the *Hughes-Hart Education Reform Act* (Hughes-Hart, Chapter 498, 1983). In addition to many other provisions, including the reform of the District Intern program discussed earlier, another section of the bill established the Assumption Program of Loans for Education (APLE) in order to both recruit and retain qualified candidates into the field of teaching. The bill became law in Education Code Sections 69612 to 69616 (Arfin, 1986; California Student Aid Commission [CSAC], 2007; Steele et al., 2010). Through the APLE program, student loans were forgiven on an annual basis after a year of teaching in a qualified school was completed. The exact amount

forgiven depended on the year and the teaching position, but the total amount forgiven ranged between \$11,000 - \$19,000. At the base level, a general participant was forgiven \$2,000 in the first year and \$3,000 each year thereafter through the fourth year, totaling \$11,000. As can be seen in Table 5, applicants who taught in annually identified shortage areas such as math, science, and special education earned an additional \$1,000 per year, totaling \$15,000 after four successive years. Lastly, teachers in high-need content areas, who also taught in the bottom 20% of low-performing schools received another \$1000, totaling \$19,000 in loan forgiveness, which was the maximum amount possible in the program (CSAC, 2007).

Table 5

Assumption Program of Loans for Education Program Benefits

Year Completed	General Bonus	High-Need Content Area Teachers		High-Need Content Area Teachers in Low-Performing Schools	
		Additional Bonus	Total	Additional Bonus	Total
First year	\$2,000	\$1,000	\$3,000	\$1,000	\$4,000
Second year	\$3,000	\$1,000	\$4,000	\$1,000	\$5,000
Third year	\$3,000	\$1,000	\$4,000	\$1,000	\$5,000
Fourth year	\$3,000	\$1,000	\$4,000	\$1,000	\$5,000
Total	\$11,000		\$15,000		\$19,000

Note. High-need content areas included math, science, and special education. Low-performing schools were defined as ones in the bottom 20%. Adapted from *2006-2007 Assumption Program of Loans for Education (APLE) Report to the Legislature*, by California Student Aid Commission [CSAC], 2007. Copyright 2007 by CSAC.

The APLE program was administered through the California Student Aid Commission (CSAC) with the intent “to address California’s growing shortage of quality classroom teachers in specific subject areas, such as math or science; teachers of children with special needs; and

teachers for schools serving children from low-income families” (CSAC, 2006, p. 1). The California Superintendent of Public Instruction was given the responsibility of providing an annual report to CSAC to aid in allocations for the year, including lists of subjects with critical shortage, designated low-income schools, schools with high percentages of emergency permit holders, schools serving rural communities, and designated low-performing schools (CSAC, 2006).

After its initial enactment in 1983, the program focused on attracting credentialed teachers into specific high-need subjects and areas. In 1985, SB 1208 (Hart, Chapter 1483, Statutes of 1985) revised the initial program to focus more specifically on current candidates enrolled in licensure programs who indicated a commitment to serving in areas of critical shortage as well as serving low-income populations. Applicants to the APLE program were required to meet specific eligibility requirements, which included being enrolled in an approved teacher preparation program through a university or intern program. The applicant must also have been awarded an educational loan that had been approved by CSAC and intended to pay for the cost of an initial teaching credential program (California Assembly Committee on Education, 1986; CSAC, 2006).

Participating programs and institutions were allocated limited numbers of APLE applications, which were dependent on the number of credentials that the program had recommended to the CTC in the prior academic year. The application and selection process began by teacher education candidates submitting an application to their institution’s APLE Coordinator. The institutions selected the most qualified applicants based on a variety of criteria determined locally, including grade point average, faculty recommendations, interviews,

volunteer work experience, essays, test scores, and extracurricular activities. Starting in 1998, 500 of the allotments were earmarked for District Intern programs, and another 500 were designated for out-of-state applicants. The remainder in any year's allotment were distributed among the state's 89 approved public and private colleges and universities (CSAC, 2007).

Assumption Program of Loans for Education expansion: Rural areas—AB 31 (1999).

As discussed in the previous section, revisions and additions to the APLE program occurred on a regular basis over the years since its inception. AB 31 (Reyes, Chapter 650, Statutes of 1999) was another such revision, expanding the APLE program in the following year to provide loan assumptions to candidates who agreed to teach in rural areas, as the earlier APLE designations included only urban areas (AB 31, 1999; California Assembly Committee on Education, 1999).

Assumption Program of Loans for Education expansion: Emergency permit concentration—SB 131 (1999). Another revision to the APLE program was SB 131 (Baca, Chapter 651, Statutes of 1999), which expanded the APLE program to forgive the student loans of those who taught in schools that employed a high percentage of teachers using emergency permits (AB 131, 1999; Assembly Committee on Education, 1999). If candidates committed to teaching in a school that met this classification, they would qualify for participation as long as they met all other requirements and were accepted to the program.

Assumption Program of Loans for Education revision: Exclusion of multiple subject teachers—AB 899 (2000). By 2000, the shortage was becoming less dire in elementary and other self-contained classrooms, which prompted the legislature to enact AB 899 (Alquist, Chapter 371, Statutes of 2000). As discussed in the previous section outlining the APLE program, the Superintendent of Public Instruction submitted an annual report containing lists of shortage

areas. AB 899 instructed the State Department of Education to exclude self-contained and multiple subject teachers from the teaching shortage area lists. The intent was to more directly address shortages in middle school math and science areas (AB 899, 2000; California Assembly Committee on Education, 2000).

Cal Grant T—SB 1644 (2000). In 2000, the Cal Grant program, which originated in the State Scholarship Subsistence Act of 1967, was expanded to create a tiered approach to financial aid based on need. The new program was enacted through Senate Bill 1644 (Ortiz-Pacheco-Poochigian-Vasconcellos, Chapter 403, Statutes of 2000). Whereas the main focus of the new bill was on Cal Grants A and B, there was a smaller grant added called the Cal Grant T, the intent of which was to help post-baccalaureate candidates earn their teaching credential. Cal Grant T provided financial assistance to low- and middle-income candidates who were enrolled in accredited teacher preparation programs. The awards ranged from \$1,506 to \$9,708, and in return for the award, recipients had to teach in a low-performing school for one year for every \$2,000 received (CSAC, 2003b).

Recruitment of retirees and financial incentives—SB 1666 (2000). In 1999, Governor Gray Davis made clear in his budget discussions that creating incentives to recruit and retain qualified teachers was imperative. Senator Alarcon introduced SB 1666 (Alarcon, Chapter 70, Statutes of 2000), which included a wide range of Governor Gray's teacher quality initiatives, amending existing education codes to provide new and more attractive incentives to recruit teachers (California State Teacher's Retirement System, 2000; CTC, 2000c; SB 1666, 2000). One of the sections of SB 1666 focused specifically on retired teachers. In the 1999-2000 school year, current law allowed retired teachers to earn a maximum amount of \$19,050 per year and

still receive retirement income through the California State Teacher's Retirement System. The amount of allowed earnings would be indexed each year according to the All-Urban California Consumer Price Index. In the following year, 2000-2001, the limit on earnings increased to \$19,650. In order to attract retired teachers to fill teaching and support position vacancies, Governor Gray included designated funding in the budget, and the bill enacted the suspension of the annual earning limit for five years. This allowed retirees to return to work for a maximum of five years and earn a full salary in addition to their retirement income. In order to avoid having currently retirement-eligible teachers from retiring and collecting both a full salary and retirement income, the bill specified that the teacher must have retired from service prior to 2000 and not for disability-related purposes (California State Teacher's Retirement System, 2000).

Connected to AB 1666's incentive to recruit retired teachers back into the workforce, AB 335 (Mazzoni, Chapter 40, Statutes of 1999) had similarly focused on retired teachers as a source to fill vacancies. AB 335 authorized retired teachers to continue earning their retirement benefits while concurrently earning a salary as an active classroom teacher. This particular bill focused on elementary teachers returning to fill the shortage caused in K-3 classrooms due to the 1996 Class Size Reduction initiative (AB 335, 1999; California Assembly Committee on Education, 1999).

Teaching as priority block grant—SB 1666 (2000). In addition to eliminating the cap on earnings for retired teachers who returned to teaching or mentoring new teachers to stem the shortage, SB 1666 addressed a number of other issues as well. It created a Teaching as Priority Block Grant, which gave low-performing schools that ranked in the bottom half of the Academic Performance Index additional funding per pupil to spend on recruiting and retention incentives. It

increased the amount given to districts running intern programs from \$1,500 to \$2,500 per year. It created an additional incentive payment to teachers who earned National Boards certification. Previously, they had received a \$10,000 bonus, but now they were given an additional \$20,000 if they agreed to work in low-performing schools for at least four years. It increased the number of APLE loans available from 5,500 to 6,500 as described earlier (California Assembly Committee on Education, 2000; SB 1666, 2000). The block grant also authorized the establishment of the Teacher Recruitment Incentive Program, which funded six regional recruitment centers, working similarly to the Cal Teach recruitment center (Loeb & Miller, 2006).

Governor's Teaching Fellowship (GTF)—SB 1666. Another designation of the funds authorized by SB 1666 were for a new grant intended to increase recruitment. Beginning in the 2000-2001 academic year, the state of California introduced a new approach to attracting highly qualified, academically talented pre-service teachers into high-need and low-performing schools. A Governor's Teaching Fellowship was made available through SB 1666, and candidates who were completing a post-baccalaureate, university-based credential program were eligible to apply though the program was merit-based and highly competitive. If selected, prospective teacher candidates would receive a scholarship of \$20,000 in a one-time payment to be used toward their education costs in exchange for teaching in an identified low-performing school for at least four years. Candidates who left their positions early were required to repay \$5,000 per year for each year that they did not complete (California Assembly Committee on Education, 2000; Carver-Thomas & Darling-Hammond, 2017a; SB 1666, 2000; Steele et al., 2010).

Raising salaries—SB 1643 (2000). As discussed in Chapter 2, the gap in wages between teaching and other fields requiring comparable levels of education has continued to widen. In

1998, the average gap was \$24,648, and by 2017, teachers in the United States were found to be making less than 60% of what other professions with similar educational requirements earned (Allegretto & Mishel, 2016; OECD, 2017). In California, teachers made between 15% to 30% less than graduates in other fields (Darling-Hammond et al., 2016). Another study found that in terms of retention, the majority of teachers leaving the field would not have considered a 10% pay raise a sufficient incentive to stay, and two out of three agreed that even a 20% pay raise would not have kept them in the classroom. However, the report found that salary was a significant factor in *attracting* new teachers and that low, non-competitive salaries contributed to decisions to leave the field consistently (Kirby & Grissmer, 1993).

Increasing salaries can be seen as an effort to increase retention or to incentivize recruitment efforts. Teacher salaries have always been a point of contention, and a focus on raising salaries has often been considered by policymakers during shortage. Linda Darling-Hammond wrote an op-ed in the *Sacramento Bee* in May 2018 in which she recalled the last shortage and argued that the state of crisis in the labor market of the 1980s was ultimately rebalanced through policy, wherein policymakers raised the average salary of teachers nearly 100% between 1980 and 1990 (Darling-Hammond, 2018). During the last shortage, a number of bills were proposed in order to address the low salaries of teachers. SB 1643 (O'Connell, Chapter 69, Statutes of 2000) increased the minimum teacher salary to \$34,000, which took effect immediately, as an urgency measure (AB 1643, 2000; California Assembly Committee on Legislation, 2000). Section 1 specifically argued that raising the minimum salary was necessary to place the teaching profession in a position where it would be able to effectively compete with other professions for talented individuals who might consider

teaching, but who are attracted to other higher paying professions that require similar years of postsecondary education and preservice experience. (Section 1.b)

SB 1643 established a funding incentive to reimburse districts for the cost involved in raising salaries for fully credentialed teachers. The Budget Act of 2000 included \$55 million to fund the raise (California Assembly Committee on Legislation, 2000).

Before SB 1643, a series of other bills were enacted and then amended, starting with AB 1087 (Calderon, Chapter 405, Statutes of 2000), which was a revision of O’Connell’s earlier bill calling for a \$32,000 minimum salary for beginning teachers. AB 1087 specified how incentive funding may continue to be received by school districts and county offices of education in future years by including the incentive in district revenue limit funding (AB 1087, 2000; California Assembly Committee on Legislation, 2000). Another bill proposed by Calderon was AB 1117 (Calderon, Chapter 53, Statutes of 1999), which provided \$50 million as incentive funding for school districts to increase the minimum salary to \$32,000 (AB 1117, 1999). All of these bills were connected, and they focused on increasing recruitment and retention efforts. While \$32,000 had initially been approved as the minimum, O’Connell was able to raise this to \$34,000 with the final enactment of SB 1643 (California Assembly Committee on Legislation, 1999, 2000).

Policies to Increase Retention

Much has been written about the importance of focusing on teacher retention when addressing shortage, not only recruitment and credentialing alternatives (Ingersoll & Smith, 2003; NCTAF, 2016; Sutchter et al., 2016a). As was discussed more extensively in Chapter 2, focusing on increasing supply alone will not solve the teacher shortage crisis. Ingersoll and Smith (2003) introduced the notion of the leaking bucket in education, a concept in which the

rate at which teachers leave the profession overwhelms the ability to find replacements. All fields experience natural attrition through retirement, yet these vacancies have generally been able to be filled by new entrants to the field. Shortage and surplus occur when the balance of supply and demand is destabilized and one factor outweighs the others (Ingersoll, 1995, 2001; Ingersoll & Smith, 2003; Sutchter et al., 2016a).

National Center for Education Statistics (NCES) data from the 1990s, based on its Schools and Staffing Survey (SASS), revealed that vacancies due to retirement were in fact very low proportionally to “movers” and “leavers,” teachers who changed schools and teachers who left the field entirely (Ingersoll, 2001; NCES & U.S. Department of Education, 1994). As an example, in the 1993-1994 academic year there were 2,939,659 teachers employed in the United States, and in the subsequent year, there was a turnover of 417,588 teachers. Of these, 204,680 were movers, so they stayed in the field. The more concerning numbers were those who left: 263,150 teachers left the profession, only 50,242 due to retirement. This meant that only 19% of leavers were retirees, or 81% of those leaving did so because they were quitting the profession (Ingersoll, 1995, 2001; NCES & U.S. Department of Education, 1994). Retention is vital to finding the balance between the supply and demand of teachers, which is why policymakers focused quite a bit of attention on ways to reduce attrition and keep teachers in the classroom.

Increasing Retention: Beginning Teacher Support and Assessment—SB 148 (1988) and SB 1422 (1992)

Between 1988 and 1992, a pilot study was conducted called the California New Teacher Project. As was discussed in Chapter 4, the study was authorized as part of SB 148 (Bergeson, Chapter 1355, Statutes of 1988) and conducted as a joint project between the CTC and CDE. The

intent of the study was to increase the retention rates of new teachers, and in the final report published in 1992, the project found that new teachers who participated in an induction program that included intensive mentoring and support were more successful as classroom teachers and less likely to leave teaching within the first five years (Bartell, 1995; CTC, 2015b; Olebe, 2001; Wagner, Ownby, & Gless, 1995). As a result of the recommendations of the New Teacher Project, the legislature enacted SB 1422 (Bergeson, Chapter 1245, Statutes of 1992) in 1992 with the intent of supporting novice teachers as they began their careers as classroom teachers (California Assembly Committee on Education, 1992; CTC, 2010a, 2015b). This was done in response to rising attrition rates in an attempt to increase the retention of beginning teachers.

The Beginning Teacher Support and Assessment (BTSA) program, which was authorized by SB 1422, created a mainstream support program in which experienced teachers were assigned as mentors to novice teachers in their first and second years of teaching. Mentor teachers supported the new teachers in their practice, working through a series of group activities and reflective assessment with the intent of providing an effective transition into teaching. Beginning teachers worked with their mentors to identify areas for growth and development, guided by formative assessment results of the teacher's practice that aligned to the California Standards for the Teaching Profession (CTC, 2010a, 2015b). As established by the Legislature in Education Code 44279.1, BTSA had very specific statutory purposes, outlined as follows:

- provide an effective transition into teaching for first-year and second-year teachers in California;
- improve the education performance of pupils through improved training, information, and assistance for new teachers;

- enable beginning teachers to be effective in teaching pupils who are culturally, linguistically, and academically diverse;
- ensure the professional success and retention of new teachers;
- ensure that a support provider provides intensive individualized support and assistance for each participating beginning teacher;
- improve the rigor and consistency of individual teacher performance assessment results and the usefulness of assessment results to teachers and decision makers;
- establish an effective, coherent system of performance assessments that is based on the *California Standards for the Teaching Profession*, which was adopted by the Commission in 1997;
- examine alternative ways in which the general public and the educational profession may be assured that new teachers who remain in teaching have attained acceptable levels of professional competence;
- ensure that an individual induction plan is in place for each participating new teacher and is based on an ongoing assessment of the development of the beginning teacher; and
- ensure continuous, ongoing program improvement through research, development, and evaluation. (CTC, 2010a)

Teacher Education Reform: SB 2042 (1998)

In 1998 through a combined effort between the CTC, policymakers, and the legislature, a major reform was implemented in teacher education. As was discussed in Chapter 4, changes were made to the requirements and content for preparation, the structure of the credentialing

process, and new standards for teacher preparation were written. SB 2042 (Alpert & Mazzoni, Chapter 548, Statutes of 1998) established multiple pathways to credentialing, including teaching internships and the ability for undergraduate students to complete their licensure at the same time that they were obtaining their bachelor's degree. The landmark bill set the stage for the creation of the Teaching Performance Assessment (TPA), which required all teacher education candidates to demonstrate their novice teaching ability. It also created a two-tiered teaching credential in which the second tier could be completed through the BTSA induction program, which was expanded so that participation was now required in order to clear a preliminary credential. The intent of requiring induction for all new teachers as one way to clear their credential was specifically to increase rates of retention (CTC, 2001b, 2015b).

Once BTSA induction became an official route to clearing a preliminary credential, it became a categorically funded program overseen by the CTC. Even though another route existed in which a new teacher could clear their credential through university coursework, induction became much preferred, and in 2004, AB 2210 (Bergeson, Chapter 343, Statutes of 2004) was enacted to make induction be the primary path for clearing a credential. After passage of AB 2210, the ability to clear a preliminary credential through a university-based program was allowed only if the employer verified that an induction program was not available through the district or local education agency, as was often the case with private and smaller charter schools (CTC, 2015b).

National Board Certificate Incentive Program: AB 858 (1998)

AB 858 (Davis, Chapter 331, Statutes of 1998) established the National Board for Professional Teaching Standards Certification Incentive Program. As the title indicates, it was a

financial incentive for current teachers to pursue rigorous National Board Certification. Teachers who completed the program and earned certification received a one-time, \$10,000 merit award in recognition of their work and dedication to advancing themselves in their field (AB 858, 1998). As discussed earlier, this program was expanded upon through SB 1666 (2000), increasing the funding to include an additional \$20,000 bonus to those committing to teaching in low-performing schools for a minimum of four years.

Teacher Performance Incentives: AB 1114 (1999) and AB 657 (1999)

Policymakers also tried to enact incentives based on teacher performance to encourage motivation and high-level performance. AB 1114 (Steinberg, Chapter 52, Statutes of 1999) provided \$50 million to be spent in giving teachers in low-performing schools who were able to demonstrate substantial annual improvement in student achievement a one-time bonus (AB 1114, 1999; California Assembly Committee on Legislation, 1999). AB 657 (Strickland, Chapter 3.51, Statutes of 1999) similarly proposed salary incentives for teachers, but the bill died in the California State Assembly after a year of hearings and deliberations. The intent of the bill was to establish a pilot program in which the efficacy of providing annual salary incentives to teachers who were able to demonstrate a high level of self-improvement and continuous high performance. The pilot program was designed to include up to eight districts in which all teachers were to be eligible to receive the award when demonstrating student improvement based on criterion-referenced assessments. The maximum award was \$10,000, and each district would be allotted one \$10,000 award per 100 teachers. The bill died in assembly due to opposition from both the California Federation of Teachers and the California Teachers Association on the basis

of their opposition to merit pay (AB 657, Bill Analysis, 1999; California Assembly Committee on Legislation, 1999).

Housing Subsidies and Loan Programs: AB 2060 (2000)

Another policy approach to help attract and retain teachers was the introduction of housing incentives that would help subsidize the purchasing of a home. As property values and the cost of living continued to increase in California, most teachers were unable to afford the cost of owning their own home. California had long been more expensive than any other state, and by 1970, that gap had gotten wider. Between 1970 and 1980, the price of owning a home in California went from 30% above the national level to more than 80% higher (Alamo & Uhler, 2015). AB 2060 (Steinberg, Chapter 331, Statutes of 2000) established the Extra Credit Teacher Home Purchase Program. This program provided another avenue to recruit and retain qualified teachers by offering home-buying assistance in the form of reduced-rate mortgages to teachers and principals who agreed to work in low-performing schools, in urban areas where housing costs tended to be higher, or rural communities where schools had a greater difficulty filling teacher vacancies. The program was funded for \$150 million to be used over four years (AB 2060, 2000; California Assembly Committee on Legislation, 2000). The state treasurer at the time, Philip Angelides, announced that the program helped the state to address two critical needs through one program: to “provide meaningful incentives for qualified teachers to take on the challenges of teaching where the need is greatest, and the need to increase homeownership opportunities for an important segment of California’s working population that is finding itself increasingly priced out of the State’s housing market” (Angelides, 2001, para. 3).

Other bills related to housing incentives were proposed, but most were not enacted. AB 2070 (Shelley, 2000) was proposed as the Homebuyer Assistance Program, which would have been administered by the California Housing Finance Agency to provide home loan assistance in the form of down payment stipends ranging from \$10,000 to \$20,000 for teachers employed in low-performing schools. AB 2070 failed to pass Senate after 11 months of deliberation with the reason given that AB 2060, which was similar in intent, had already been enacted (AB 2070, 2000; California Assembly Committee on Legislation, 2000).

Tax Credit: AB 2879 (2000)

California also began to offer annual state income tax credits ranging from \$250 to \$1,500 to practicing credentialed teachers with at least four years of experience. AB 2879 (Jackson, Chapter 75, Statutes of 2000) allowed a tax credit for each taxable year beginning on or after January 1, 2000 to credentialed teachers in an amount equal to specified amounts depending upon years of service as a teacher. As detailed in the text of the enacted policy, the intent was to “encourage teachers to remain in the profession by providing a combination of tax and retirement benefits” (AB 2879, 2000), based on the statistic that “roughly “50 percent of teachers leave the profession by the fifth year of teaching” (AB 2879, 2000).

Conclusion

The Legislative Summaries were of great value as a tool to ensure that no bills had been missed. While other bills that pertained to education existed each year, only the ones included in this chapter addressed credentialing, teacher recruitment, or retention. The bills that are discussed in this chapter were the result of this extensive search. Table 6 presents a summary of the policies that are discussed in this chapter, including a brief identifying description and

categorization. In listing each bill and reviewing its purpose, three main categories were identified through which teacher shortage was addressed: alternative pathways, recruiting, and retention. Additionally, recruiting and retention were given a financial subcategory.

Table 6

Categorized Legislative Summary

Bill Number	Year	Description	Alternative Pathways	Recruiting General	Recruiting Financial	Retention General	Retention Financial
SB 1479	1967	<i>Teacher Education Internship Act</i> —IHE can create intern pathways	x				
SB 813	1983	<i>Hughes-Hart Education Reform Act</i> —District Intern programs for SS & introduced APLE program	x		x		
SB 1208	1985	Revision of APLE to focus on current candidates			x		
AB 1782	1987	Expanded SB 813. Added MS and Bilingual intern programs	x				
SB 148	1988	California New Teacher Project (precursor to BTSA)				x	
SB 1636	1990	Paraprofessionals—Career Ladder		x			
SB 862	1991	Paraprofessionals—Career Ladder		x			
AB 1303	1992	Funding to support retired military transition to teaching		x			
SB 1422	1992	BTSA				x	
AB 1161	1993	Expanding alternative/intern pathways	x				
AB 2112	1994	Paraprofessionals—continued funding		x			

Bill Number	Year	Description	Alternative Pathways	Recruiting General	Recruiting Financial	Retention General	Retention Financial
SB 322	1994	Change Emergency credential to permit. Added CBEST, subject matter, COC requirement	x				
SB 1657	1994	SPED District Intern programs	x				
SB 1777	1996	Class size reduction					
AB 351	1997	Pre-intern program to support emergency permit holders	x				
SB 824	1997	CalTeach		x			
AB 858	1998	National Board certification bonus of \$10,000					x
SB 2042	1998	Teacher Education Reform. Tiered credential including induction (BTSA)				x	
AB 31	1999	Expanding APLE to include rural areas as hard to staff			x		
AB 335	1999	Retired K-3 teachers to keep retirement benefit if return to teaching			x		
AB 466	1999	Authorized the addition of SPED to pre-intern program					
AB 1114	1999	Bonus as incentive to teach in low-performing school					x
AB 1117	1999	Precursor to 1643, raising minimum salary to \$32,000			x		
AB 1242	1999	California Preliminary Credential for single subject to those showing particular expertise	x				
SB 131	1999	Expanding APLE to include teachers committed to teaching in schools with high concentration of emergency permits			x		

Bill Number	Year	Description	Alternative Pathways	Recruiting General	Recruiting Financial	Retention General	Retention Financial
AB 877	2000	Reciprocity for out-of-state teachers		x			
AB 899	2000	Excluded multiple subject as shortage area for APLE program			x		
AB 1087	2000	Precursor to 1643, raising minimum salary to \$32,000			x		
AB 2060	2000	Extra Credit Teacher Home Purchase Program					x
AB 2879	2000	Annual tax credit for teachers					x
SB 1643	2000	Raised minimum salary to \$34,000			x		
SB 1644	2000	Cal Grant T			x		
SB 1666	2000	Omnibus—no earning cap for retired teachers; bonus to teachers in low-performing schools; Governor’s Teaching Fellowship			x		
AB 1241	2001	Community College Teacher Preparation Transfer Pipeline		x			
SB 57	2001	Private School Teacher Waiver		x			
SB 321	2001	Pilot 30-day training program for emergency permit holders in Los Angeles Unified School District	x				

The first category was alternative pathways to credentialing, which was discussed in the first section on policy approaches, “Expanding Alternative Pathways to Certification.” The 10 primary bills reviewed in this section focused specifically on alternative routes that prospective teachers could take in earning their credential. They included both university-based (SB 1479) and district intern programs (SB 813, AB 1782, AB 1161, SB 1657, and AB 1242), and fast

tracks, emergency permits, and credential waivers (SB 322, AB 351, and AB 466), as well as expanded training (SB 321). As was seen in Table 6, the majority of bills addressing alternative pathways were enacted in the first half of the time period studied. Those enacted in 1999 (AB 466 and AB 1242) and 2001 (SB 321) focused on creating a special education pre-intern pathway and an additional single subject pathway and on training emergency hires, both of which expanded upon or supported earlier enactments.

A total of 19 bills addressed the second category, recruitment, which were discussed in the “Policies to Improve Recruitment Efforts” section. As mentioned above, they included efforts to recruit through supporting specific populations in earning their California credentials, such as paraprofessionals already employed in schools (SB 1636, SB 862, and AB 2112) and retired military personnel seeking to make a transition into the classroom (AB 1303), as well as guidelines creating reciprocity and waivers for private school (SB 57) and out-of-state teachers (AB 877). Also included in this category are the exploration of the feasibility of a community college program (AB 1241) and the creation of a recruitment center (SB 824).

In addition to these recruitment efforts, the subcategory that focused specifically on financial recruiting strategies included 11 bills that addressed educational loan forgiveness programs, such as the APLE program (SB 813, SB 1208, AB 31, SB 131, and AB 899) and financial assistance in the form of grants, such as the Governor’s Teaching Fellowship (SB 1666). Other financial incentives included the creation of a new category of Cal Grants called the Cal Grant T (SB 1644) and a focus on raising salaries for teachers to make the profession more attractive and competitive with other fields requiring comparable educational levels (AB 1087 and SB 1643). Incentives for retired teachers to return to the classroom to fill vacancies due to

shortage (SB 1666 and AB 335), especially after class size reduction was enacted in 1996, were also enacted. These incentives generally allowed retirees to continue receiving their retirement benefits at the same time as they were earning full-time teaching salaries by removing the salary cap for retirees. As was seen in Table 6, these policies, especially those that involved financial incentives, were enacted more toward the end of the 1990s as the shortage grew more extreme.

The third and last category identified was that of retention, which was discussed in the “Policies to Improve Retention” section. Eight bills focused on retention, five of which did so through providing financial incentives. The largest bill, both in terms of numbers served and amount spent, was SB 1422, which established BTSA (with SB 148 as a precursor). Connected to this was SB 2042, which in and of itself was not a bill explicitly focused on retention, but as the state’s largest teacher education reform bill, it sought to improve the quality of teacher education through creating and implementing new standards as well as a new tiered credentialing structure. Induction was a central component of the bill, and the intent of induction was always to increase the retention of new teachers. The bills that established financial incentives to increase retention were a series of bonuses tied to a teacher’s commitment to serving in low-performing or hard-to-staff schools (AB 1114 and SB 1666), as well as earning National Board Certification, which was awarded with a one-time, \$10,000 bonus (AB 858), with an additional \$20,000 bonus for those who committed to teaching in low-performing schools (SB 1666). There were also bills for programs that provided housing subsidies and home loan assistance programs (AB 2060), as well as tax credits for teachers (AB 2879).

In Figure 3, the same bills are plotted on a timeline to provide a visual representation, specifically showing how the categories were arranged and sometimes concentrated over the

time period addressed through the research question. These categories are identified by numbers 1-5, which are noted in Figure 3's legend.

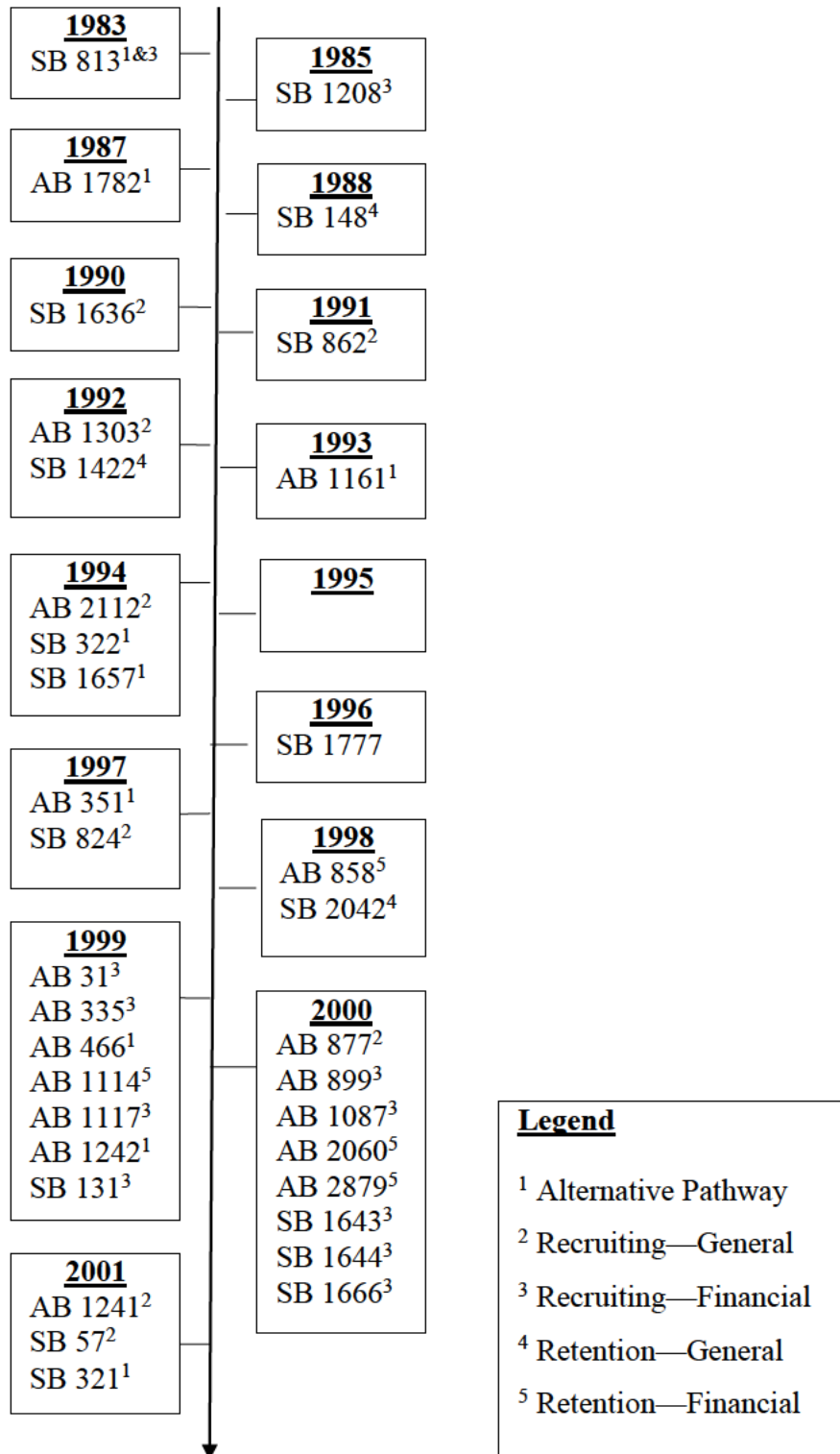


Figure 3. Timeline of legislation

As can be seen in Figure 3, the enactment of policies was quite balanced until 1999. From 1983 to 1998, 13 policies addressing teacher shortage had been enacted, whereas from 1999 to 2001 alone, 17 new policies were enacted.

Chapter 5 answered the first part of the second research question. The next chapter reviews all available data on teacher credentialing, program enrollment and participation, and any official reports and program evaluations that connect to teacher education and credentialing, specifically in response to shortage. Policies were extensively researched in order to assess participation rates, enrollment numbers, retention rates, and any other indicator that would demonstrate effectiveness.

CHAPTER 6

MEASURING RESULTS

Introduction

Chapter 4 addressed Research Question 1 by investigating the legislative history of teacher credentialing in the state of California and at the federal level. Chapter 5 focused on the first part of Research Question 2, examining the policies that were enacted during California's last teacher shortage from the late 1980s through the early 2000s. This chapter seeks to answer the second part of the question, looking at data on credentialing and retention and CTC reports and program evaluations:

2. What educational policies were enacted between the late 1980s and early 2000s, during California's last teacher shortage, and *what connections can be found between specific policies and the supply and demand of the teacher workforce during that time?*

This chapter is organized according to the three categories that were identified in Chapter 5 in the same sequential order that policies were introduced and discussed there. I did not find data and reporting for every policy, even after extensive research, due to the fact that the CTC, CDE, and California Legislature did not require evaluative reporting or data tracking on every bill enactment. Overall, the majority of bills that were discussed in Chapter 5 and certainly every major program that was implemented are discussed in this chapter. The first section reviews alternative pathways, the next recruitment, then retention is discussed.

Methodology

In searching for data, I discovered that there are multiple gaps in their availability,

which made the research much more difficult and much less straight forward, just as it was in studying policy for Chapter 5. At the most basic level, my initial intent was to compare data on credentialing by type across the years being studied. This data was available for 12 academic years between 1997-1998 and 2008-2009 through the California Basic Educational Data System and DataQuest, the CDE's data reporting system. Also, Ed-Data, an educational partnership between the CDE, EdSource, and Fiscal Crisis & Management Assistance Team/California School Information Services, which provides fiscal, demographic, and performance data on California's K-12 schools, made salary data for 2009-2018 available. The state did not provide accessible salary data for the years included in the study prior to 2009, so these were found through the National Center for Education Statistics. When looking to fill the gaps in available data, CTC reports and program evaluations were of great value, as they included much of the information that was being sought though generally only for two- to three-year time spans, so when they were published more than once, data was collected from individual reports and combined into larger tables for the purpose of analysis. These reports also provided rich information on the studied effectiveness of programs, as most programs that were authorized by the bills that were discussed in Chapter 5 required as part of their implementation that evaluation and reporting be completed.

One issue that arose was that certain data points were not exact when cross-referenced between CDE data, such as those found in DataQuest, and CTC data, specifically those found in annual reports and program evaluations. An example of this was the number of pre-interns employed in the 2000-2001 academic year. DataQuest reported this number as 5,226, yet the CTC report on pre-interns that was published in 2000 repeatedly reported this number to be

7,694. In such instances where the data is discussed at length within a report, both numbers are included with a footnote attached. In other instances where data was found in lists or databases, the number from DataQuest was used without discussion, as it is the most up-to-date database maintained by the state.

Review of Alternative Pathways

As part of the initial legislation, the *Hughes-Hart Act* (SB 813, 1983), which authorized the creation of district intern pathways, also required the CTC to study the effectiveness of the program. The first report was published in 1987, and a later longitudinal study was presented to the legislature in October 1995, then published in 1996 (CTC, 1996). The report compared findings from the 1987 report, as well as data collected over the last decade. It found that the district pathway had indeed been successful in diversifying the teaching workforce, primarily because it allowed candidates to complete required coursework through the district while they were paid for full-time work as teachers of record. This opened doors to both more mature career-changers and candidates who had previously been financially unable to pursue a university-based program (CTC, 1996).

In addition to the 1987 report and before the longitudinal study was published in 1996, the CTC produced another report that was presented to the Legislature in 1992. This report reviewed all alternative certification programs and made recommendations to the California Legislature and governor. The recommendations focused on expanding alternative pathways and providing additional grants and funding for districts and universities to do so, particularly in low-income, urban, rural, remote, and smaller communities. The recommendation was also made to provide grants to encourage and recruit nontraditional candidates to become teachers in hard-to-

staff schools. Lastly, it was recommended that the new District Intern programs be required to meet state standards for teacher education prior to a program being started in order to ensure the quality of the program, both for candidates and the K-12 students that they served (Fitch & Tierney, 2011).

As the shortage grew more extreme toward the end of the 1990s, alternative pathways and recruitment strategies proved successful in drawing in larger numbers. Whereas university-based teacher education programs, including university-based intern programs, grew by 8.8% between 1997 and 2001, as seen in the Institute of Higher Education (IHE) column in Table 7, the more substantial growth in terms of percentages occurred with district intern programs, which grew by 51% as more candidates entered the field with this pathway available. In addition to this, the number of out-of-state teachers coming to the state and receiving credentials increased by 18% between the 1999-2000 and 2000-2001 academic years, the year after AB 877 (2000) was enacted, creating a smoother path and greater reciprocity for teachers to come to California (CTC, 2001a).

Table 7

Total California Credentials Issued

Academic Year	California IHE	District Intern	Out of State	Total
1997-98	16,767	393	4,837	21,997
1998-99	16,993	508	4,216	21,717
1999-00	17,555	703	3,864	22,122
2000-01	18,386	805	4,724	23,926

Note. Adapted from *Annual Report*, by the California Commission on Teacher Credentialing, 2001a. Copyright 2001 by the California Commission on Teacher Credentialing.

The data above represented completers, those at the end of their pathway and receiving their credentials. Looking at the same time period but at new candidates enrolled in university-based or district intern pathways, Table 8 outlines how enrollment in alternative internship pathways increased during the second half of the 1990s and beginning of the 2000s when the shortage was at its height. Enrollment in university-based internship programs, such as Teach for America, grew significantly between 1997 and 2001 with an increase of 37.5%. District internship enrollment increased somewhat, though not at the same rate as IHE-based internship programs. Between the 1997-1998 and 1998-1999 academic years, there was a 19% increase in enrollment, yet the following year saw a 17% decrease, and then the following year after that saw only a slight uptick. Overall, district internship program enrollment increased by 7% between 1997 and 2001(CTC, 2001a).

Table 8

Alternative Teacher Preparation Enrollment

Academic Year	IHE-based Internship	District Internship	Total
1997-98	1,909	834	2,743
1998-99	2,458	1,030	4,216
1999-00	2,557	855	3,864
2000-01	3,056	897	4,724
% Change	37.5%	7%	42%

Note. Adapted from *Annual Report*, by the California Commission on Teacher Credentialing, 2001a. Copyright 2001 by the California Commission on Teacher Credentialing.

Whether the intern pathway that had been chosen by the candidate was an IHE-based or a district-based one, the total increase of 42% within four years is significant. As such, the intent of legislation aimed at increasing enrollment in and completion of credentialing through

increasing the possible pathways was successful. Enrollment in programs increased substantially, and the numbers of credentials increased as well. In addition to this, retention rates were high, especially in relation to national averages, indicating that programs were successfully preparing candidates, regardless of pathway, to be ready for the field. In their study on the retention of new teachers in California during the 1990s, Reed, Rueben, and Barbour (2006) found that California's intern programs of the 1990s were promising. Their data revealed that 85% of university interns and 70% of district interns had become fully credentialed and were still teaching by the fourth year, a rate that was much higher than the national average, where close to 50% left by the same time. They concluded that "those who started as interns were just as likely, and in some cases more likely, than teachers who started with full credentials to remain teaching in public schools" (Reed, Reuben, & Barbour, 2006, p. 42).

Emergency Permits and Credential Waivers

In the original text of AB 351 (1997), extensive data on employment, credentials, intern or emergency permit numbers, shortage, and quality of support and how it related to attrition rates were outlined. While AB 351 focused on creating a pre-intern program, it presented a strong criticism of the emergency permit program in its written justification. The legislature specifically recognized that "teachers with emergency permits get very little training or support from the schools that employ them. . . . As a consequence, between 35% and 40% of all teachers with emergency permits . . . do not teach beyond the first year" (AB 351, Section 1.a.6, 1997). In the progress report on the pre-intern program submitted to the California Legislature in 2000, the CTC reported that in the 1997-1998 academic year, 32% of emergency permit teachers did not apply for teaching authorization in the following year—rates that were very similar to the

previous two years. Overall, they found that retention rates for emergency permit teachers were extremely low, with as many as one third lost to attrition each year (CTC, 2000b).

Reporting of data on the issuance of emergency permits did not begin until 1995, after SB 322 (1994) authorization, so data are not available to analyze patterns prior to that date. Data for the number of emergency permits issued became available beginning in 1995 and continued until 2009. As can be seen in Table 9, the issuance of emergency teaching permits reached its peak in the 1999-2000 academic year when 37,266 permits were issued, comprising 12.8% of the public teaching population in California (CDE, California Basic Educational Data System). The following year saw the first decrease in permits.

Table 9

Emergency Teaching Permits Issued

Academic Year	Permits Issued	% of Teachers in California
1995-96	15,753	6.8%
1996-97	24,503	9.8%
1997-98	28,215	10.4%
1998-99	34,194	12.0%
1999-00	37,266	12.8%
2000-01	34,670	11.5%
2001-02	32,523	10.6%
2002-03	26,061	8.4%
2003-04	15,028	4.9%
2004-05	10,847	3.5%
2005-06	9,922	3.2%
2006-07	13,717	4.4%
2007-08	10,301	3.3%
2008-09	4,372	1.4%

Note. Data retrieved from DataQuest, 2018; CTC, 2000c; NCES, 2018; U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data, “State Nonfiscal Survey of Public Elementary/Secondary Education,” 1996–97 through 2001–02.

According to data retrieved from DataQuest and the California Basic Educational Data System, the annual data collection administered in October of each year by the CDE, there were 301,361 certificated staff employed in the 2000-2001 school year. In this year, the teachers on emergency permits decreased by about 7%, a total of 2,596 fewer emergency permits than were issued in the previous year. Although this presented a positive direction, indicating that the shortage was perhaps lessening as the need for hiring un- or underqualified teachers was less necessary, 34,670 emergency permits were still granted in the 2000-2001 academic year (CTC,

2001a; DataQuest, 2018). By 2005, emergency permits began being phased out, which explains the decrease in numbers after 2006-2007. By the 2009-2010 year, the state moved to a new permit system, which had begun in 2005 and included two types of permits: the Short-Term Staff Permit and the Provisional Intern Permit. Short-Term Staff Permits allowed a district to fill an acute need when recruitment efforts had failed and an immediate position needed to be filled. Short-Term Staff Permits could only be held one time, and the district must find a permanent, qualified replacement by the next term. Provisional Intern Permits allowed a district to hire an intern who had not yet demonstrated subject-matter competency, which was required for intern credentials. Provisional Intern Permits could only be authorized in the event that a credentialed and qualified teacher was not able to be found (CTC, 2012).

In addition to emergency permits, credential waivers were also issued in dire situations where districts were unable to find someone eligible for even an emergency permit. Table 10 outlines these numbers. As can be seen, the 1999-2000 academic year was also the height of issuing waivers, with 4,220 or 1.4% of California public school teachers working under a credential waiver authorization. Interestingly, the height of emergency permit and waiver issuance did not coincide with the year that the highest numbers of teachers were employed. There were a total of 292,012 teachers working in 1999-2000, but the height came later in 2007, when 310,361 teachers were employed.

Table 10

Credential Waivers Issued

Academic Year	Waivers Issued	% of Teachers in California
1997-98	3,095	1.1%
1998-99	3,695	1.3%
1999-00	4,220	1.4%
2000-01	3,348	1.1%
2001-02	3,020	1.0%
2002-03	2,272	0.7%
2003-04	1,237	0.4%
2004-05	1,360	0.4%
2005-06	1,298	0.4%
2006-07	1,119	0.4%
2007-08	1,157	0.4%
2008-09	1,125	0.4%

Note. Data retrieved from DataQuest, 2018.

Misassignments. In order to ensure that students were not taught consistently by teachers who were not prepared or licensed in the specific area, the CTC designated an Assignment Section, who had the responsibility of reviewing and directly monitoring certificated assignments. It reviewed annual reports submitted by districts and county superintendents. When employees were found to be teaching outside of their area of licensure, they were designated as “misassigned.” It was then the responsibility of the CTC’s Assignment Unit to report to the California Legislature biennially on the assignments and misassignments of certificated staff. As can be seen in Table 11, the height of misassignments occurred during the 2003-2007 timespan, which was reportedly due to new requirements for teaching English Learners, leading to a

greater number of misassignments than common. Before that, the 1999-2003 span saw the greatest number of misassignments. This was the period wherein shortage was the highest, and schools were desperate and often forced to assign unqualified teachers to positions for which they held no licensure (CTC, 2000c, 2012).

Table 11

Misassignments of Monitored Staff

Time Period	Total Number of Certificated Staff Misassignments	Total Number of Certificated Staff Monitored
1989-92	4,517	227,789
1992-95	5,939	249,231
1995-99	7,447	296,428
1999-03	9,112	363,000
2003-07	22,352	353,368
Total	49,367	1,489,816

Note. Adapted from *Pre-internship Teaching Program: A Progress Report to the Legislature*, by the California Commission on Teacher Credentialing, 2000; and *Agenda Item 5B. Credentialing and Certificated Assignments: Committee Authorizations and Certificated Assignments in California*, by the California Commission on Teacher Credentialing, 2012, retrieved from <https://www.ctc.ca.gov/docs/default-source/commission/agendas/2012-06/2012-06-5b-pdf.pdf>. Copyright 2018 by the Commission on Teacher Credentialing.

Increase in disciplinary actions. An additional point of interest found in the CTC’s *Annual Report of 2000 and 2001* was the discussion of the Commission’s discipline caseload. The CTC had a Division of Professional Practices, whose responsibility it was to “monitor the moral fitness and professional conduct of credential applicants and holders” (CTC, 2000c, p. 10). While data are not available that would make it possible to suggest a direct correlation between the increase in emergency permits and credential waivers, as well as misassignments, and the increasing number of discipline caseloads of the same time, it is interesting to notice the parallel

increase. As the CTC reported in this publication, there was indeed a substantial increase in the number of caseloads wherein the discipline of a teacher was being investigated. Between 1995 and 2000, the CTC reported that it revoked a total of 833 credentials, suspended 192 credentials, and issued 60 private admonitions (CTC, 2000c). In the following year, there was a slight increase in these numbers, particularly in the revocation of credentials. In 2000-2001, 169 credentials were revoked, 61 were suspended, and 12 private admonitions were issued. Additionally, 407 credentials were denied in the period between 1996-2001 (CTC, 2001a).

According to the CTC, in the context of the teaching profession a private admonition is a written warning that the CTC sends to a teacher, stating that the repetition of the unwanted act may result in denial, suspension, or revocation of their credential. In addition to credentials being revoked, suspended, or private admonitions being sent, the CTC began the practice of giving public reprovals in 1994. A public reprovial is similar to an admonition with the main difference being that this warning of inappropriate conduct is in fact public (CTC, 2018d). In the 1994-2000 span, 184 public reprovals were issued (CTC, 2000c).

As stated above, the data does not exist or is not publicly available that would indicate or identify the type of credential or authorization or the pathway through which teachers earned their credential and how they connected to disciplinary actions. It would be interesting in future research to analyze if there is in fact a correlation between type of pathway or authorization to teach and the incidence of disciplinary action.

Pre-Intern Programs

In its initial year, 1998, the Pre-Intern program was established by AB 351 and given \$2 million. At that time, the program served only candidates working toward a multiple subject

credential. This amount increased to \$11.8 million in the following year when the program was expanded to additionally serve those seeking math, science and English Single Subject credentials, as well as special education credentials. By the 2000-2001 school year, the funding remained at \$11.8 million annually, and 322 districts were involved, serving 7,694 pre-interns (CTC, 2000c).

The program's goal was to help facilitate a non-traditional candidate's entry into an intern program through test preparation, specifically in subject matter, and increase retention rates by improving teacher effectiveness through direct and intense subject matter training, instruction in pedagogy and methodology, and coaching (CTC, 2000c). In supporting emergency permit holders, the intent was to reduce their number and increase the number of highly qualified teachers as permit holders were not considered highly qualified teachers by standards put forth through federal programs and requirements such as the 1994 reauthorization of the *Elementary and Secondary Education Act*, which was reauthorized again in 2001 as *No Child Left Behind* (NCLB, 2002; CTC 2001a).

Table 12 draws from the data presented above on emergency permits and credential waivers and adds a column with data on pre-interns, including a column for the total of all three. As can be seen, the numbers of pre-interns increased to their height in 2001-2002 after the peak for emergency permits and credential waivers, which occurred in 1999-2000. This would align with the intent of the pre-intern program, which was to reduce the number of emergency permit holders by drawing them instead into the pre-intern program. What will also be noticed in Table 12 is that in the years 1999-2002, the data presented by the CTC and CDE did not align. Both numbers have been included, and though the difference in these numbers is problematic, the

trends in increases, decreases, and heights remain consistent with either number, so conclusions remain unchanged.

Table 12

Emergency Permits, Credential Waivers, and Pre-Interns

Academic Year	Emergency	Waiver	Pre-intern	Total
1997-98	28,215	3,095	~	31,310
1998-99	34,194	3,695	957	38,846
1999-00	37,266	4,220	2,051/5,800*	43,537/47,286*
2000-01	34,670	3,348	5,226/7,694*	43,244/45,712*
2001-02	32,523	3,020	8,060 /10,534*	43,603/46,077*
2002-03	26,061	2,272	9,548	37,881
2003-04	15,028	1,237	6,242	22,507
2004-05	10,847	1,360	2,627	14,834
2005-06	9,922	1,298	1,150	12,370
2006-07	13,717	1,119	746	15,582
2007-08	10,301	1,157	457	11,915
2008-09	4,372	1,125	116	5,613

Note. Data retrieved from DataQuest, 2018.

*CDE and CTC numbers do not align. The first number in these columns was retrieved from the CDE's current database, DataQuest, and the second number was reported and discussed in the CTC's *Progress Report to the Legislature* (2000).

In October 2000, the CTC submitted a progress report to the California Legislature, as required by the education code authorizing the program. As part of the requirements, the CTC was asked to answer a set of seven questions covering topics such as (a) number of participants served; (b) impact on decreasing the number of emergency permits issued; (c) retention rates of pre-interns compared to emergency permit teachers; (d) success rate in meeting subject matter

requirements; (e) pre-intern assessment of effectiveness of support and assistance received in the program; (f) extent to which districts provide in-kind contributions; and (g) recommendations and modifications for the program (CTC, 2000c). The key findings were that the program was in fact achieving expectations, including those in regard to recruitment, retention, and subject-matter passage. The CTC additionally found that the program had become a “powerful teacher training model in which pre-interns integrate content and teaching knowledge as they learn to teach” (CTC, 2000c, p. 1), and as such, it was successfully meeting its goals to provide well-trained teachers in an era of shortage (CTC, 2000c).

In findings regarding the impact of the program decreasing the number of emergency permits issued, the CTC reported that every pre-intern certificate issued did replace an emergency permit, and as can be seen in Table 12, the number of emergency permits continued to decrease each year after the pre-intern program was fully funded in 1999-2000. Retention rates for pre-interns were reported to be high: 90% were rehired in the following year, compared to 65% for emergency permit teachers. In terms of passage rates on subject matter examinations, data were favorable as well, with 60% passing in the first year, double the passage rate for those holding emergency permits (CTC, 2000c). All of these factors would indicate that the pre-intern program was in fact a success in terms of meeting the legislative intent. Since there is no measure for how successful these teachers were in the classroom or the type of impact that they had on the K-12 students they were serving, effectiveness and success in this case is based on meeting program goals in terms of participant numbers and retention rates.

Review of Recruitment Efforts

In addition to the creation and expansion of alternative pathways to credentialing, the second category of legislation intended to address teacher shortage, which was identified in Chapter 5, were policies focusing on recruitment. Within this category there were also subcategories that focused on different approaches to recruitment. They included certain policies intended to make the pathway to teaching easier, such as recruiting from specific groups like education paraprofessionals, who were already working in schools, and retiring military servicemen. Other policies focused on making the transition easier for teachers who had been credentialed out-of-state and for private school teachers who were not credentialed but who had significant experience and expertise. Another subcategory were policies that approached recruitment through financial means. They included financial assistance and aid to help pay for teacher preparation programs, as well as incentives to help teachers in the field with housing subsidies or with bonuses and stipends to incentivize teaching in hard-to-staff and low-performing schools. Policies related to raising salaries were also enacted with the intent of both making the profession more attractive by being competitive in terms of compensation and to encourage retention.

Paraprofessional Teacher Training Program

Authorized by SB 1636 in 1990, the primary purpose of the PTTP was to create a career ladder for paraprofessionals employed by the district or local education agency. Even though legislation was enacted in 1990, funding for implementation did not occur until 1994, with \$1.478 million included in the 1994-1995 budget to be distributed as local assistance funds. An additional \$60,000 was budgeted for the CTC's use to cover the cost of administration of the

program (CTC, 2001b). Part of the legislation required annual reporting to the California Legislature on the progress of the program, and these reports are accessible for each year from 2001 to 2015 on the CTC's website. The report was required to address the number of paraprofessionals recruited, the academic progress of participants, the number recruited who were subsequently employed, and the degree to which the program was meeting demand for bilingual and special education teachers (CTC, 2001b, 2015a).

In 1994, the program was first funded for a maximum of 600 participants, and the \$1.478 million remained as its annual budget, serving as many as 580 participants across 13 original program sites through 1999. In 1999, then-Governor Gray Davis declared that the PTTP was an important element in his education initiative and allocated an additional \$10 million, bringing the new total to \$11.478 million. In 1999, the CTC issued their request for proposals for additional program sites, and out of the 35 received proposals, 31 were funded (CTC, 2001b). This increase in both number of program sites and funding led to an increase of 300% between 1999 and 2003, with 522 participants in the 1999-2000 academic year and 2,059 in 2003 (CTC, 2006a). By summer 2006, the PTTP had graduated 1,317 participants who successfully completed the program and earned both a bachelor's degree and a teaching credential. In addition to these teachers, the program at that same time had 1,699 paraprofessionals participating in the program, 132 of which were serving as teacher of record in a school as a district or university intern. Out of the 1,699 enrolled at that time, 468 were pursuing a bilingual credential, 427 were pursuing an education specialist credential, and the rest were pursuing a multiple or single subject credential (CTC, 2006a).

As can be seen in Table 13, in 1995-96 the CTC was funding 567 paraprofessionals who were completing programs in order to become credentialed classroom teachers, and by the height of enrollment in the 2000-2001 school year, 2,268 paraprofessionals were enrolled in the teacher training program (CTC, 2000c, 2005; Fitch & Tierney, 2011). In its 2001 *Annual Report*, the CTC stated that due to increased funding, the PTTP had seen considerable growth in participation. The PTTP showed a 334.5% increase, from 522 participants in the 1999-2000 academic year to 2,268 in 2000-2001 (CTC, 2001a).

Table 13

Paraprofessional Training Program Participation

Academic Year	Number of Programs	Number of Participants
1995-96	13	567
1996-97	13	580
1997-98	13	578
1998-99	13	573
1999-00	13	522
2000-01	42	2,268
2001-02	42	2,266
2002-03	42	2,059
2003-04	42	1,876
2004-05	42	1,618

Note. Adapted from *Paraprofessional Training Program: A Progress Report to the Legislature*, by the California Commission on Teacher Credentialing, 2002; *Paraprofessional Training Program: A Progress Report to the Legislature*, by the California Commission on Teacher Credentialing, 2003; *Update on the Implementation of SB 2042*, by the California Commission on Teacher Credentialing, 2004; and *Paraprofessional Training Program: A Progress Report to the Legislature*, by the California Commission on Teacher Credentialing, 2005. Copyright 2002, 2003, 2004, & 2005 by the Commission on Teacher Credentialing.

As shown in Table 13, participation began to decline after the 2000-2001 academic year. The CTC reported that this was due to local program budgets being severely strained after unprecedented increases in university tuition, as well as the cost of books and other fees. Although some participants were attending community colleges with much lower tuition and fees, in 2003, 76% were enrolled in four-year institutions. The \$3,000 allocated annually per person for assistance through the program was not enough to meet the financial needs, which consequently led to a decrease in participation. The Budget Bill act of 2006-2007 allocated an increase of \$500 per participant, bringing the total to \$3,500 per participant per year enrolled (CTC, 2005).

The PTPP program took a substantial number of years for participants to complete, as they were working part time and going to school part time, first completing their bachelor's degree, then the teacher education program. For this reason, the first 13 programs that began in 1995 supported some participants for up to nine years, with the last of the initial participants completing the program in 2004 (CTC, 2006a). Graduates of the program moved directly to positions as teachers of record, but many participants had been teaching as interns for years while in the program. Table 14 lists the number of participants serving as teacher of record through various pathways (CTC, 2004).

Table 14

Paraprofessional Teacher Training Program Participants Serving as Teacher of Record

Academic Year	Preliminary Credential	District Intern	IHE Intern	Pre-intern Certificate	Emergency Permit	Graduates as Teachers-of-Record	Total
2000-01	61	11	50	14	85	319	540
2001-02	28	3	24	14	52	393	514
2002-03	n/a	12	64	31	108	616	830
2003-04	n/a	24	77	10	66	893	1,071

Note. Adapted from *Paraprofessional Training Program: A Progress Report to the Legislature*, by the California Commission on Teacher Credentialing, 2002c; *Paraprofessional Training Program: A Progress Report to the Legislature*, by the California Commission on Teacher Credentialing, 2003c; and *Update on the Implementation Of SB 2042*, by the California Commission on Teacher Credentialing, 2004. Copyright 2002, 2003, & 2004 by the Commission on Teacher Credentialing.

As of the summer of 2012, the PTTP program had graduated 2,267 new teachers, and they have found a 98% retention rate for these new teachers, higher than any other program (CTC, 2006a, 2015b). The high retention rate indicated that the program had been highly successful in preparing teachers who were ready for the classroom and who remained in teaching after completing the program.

Cal Teach

The California Center for Teaching Careers (CalTeach) was started in 1997, authorized by SB 824. In 2003, the CTC submitted a report to the Legislature evaluating the first five years of the program. The report presented findings on each of the responsibilities of the program that the statute had outlined. Total funding for 1998-2002 was \$28,450,000, a combination of state funding as well as private grant funding. The report listed the major work that the program had engaged in thus far, including the creation of their website, which served as the primary tool for

disseminating information to prospective teachers, and a telephone hotline and call center, which were staffed by trained advisors who could work with prospective teachers. Through an extra funding allocation of \$18 million from the state, they were able to hire a professional media consulting firm that helped launch a mainstream media campaign, including public service announcements, advertising, videos, brochures, and other media-related products. The program also engaged in extensive outreach campaigns to high schools and colleges. Between 1998 and 2001, the CalTeach website provided a space for teachers to post their resume for employment purposes. They found that there was little connectivity, and they were unable to ascertain the level of success, if any, that the service was having. In 2001, they decided to collaborate with Education Job Opportunity Information Network (Ed-Join), the most widely-used Internet recruitment tool in the state, and they moved to providing a link to the Ed-Join site rather than offer job placement services directly (CTC, 2003b).

Through their analysis of the first five years of the program, the CTC found that the work that CalTeach had engaged in was consistent with the mandate of the original legislation and that the media effort in particular was very effective. They found that as media-related activities increased, hits to their website did as well. As can be seen in Table 15, hits to the website increased from 7,625,061 in 2000 to 42,901,743 in 2001, which the CTC attributed to the press launch for the Teacher Recruitment Centers in the spring of 2001 (CTC, 2003b).

Table 15

CalTeach Website Traffic

Year	Number of Hits	Percent Growth
1998	738,302	~
1999	4,759,438	650%
2000	7,625,061	60%
2001	42,901,743	560%

Note. Adapted from *Paraprofessional Training Program: A Progress Report to the Legislature*, by the California Commission on Teacher Credentialing, 2003b. Copyright 2003 by the Commission on Teacher Credentialing.

The general conclusion of CTC program evaluation was that CalTeach was very effective in carrying out the responsibilities that the original legislation had intended, yet the CTC reflected on the difficulty in evaluating the impact of the CalTeach program in the field.

Although data showed that credentials had increased by 8.2% and teacher preparation program enrollment had increased during the time that CalTeach had been operating, and that the Teacher Recruitment Centers reported that they had aided in the hiring of 17,631 credentialed teachers in 2001-2002, there was no clear way to correlate these data with CalTeach. They concluded that finding a way to demonstrate impact was an important challenge that the program should address going forward (CTC, 2003b).

Troops to Teachers

Troops to Teachers was a federally funded program, yet it operated at the state level. At the federal level, the program was enacted in 1992 and officially began in 1993 when the military was downsizing and retiring servicemen were seeking new career pathways. Around the same time and for similar reasons, then-California Governor Pete Wilson authorized by

executive order the establishment of the California Aerospace and Defense Workers Corps (Corps). The Corps supported military scientists, engineers, and mathematicians who had lost their work due to defense cutbacks in transitioning into a teaching career (CTC, 2003a). In 1995, the California Military and Defense Worker Placement Assistance Program was formally established through funding from the U.S. Department of Defense and grant funds from the Defense Activity for Non-Traditional Support. The 1996 Budget Act authorized an additional \$152,000 and two limited-term positions to run the program. The two limited-term positions were eliminated in subsequent years, which led the state to seek a new model for operating the program (CTC, 2003a). After the elimination of the two designated support positions, the CTC looked for a way to contract out the services that were required as part of the federal TTT grant. Beginning in the 2001-2002 fiscal year, the commission contracted the Sacramento County Office of Education to operate the program. Based on their successful implementation of the program, funding was increased to \$277,295 (CTC, 2003a).

Review at the federal level was conducted in 2001 and 2006 by the U.S. Government Accountability Office. Through surveying completers of the program and analyzing completer data, they found that 60% of respondents indicated that the TTT program was their primary motivation to pursue teaching and that “they would not have become a teacher if the Troops-to-Teachers program had not been available” (U.S. Government Accountability Office [U.S. GAO], 2006, p. 8). They also found that the TTT program brought more men and minorities into the field, populations that the state had identified as target demographics to increase. Nationwide, only 26% of new teachers were men and 11% were minorities. Participants in the TTT program were 86% male and 33% minority (U.S. GAO, 2001, 2006).

State placement personnel reported that participants were highly motivated and characterized participants as “mature, experienced in working with diverse socio-economic groups, professional, and adaptable” (Bank, 2007; U.S. GAO, 2006, p. 8). Personnel did voice concern over the non-competitive salaries, pointing to more lucrative careers in consulting or defense-related industries. The report also indicated that 75% of teachers found employment in high-need schools, particularly those receiving bonuses to do so. The program found that 90% of teachers continued on in the second year and 75% were still teaching in the same high-need school in the third year. Because the requirement of the program was a commitment of three years, retention rates were not tracked after the third year. At a national level, 20,331 teachers have graduated from the program since 1993. Interestingly, no complete data is available at the state level though multiple requests were made to the California resource office. Nevertheless, the state of California was noted as one of the seven states with the highest participation rate, though again, no figures or annual complete data were available disaggregated by state (Bank, 2007; TTT, 2018).

Reciprocity for Out-of-State Teachers

Another recruitment method was to attract teachers from other states by easing the requirements on transferring their credentialing work from out of state. AB 877 (2000) authorized the CTC to make the process much smoother and to grant reciprocity and give credit for work already completed. In reviewing the credentials issued by the CTC annually in Table 16, an increase of out-of-state teachers from 4,724 to 5,629 was evident in 2001-2002, the year following the enactment of AB 877. Even though this increase of 19% represents a significant

number, when seen in relation to other credentials issued in the state that year, it only grew the total number of credentials by 2% (CTC, 2001a, 2006b, 2010b).

Table 16

Out-of-State California Credentials Issued

Academic Year	Out-of-State	Total	% of Total
1997-98	4,837	21,997	22%
1998-99	4,216	21,717	19%
1999-00	3,864	22,122	18%
2000-01	4,724	23,926	20%
2001-02	5,629	29,536	19%
2002-03	4,856	27,136	18%
2003-04	3,575	31,397	11%
2004-05	3,304	28,039	12%
2005-06	3,081	25,879	12%
2006-07	3,572	24,176	15%
2007-08	3,933	23,320	17%
2008-09	2,554	21,750	12%

Note. Adapted from *Annual Report*, by the California Commission on Teacher Credentialing, 2001; *Teacher Supply in California: A Report to the Legislature*, by the California Commission on Teacher Credentialing, 2006; and *Teacher Supply in California: A Report to the Legislature*, by the California Commission on Teacher Credentialing, 2010. Copyright 2001, 2006, & 2010 by the Commission on Teacher Credentialing.

While the height in regard to number of credentials issued to teachers prepared out-of-state was in 2001-2002, as noted in Table 16, the percent of total credentials issued had remained quite steady in the years leading up to it, hovering between 18-22%. Starting in the 2003-2004 academic year, the numbers of teachers coming from out of state started to decrease, both in number and percent of total (11-12%). There was a slight uptick between 2006-2008 (15-17%), yet the numbers dropped back down in the following year. Although the CTC reports on

credentials issued, it does not analyze cause or the direct effectiveness of AB 877. It is possible that credentialing in the year following the enactment of the bill increased due to the easing of the credentialing process for out-of-state teachers, but when viewed over time, there is little indication that the effects were lasting. Other factors at play must also be looked at, including the fact that the shortage was lessening in the early 2000s, and by the economic recession of 2008, many teachers were being laid off as class size increased and positions were eliminated. This may very well have been a reason for fewer teachers coming from out of state, but there is no data to support such a hypothesis. In addition to studying numbers and recruitment, retention would be another indicator of success, as the implementation of reciprocity may possibly have left some teachers unprepared for the California classroom and context. This was not studied either, so again, conclusions cannot be made in terms of effectiveness or success in terms of retention. Overall, however, the program did make it easier for already credentialed teachers to come to California. Whether more decided to move because of that is hard to know, but the policy has remained in place and continues to support teachers in transitioning to teaching in the state.

Assumption Program of Loans for Education

Moving from programs enacted to recruit specific populations to programs that focused on financial ways to recruit in general, the APLE program was the largest teacher recruitment program in the state. In 1998, SB 1564 (1998) increased the number of APLE awards from 400 to 4,500, and in the next year, AB 1118 (1999) expanded that to 5,500. Quotas were also enacted in 1998 so that certain numbers of awards were earmarked for District Interns and out-of-state applicants. As can be seen in Table 17, by 2000-2001 additional changes to the APLE program

were made as required by SB 1666 (2000), through which an additional 1,000 awards were made available, totaling 6,500. Maximum benefit amounts were increased from \$8,000 to \$11,000, and participants were now required to teach for four rather than three years. New designations were also created, giving districts specific quotas for certain areas such as rural communities and districts with high percentages of emergency credential permit holders. An additional 1,000 awards were added for the 2005-2006 year, bringing the highest number of awards in any single year to 7,400, after which the number of awards decreased (Arfin, 1986; CSAC, 2007; Shireman, Baum, & Mishory, 2018; Steele et al., 2010).

Table 17

History of APLE Allocations, Awards, and Loan Assumption Payments

Academic Year	Allocation	Participants	Distribution	Assistance Awarded	Number of Teachers
1986-1987	500	436	All to participating colleges	\$0	0
1987-1988	500	500	All to participating colleges	\$313,977	162
1988-1989	500	500	All to participating colleges	\$853,709	379
1989-1990	500	500	All to participating colleges	\$1,280,693	573
1990-1991	500	500	All to participating colleges	\$1,558,256	664
1991-1992	500	500	All to participating colleges	\$1,571,627	662
1992-1993	500	424	All to participating colleges	\$1,610,286	660
1993-1994	400	400	All to participating colleges	1,607,366	661
1994-1995	400	400	All to participating colleges	\$1,611,971	654
1995-1996	400	400	All to participating colleges	\$1,678,859	742
1996-1997	400	400	All to participating colleges	\$1,898,786	749
1997-1998	400	400	All to participating colleges	\$2,121,353	830
1998-1999	4,500	3,805	Participating colleges, 500 OS, 500 DI	\$2,113,856	798
1999-2000	5,500	5,485	Participating colleges, 500 OS, 500 DI	\$4,994,065	2,172
2000-2001	6,500	7,500	Participating colleges, 500 OS, 500 DI	\$11,603,484	4,460
2001-2002	6,500	6,487	Participating colleges, 500 OS, 500 DI	\$19,401,877	6,974
2002-2003	7,500	7,500	Participating colleges, 500 OS, 500 DI	\$26,944,291	9,587
2003-2004	7,700	7,432	Participating colleges, 500 OS, 500 DI	\$34,023,000	11,616
2004-2005	7,500	6,648	Participating colleges, 500 OS, 500 DI	\$36,017,305	12,091
2005-2006	8,000	7,500	Participating colleges, 500 OS, 500 DI	\$36,454,014	12,056
2006-2007	7,400	5,939	Participating colleges, 500 OS, 500 DI	\$38,621,923	13,117

Note. OS = out-of-state. DI = district intern. Adapted from *2005-2006 Assumption Program of Loans for Education (APLE) Report to the Legislature*, by the California Student Aid Commission, 2006. Copyright 2006 by the California Student Aid Commission.

In analyzing the program to determine the level to which it met its legislative intent, it is important to look specifically at the original goals of the program. These were first and foremost to attract new teachers to identified shortage areas, including both subject matter shortages and specific communities that were performing at low levels (CSAC, 2003a). The California Student Aid Commission (CSAC) did report on demographic information, yet these were not considered in granting awards, nor an intended area for focus. The data that are significant in the reports to the Legislature that the CSAC published beginning in 2003, are those that review the distribution of participants by shortage area (Table 18), and the retention rates.

Table 18

Distribution of Assumption Program of Loans for Education Participants by Shortage Area

Subject	% in 2000-01	% in 2001-02	% in 2002-03	% in 2003-04	% in 2004-05
Mathematics	5.5%	5.74%	6.5%	8%	8.2%
Science	5.0%	5.22%	4.5%	6%	6.5%
English	Removed	Removed	0.7%	6%	6.5%
Bilingual	7.1%	4.54%	Removed	~	~
Reading specialist	0.8%	0.58%	0.07%	~	0.7%
Special education	13%	12.77%	13.6%	17%	20.6%
Foreign language	Removed	0.2%	1.5%	2%	2.2%
Low-income	54.8%	44.37%	43.2%	44%	43.7%
Low-performing	1.8%	22.34%	26.1%	20%	15.6%
Rural area	2.1%	2.38%	2.3%	2%	2.2%
High % emergency permit teachers	2.5%	1.83%	1.7%	1%	0.3%
State special school	0.2%	0.03%	0.1%	0	~
Self-contained classroom	6.8%	~	~	~	~

Note. ~ indicates number too small (below one hundredth), including zero. Adapted from *2002-2003 Assumption Program of Loans for Education (APLE) Report to the Legislature*, by the California Student Aid Commission, 2003a; and *2005-2006 Assumption Program of Loans for Education (APLE) Report to the Legislature*, by the California Student Aid Commission, 2006. Copyright 2003 & 2006 by the California Student Aid Commission.

Since teaching in an identified shortage area, whether in subject matter or in a shortage category, was a stated requirement of participation in the program, the percent of participants who taught in a shortage area was high: 89%. Those participants who did not meet the requirements were withdrawn from the program, and if any portion of their loan had already been assumed, it was required that the participants pay it back (CSAC, 2003a). In terms of retention, the program followed candidates as long as they were enrolled in the program and within the required four years of teaching. By 1999, the CSAC found that 54% of participants continued to teach and receive benefits for four consecutive years and 72% taught for three consecutive years.

While these data are not impressive compared to national data, as they align quite exactly with them, the CSAC made a point of clarifying that their retention data was only in terms of retention and participation in the APLE program. Teachers may still have been teaching in the field but not in an identified shortage area, which would make them ineligible to continue in the program and thus tracking would end. Additionally, as the required years of teaching was four, the CSAC did not collect or track retention rates for participants after completion of the program (CSAC, 2003a). Even though retention rates did not exceed national or state rates, the program did not set out to do so, as it did not in any way address causes for attrition or attempt to prepare teachers with retention in mind. The APLE program was entirely financial, forgiving portions of loans in exchange for a teacher committing to work in a shortage area. The program did not survey participants in regard to the connection between APLE allocations and their motivation to teach, nor whether their commitment to teaching in low-performing and low-income schools was

due to the requirement of the program. Because this information was not gathered, there was no way of knowing whether participants would have entered the field regardless of this loan forgiveness program. Nevertheless, the program encouraged and incentivized fully prepared teachers to work in low-performing and low-income schools, as well as pursue areas that had difficulty finding credentialed teachers such as special education, math, and science. Since this was the intent of the policy, the program should be regarded as successful. Due to budget constraints, the 2013-14 Budget Act did not authorize any new APLE allocations, so the last year the award was available was in 2011-2012 (Assumption Program of Loans for Education [APLE], 2018).

Governor's Teaching Fellowship

The funding for the Governor's Teaching Fellowship (GTF) was authorized under the Teaching as a Priority Block Grant within SB 1666 (2000). It was widely seen as a supplement to the APLE program as 61% of GTF recipients were also APLE participants. In 2000-2001, the first year that the award was available, 245 recipients accepted the \$20,000 fellowship. In the next year, 945 fellowships were awarded. Similar to the APLE program, the intent of GTF was to create a pool of teachers who were willing to work for at least four years in a low-performing school. Unfortunately, the budget was cut after the second year, so the program was discontinued, and no new fellowships were awarded after 2001-2002 (Steele et al., 2010).

Although the state did not engage in further research to assess the impact of the fellowship, Steele, Murname, and Willett (2010) published a policy brief that investigated whether financial incentives can successfully draw promising teachers to low-performing schools. They did so by studying the GTF specifically even though the program had only been in

effect for two years. They argued that assessing impact was important in order to inform policy decisions going forward in California. In addition to this, they suggested that although targeted recruitment and retention incentives, including financial ones, are popular to induce professionals to work with under-served populations, programs such as these have rarely been rigorously evaluated (Steele et al., 2010).

Steele et al.'s (2010) study sought to estimate the impact that the fellowship had on the recipient's decision to teach in a low-performing school. By investigating participants in the program, they found that two out of seven would not have taught in a low-performing school had they not received the incentive. They additionally found that the retention rate mirrored that of non-recipients, just as the APLE rates had done, and that 75% of recipients were still teaching in the same school after four years. Based on this data, they calculated that "California spent \$9,800 in fellowship dollars for every one-year teaching position staffed by a GTF recipient who would not have otherwise taught in a low-performing school" (Steele et al., 2010, p. 2). They emphasized that due to data being unavailable beyond the four years, they were unable to assess how long beyond those four years the recipients remained at the schools. They also did not evaluate the instructional effectiveness of the recipients in relation to their peers, which would be a powerful indicator of further success. With this in mind, Steele et al. concluded that financial incentives could indeed be a powerful tool in attracting qualified professionals to serve low-performing schools and low-income populations.

Cal Grant T

Cal Grant T, which expanded the Cal Grant types beyond A, B, and C to include T for those pursuing a teaching credential, was authorized by SB 1644 (2000). Cal Grants award

financial aid that does not have to be paid back to qualifying college and graduate school students. Similar to the GTF, the Cal Grant T was unfortunately only funded for two years, and new funding for the grant has not been authorized since the 2002-2003 academic year (CSAC, 2003b). The California Student Aid Commission did not evaluate the effectiveness of the grant expansion, nor did the CTC or CDE. As such, it is not possible to assess whether the initial intent of the policy was realized, nor how the aid incentivized applicants that would otherwise not have entered the field.

Salaries

Salaries have long been a point of discussion and focus among policymakers hoping to find ways to recruit and retain teachers. This was the case in 1999 and 2000 when the California Legislature enacted SB 1643 (2000) to set the minimum salary for teachers in California at \$34,000. While little was reported on or studied by the CTC in terms of salaries since SB 1643, other researchers have studied teacher salaries extensively. Darling-Hammond et al. (2016) conducted an analysis of California's emerging teacher shortage crisis, and although the study examined many factors, non-competitive salaries were highlighted. They found that in 2015, even after adjusting for the shorter work year, teachers in California made 15-30% less than professionals in other fields requiring the same level of education. Kirby and Grissmer (1993) similarly studied the effects of low salaries on perception of the field and found that salary was in fact a significant factor in *attracting* new teachers, while the negative impact of the low, non-competitive salary contributed to the decision of current teachers to leave the field consistently.

In order to analyze salaries, the average salaries of teachers in California were researched through archived databases and reports that were available through EdData, the CDE's

searchable database, the American Federation of Teachers, and the National Education Association. No one report or database contained all of the required information, so the data contained in Table 19 were compiled through a combination of many sources.

Table 19

Average Teacher Salaries in California

Year	Average Salary	Adjusted for Inflation
1989-90	\$37,998	\$77,233
1990-91	\$39,118	\$75,434
1991-92	\$39,922	\$73,876
1992-93	\$40,035	\$71,920
1993-94	\$40,636	\$70,878
1994-95	\$41,078	\$69,860
1995-96	\$42,259	\$69,888
1996-97	\$42,992	\$69,061
1997-98	\$43,725	\$68,663
1999-00	\$47,680	\$73,725
2000-01	\$52,480	\$79,393
2001-02	\$53,870	\$78,846
2002-03	\$56,283	\$80,099
2003-04	\$56,444	\$79,077
2004-05	\$57,876	\$79,276
2005-06	\$59,825	\$79,820
2006-07	\$63,640	\$82,129
2007-08	\$64,424	\$80,542
2008-09	\$68,093	\$82,772
2009-10	\$67,932	\$79,806
2010-11	\$67,871	\$78,448
2011-12	\$68,531	\$76,787
2012-13	\$69,435	\$76,223
2013-14	\$71,395	\$77,243
2014-15	\$74,090	\$78,879
2015-16	\$77,179	\$82,070
2016-17	\$79,128	\$83,094
2017-18	\$80,680	\$82,957

Note. Adapted from *Survey and Analysis of Salary Trends, 1991, 1993 and 1994*, by the American Federation of Teachers, 2018; *Estimates of School Statistics*, by the National Education Association, 2018; and unpublished data, 1995. Copyright 2018 by the American Federation of Teachers and by the National Education Association.

The intent of the salary search was to evaluate salary increases over an almost 30-year period of time in California. Initially, the increase from an average annual salary of \$37,998 in 1989-1990 to \$80,680 in 2017-2018 seemed significant, yet inflation had to be considered as well. To do this, a column was added to Table 19 that adjusted the salary each year for inflation to 2019 values. Inflation was calculated according to inflation rates as published by the Bureau of Labor Statistics consumer price index. Doing this revealed a very different set of numbers, as average teacher salaries in California had only increased by about \$5,724, or 15%, in today's value. This again may seem to be a positive direction, but the cost of living increase over the same amount of time must also be taken into account.

In 1990, the median price of a single-family home was \$194,952. In 2018, that price had risen to \$554,760, meaning that the median cost of buying a house in California increased by 185% since 1990. Returning to the 15% average increase between 1989 and today, teachers have become less and less able to afford the cost of living, as raises have not aligned to inflation and cost of living increases. California is a large state with very different housing markets, so it is also useful to look at the range. In 1990, the lowest median house price was in Humboldt County, where it was \$79,642. At that same time, Marin County in the Bay Area had a median home price of \$346,153, the highest in the state. In 2018, the lowest price was in Lassen County in the Northeastern corner of the state, near Shasta and Modoc. Median home prices there were \$184,000. The highest prices were in San Mateo County, which is in the Silicon Valley area, where the median price of a home was \$1,500,000 (California Association of Realtors, 2018).

As can be seen by reviewing these prices, there is a wide range in the cost of buying a home depending on area. Nevertheless, even in looking at the state average, that cost has almost

tripled since 1990, and incomes have not, making cost of living become more and more difficult to afford for teachers, especially ones living in larger metropolitan areas such as the Bay Area and Los Angeles, Orange, and San Diego Counties. Due to the high cost of buying a home in California, it now has the third lowest homeowner rate in the nation. Only about half (53.7%) of California residents own their home, whereas the nationwide average is 63.1%. This means that about half of residents rent, and rental costs have more than tripled as well (California Department of Housing and Community Development, 2017). What was once a field that provided a very comfortable middle-class income has now changed to a profession where housing assistance is offered to attract new employees (Darling-Hammond et al., 2016; Darling-Hammond et al., 2018).

Loeb and Miller (2006) conducted a comprehensive review of state teacher policies in relation to the connection between wages and retention and found that there was substantial research demonstrating that teachers consider their salaries in decision-making in terms of whether to teach and where to teach. In surveying professionals across occupations, they found that teachers are just as likely to consider their wages in deciding to quit as are workers in other professions (Loeb & Miller, 2006). Given this, together with earlier discussions in Chapter 2 that focused on compensation as an important factor in recruiting and retention, policies that address the need for teacher salaries to stay competitive are necessary.

Review of Retention Approaches

As was discussed in greater length in Chapter 2, attrition is one of the leading causes for teacher shortage. Although exact rates fluctuate, an average of 25% of new teachers leave the field after the first year, and between 30-50% of new teachers leave within the first five years.

The rates are highest in hard-to-staff, high-need schools (Ingersoll & Smith, 2003; NCTAF, 2016; Sutchter et al., 2016a). Ingersoll and Smith (2003) discussed the leaking bucket, in which the rate of teachers leaving the field overwhelms the ability to fill normal vacancies from retirement. Darling-Hammond, Sutchter, and Carver-Thomas (2018) estimated that 88% of annual demand is attributed to teacher attrition, and this becomes increasingly important when considering the high cost of recruiting and retraining new teachers. In California, the total teacher attrition cost is estimated to be \$455,732,592 per year (Alliance for Excellent Education, 2004), so focusing on policies that will increase retention rates becomes vital, and should be regarded as an investment that will yield return in the amount saved on the high costs associated with attrition.

The third category that is identified in Chapter 5 in addition to credentialing pathways and recruitment was that of retention. Policymakers proposed and enacted a number of bills that focused on retention, some that addressed the need for greater support of new teachers (SB 148 & SB 1422) and others that addressed the quality of teacher education and strengthening standards for the teaching profession (SB 2042 & AB 2210), as well as a few in the late 1990s and early 2000s that created financial incentives and offered support (AB 858, AB 1114, AB 2060 & AB 2879). While the effects of some of these bills were not studied or reported on, others were to great length, particularly the work and effectiveness of the BTSA program, which began in 1992.

Beginning Teacher Support

In its inception in 1992, BTSA began by serving 1,100 new teachers through 15 separate projects (Tushnet et al., 2002). In 1995, \$5 million was provided to fund the program, which

allowed 12 programs to be offered throughout the state. As shortage grew, more funds were invested, and by 1998, funding had increased to \$75 million and almost every new teacher in the state was able to participate. By 2000, BTSA was a statewide program with \$100 million in funding, and by 2001, 26,500 new teachers were being served in 100 different projects spread across the state. Even though this price tag was large, the success of the program in retaining new teachers made the investment a worthy expense (CTC, 2000c, 2001a, 2002d, 2008, 2010a, 2015b; Fitch & Tierney, 2011; Tushnet et al., 2002). A 15-year history of participants and funding is outlined in Table 20.

Table 20

Beginning Teacher Support and Assessment Program Service History

Year	Number of Participants	Total Funding
1995-1996	1,800	\$5,500,000
1996-1997	2,500	\$7,500,000
1997-1998	5,200	\$17,500,000
1998-1999	12,410	\$66,000,000
1999-2000	23,500	\$72,000,000
2000-2001	24,500	\$87,400,000
2001-2002	22,253	\$84,600,000
2002-2003	21,735	\$88,100,000
2003-2004	21,064	\$88,100,000
2004-2005	20,339	\$85,900,000
2005-2006	25,810	\$81,900,000
2006-2007	28,261	\$102,990,000
2007-2008	30,118	\$128,010,000
2008-2009	27,280	\$106,030,000
2009-2010	17,982	\$87,730,000

Note. Adapted from *Professional Services Committee: Update on BTSA*, by the California Commission on Teacher Credentialing, 2010, retrieved from: <https://www.ctc.ca.gov/docs/default-source/commission/agendas/2010-09/2010-09-2g-pdf>. Copyright 2010 by the Commission on teacher Credentialing.

As can be seen by looking at the changes in numbers served and amount spent each year, the first large increase was in the 1998-1999 academic year when the numbers served went from 5,200 to 12,410, up by 139%. Similarly, funding increased from \$17.5 million in 1997-1998 to \$66 million the following year, an increase of 277%. By looking back at legislation passed in that time period, 1998 was the year that SB 2042 (Bergeson, Chapter 548, Statutes of 1998) was enacted, calling for the reform of teacher education in the state, including the shift to a two-tiered

credential in which participating in a BTSA induction program was one of two routes available to clear a preliminary credential (CTC, 2010a; Hafner & Maxie, 2006). Similarly, the next major shift occurred in the 2005-2006 and 2006-2007 years. Although numbers served during that time increased by about 8,000 new teachers, the funding increased about \$15 million. In previous years, numbers were fluctuating by about 1,000-2,000 new teachers, yet this larger jump was very likely due to the enactment of AB 2210 (Bergeson, Chapter 343, Statutes of 2004), which required participation in an induction program to clear the preliminary credential, and the option of clearing through a university-based program was only allowed if an induction program was not available through the new teacher's district (CTC, 2010a, 2015b).

In 1997, the CTC published a final report that was written by the SB 1422 Advisory Panel. SB 1422 required a substantial review of credentialing in California, including a review of the BTSA program (CTC, 1997). Both Senator Bergeson and the commissioners of the CTC anticipated that the review of the BTSA program's effectiveness alongside a review of the entire credentialing system would lead to induction being included when credentialing was revised. The final panel of 24 teachers and teacher educators held 18 meetings between 1995 and 1997 with the goal of improving teacher recruitment, selection, evaluation, collaboration, and support (CTC, 1997). Based on two years of study and deliberation, the advisory panel made the recommendation for "a new architecture for the credential system," comprised of the two-tiered credential, level II consisting of "an individual induction program with intensive support, formative assessment, and an advanced curriculum to extend and develop the teacher's initial preparation" (CTC, 1997, p. 9).

Considering that the initial and ongoing intent of the BTSA program was to increase the retention of new teachers, the strongest measure of its effectiveness and success would then be to study the retention rates of BTSA participants compared to retention rates of other new teachers who did not participate in the program. The CDE and the CTC, as well as local districts and county offices of education, all collected data on BTSA participants. The CTC reported repeatedly that new teachers who met consistently with their support providers as intended felt that the interactions with their mentors helped them make the transition into effective teachers (CTC, 2010a, 2015b; Tushnet et al., 2002).

In 2002, WestEd in conjunction with Stanford Research Institute International (SRI) conducted an independent evaluation of the BTSA program and discussed the growth that BTSA had experienced over the last decade, beginning as a small project competing for funding to an almost statewide program that served almost all new teachers (Tushnet et al., 2002). The team from WestEd and SRI analyzed data from 128 BTSA projects throughout the state, as well as data from the California Basic Educational Data System, the EdData website, responses submitted in the annual evaluation survey that was conducted by the California Educational Research Cooperative, and interviews. They found that retention rates were high, ranging from 80% to 100% for first-year teachers, the mean being 92.71%. They also found that there was no statistical difference in retention in regard to the degree of urbanization of community nor between newer and more mature BTSA programs or small and large programs. They were surprised to find that BTSA participants were more likely to stay in economically disadvantaged settings than in low-poverty districts, with an average of 94.94% retention among first-year teachers in low-income communities compared to 89.69% retention in low-poverty districts

(Tushnet et al., 2002). These statistics remained consistently high through the 2000s, and based on required annual data submissions that were analyzed in 2008, the CTC found that 94% of participating teachers were still teaching after two years and 87% were still teaching after five years (CTC, 2008), a much higher percentage than the 40-50% of other teachers who leave the profession within five years nationally (CTC, 2010a).

As the BTSA program continued to grow through the 1990s and early 2000s, the program also began to feel some growing pains, mainly in the ability to offer consistency in program activities and support levels. By 2015, there were 156 induction programs throughout the state, 149 of which were run directly through school districts and local education agencies, and seven were run through universities. The CTC surveyed participants, support providers, and administrators annually in an attempt to collect data on program effectiveness as perceived through self-reported accounts in addition to retention data. Surveys consistently found that the highest positive impact of the program occurred when the relationship between the participant and the support provider was strong. Survey responses agreed that mentor teachers needed to be well prepared as mentors, not only in years of experience teaching, and that dedicated time for participants and mentors to meet was essential. When these conditions were present, “all participants report that induction is very effective at supporting new teachers, and that new teachers develop more quickly than teachers who are not supported through induction” (CTC, 2015b, p. 4).

In 2013, a study was conducted by Koppich et al., (2013) to investigate the experience that new teachers had in light of the policies enacted in the 1990s and early 2000s regarding the newly required teacher induction program, the first of its kind in the nation. The team studied

eight school districts throughout the state and found that new teachers in California faced a “bumpy path” into tenure in their teaching career (Koppich et al., 2013). The main findings of concern were the cracks in the system, such as the fact that many new teachers who were temporary or long-term substitutes were not required to participate in BTSA even though they were nevertheless teaching and in need of support—perhaps even more so than candidates who had gone through a full teacher preparation program. Another concern was the change that occurred with SB 2042 when induction was linked to clearing the credential. Prior to that, induction had occurred in the first one or two years of teaching, but the new credential structure allowed a new teacher five years to clear their credential, which meant that many new teachers put off participation in BTSA until their second or third year when it was considered far less necessary or helpful (Koppich et al., 2013). A concluding recommendation was that the state ensure that *all* new teachers be required to participate in induction, regardless of their employment status. Overall, although concerns were found, if done correctly the program was seen to be of great benefit to those participating (Koppich et al., 2013).

Based on the Koppich et al., (2013) report, the CTC identified five key issues that needed to be addressed:

- Induction is in some cases a repeat of the preliminary preparation program,
- Induction is a sequential process that does not apply to the new teacher’s assignment,
- Induction has too much required documentation that detracts from supporting the new teacher in his or her teaching assignment,
- Some districts have difficulty prioritizing their induction responsibilities, and
- [Ensuring] quality in all induction programs is vital. (CTC, 2015b)

Considering the concern that induction was a frustrating repetition of the teacher preparation program, the CTC discussed the importance of certain types of repetition as they served to reinforce concepts that may have been covered at the theoretical level or more superficially when not connected to practice. They asserted that repetition, if done right, could allow for a deeper dive into the knowledge learned in preparation coursework through application in the classroom. They recognized, however, that this was not done well on a consistent basis and that programs needed to ensure that there was no redundancy or that a new teacher's valuable time was not being misused. In terms of the concerns regarding the sequential process, the CTC recognized that each new teacher arrived with varying strengths and areas for growth, and as such, the focus should be on the areas that the mentor and participant deemed vital so as not to waste time on unnecessary activities (CTC, 2015b). Excessive documentation was understood to have long been an issue—one that got worse when induction was tied to the credential and tied to accreditation. The CTC understood the frustration that participants and mentor teachers felt in focusing more time on tasks required by induction rather than the actual teaching experience of the new teacher and recommended that the accreditation system be streamlined to reduce documentation needs and that “mentoring should be the primary focus of the induction program with an emphasis on meeting the new teacher's immediate needs” (CTC, 2015b, p. 6).

The focus of increasing retention through supporting new teachers began on a small scale in the California New Teacher Project and grew quickly into a large, state-wide program. Although repeated studies, surveys, and annual data collected by the CTC continued to demonstrate that the program was effective in increasing retention of new teachers, there were

also many areas of improvement identified through the years (Bartell, 1995; CTC, 2015b; Olebe, 2001; Tushnet et al., 2002; Wagner et al., 1995). Issues of scaling up are often of concern when transitioning from a pilot program, especially when considering program quality, capacity, and a consistency of support and activity across the state. Nevertheless, the BTSA program did not meet the same level of resistance and concern that many reform movements experience. Olebe (2001) suggested that this was due to the nature of the program being focused on supporting new teachers, which was a goal that all educators could agree upon.

Teacher Education Reform

In 1992, an advisory panel for the Comprehensive Review of Teaching Credential Requirements was created as authorized by SB 1422 (Bergeson, Chapter 1245, Statutes of 1992), which also authorized the BTSA program. Based on the success of the California New Teacher Project, which had piloted the program to improve retention through the support and assessment of beginning teachers, SB 1422 sought to make BTSA a statewide program, ensuring that all new teachers received the support they needed in order to become successful teachers in the field. Rather than make participation in BTSA a requirement for credentialing, SB 1422 called for the comprehensive review of the credentialing process in California, and an advisory panel was formed. The review sought to produce an extensive proposal for the revision of the teacher preparation and credentialing process and structure in the state, which ultimately led to the enactment of SB 2042 (1998), creating the new two-tiered credential (Bond, 2011; Sandy, 2006).

While a primary focus of SB 2042 was on the creation of new standards for teacher preparation and the teaching profession and on assessing teaching performance in valid and reliable ways, they were neither implemented nor studied until the mid- to late-2000s. The main

way that the new two-tiered credential addressed retention within the timeline of this study was specifically connected to the second tier, which required participation in an induction program in order to clear a credential. Prior to 1998, participation in a BTSA program had been voluntary, but the new credential requirements made it mandatory (Bond, 2011; Sandy, 2006; Tushnet et al., 2002). As was discussed in the previous section on BTSA, participation in induction greatly increased retention and the effectiveness of new teachers, and as such, the reform was successful in meeting one of its initial legislative intents to increase retention (Bond, 2011; CTC, 1997; Fitch & Tierney, 2011; Tushnet et al., 2002).

National Board Certification Merit Award

The National Board for Professional Teaching Standards was established in 1987 with the vision of advancing the quality of teaching and learning through the creation of a certification program aligned to high and rigorous standards. The certification program welcomed its first group of teachers in 1993. Successful completion of the program leading to certification was the “profession’s vehicle for defining and recognizing accomplished teaching” (National Board for Professional Teaching Standards, 2018, para. 6). Recognizing the value of earning certification, the state encouraged teachers to participate. In 1998, the legislature enacted AB 858, part of which authorized a one-time bonus of \$10,000 to teachers who earned certification, and an additional \$20,000 was authorized in 2000 through SB 1666 to those who committed to working in a low-performing school for at least four years. In years prior to the enactment of this one-time bonus, the earning of certificates had been quite low, as can be seen in Table 21. In 1998, the number of certificates earned in the state increased from a very low 4 to 55. The following year, it increased again to 205, then 439 in the next year. In 2003, 664 teachers earned their National

Board Certification, a record number for the state (National Board for Professional Teaching Standards, 2018).

Table 21

National Board Certification in California

Year	Recipients
1994	30
1995	20
1996	11
1997	4
1998	55
1999	205
2000	439
2001	488
2002	638
2003	664
2004	433
2005	298
2006	291
2007	256
2008	364
Total	4,196

Note. Adapted from *National Board Listing in California*, by the National Board for Professional Teaching Standards, 2018.. Copyright 2019 by National Board for Professional Teaching Standards.

National Board Certification was directed at experienced teachers who had taught for at least three years. Achieving certification was a lengthy process that involved intensive study, expert evaluation, self-assessment, and peer review. It could take about 400 hours to complete the required work, and many participants took as many as five years to complete the program.

Two years after AB 858 was enacted, SB 1505 (Alarcon, Chapter 1026, Statutes of 2000) was enacted as an urgency measure, with one section amending the current law that *required* districts to pay the merit award to *strongly encouraging* districts to ensure that their teachers were informed about the program. This move from *requiring* to *encouraging* changed the exact amount of compensation, and districts negotiated them with their respective local teachers' union. Based on the strength of teachers who had earned certification, many districts continued compensating teachers even after designated state funding was removed. LAUSD for instance negotiated with the teachers' union and settled on paying a 15% salary increase, divided into a 7.5% increase per pay check and a 7.5% lump sum payment annually. This was reported as the highest level of compensation in the nation, and the district also leads the nation in number of teachers earning certification each year ("National board: Intense process, lasting rewards," 2017).

Although financial incentives were awarded in most districts in the state, National Board Certification was often regarded as a way of strengthening their teacher workforce, and retention was a positive possible consequence, not the intended outcome. During the years studied, research had not occurred that evaluated the effectiveness of the program. A decade later, much more research was available, suggesting that the program did in fact improve teaching and student achievement. In 2012, LAUSD partnered with Harvard University's Center for Education Policy Research to produce the Strategic Data Project Human Capital Diagnostic. The diagnostic was designed to "identify patterns of teacher effectiveness and areas for policy change that could leverage teacher effectiveness to improve student achievement" (Center for Education Policy Research, 2012, p. 1). Not focusing specifically on National Board Certified teachers, one part of

the study did find that students of board-certified teachers in LAUSD “gained roughly the equivalent of two months of additional instruction in Math and one month in English Language Arts. Among math teachers, this contrasts with a lack of a significant impact on teachers who held only advanced degrees” (Center for Education Policy Research, 2012, p. 3).

Research has indicated that student achievement increases slightly when taught by a National Board Certified teacher, yet there is no research or data available on whether participation in the program increased retention rates. As a policy intended to increase retention, therefore, the outcome was inconclusive, yet when regarded in terms of increasing the teacher’s specific capital, the intense process of pursuing certification could be argued to decrease their rate of attrition. As Hughes (2012) suggested, teachers who have accrued more specific capital will have less motivation to leave the field and start over in a new field because specific capital is not transferable to other fields in the way that human capital is. Specific capital, which participation in and completion of National Board Certification would increase significantly, would therefore attenuate attrition (Hughes, 2012; Perrachione et al., 2008; Smith & Ingersoll, 2004; Sutcher et al., 2016a).

Housing Initiatives and Tax Credits

When AB 2060 (2000) was enacted, the California Legislature declared that “a substantial public benefit is served by providing federal tax credits or reduced interest rate mortgages to assist teachers, principals, vice principals, and assistant principals who are willing to serve in low performing schools to purchase a home” (AB 2060, 2000, sec.1.f). Based on that declaration, which was connected to existing law on housing assistance for low-income families and individuals, amendments were made to the law, including educators as eligible recipients of

tax credits and reduced interest rate mortgages. The legislation authorized the establishment of the Extra Credit Teacher Home Purchase Program, which provided mortgage tax credits and reduced interest rate loans that were funded by revenue bonds. Educators working in low-performing schools were eligible to apply, and “low-performing” was defined as any K-12 school that was ranked in the bottom 30% of schools based on the most recent API index (AB 2060, 2000). Financial assistance became available in 2001, with an initial allocation of \$64 million to be directed to a tax-exempt bond authority, and the California Debt Limitation Allocation Committee approved an allocation of \$100 million for the Extra Credit Loan program. By 2003, the California State Assembly allocated an additional \$1 billion for the following year to help working families buy homes. Out of the \$1 billion, \$265 million was earmarked for assisting teachers, and another \$425 million was reserved for building and restoring affordable rental housing through the state’s Multifamily Housing Program and to provide tax credits to organizations that built rental homes for low-income residents (Polonsky, 2003).

In response to legislative action to allocate this funding, many jurisdictions within California began implementing programs to aid teachers with down payment and mortgage assistance. These programs were created with the direct intent of incentivizing district teachers to continue teaching in low-performing schools, as they required teachers to remain in the same school for three years after assistance was provided. The Extra Credit Loan program became available through the California Housing Finance Agency, which began offering the CalHFA Housing Assistance Program, providing up to 100% of the financing for buying a home. Its rates were below market, and additional assistance for a down payment was available at a rate of 3% (Polonsky, 2003).

Many larger, metropolitan areas began offering their own assistance programs, as they saw teachers leaving due to rising housing costs. San Jose implemented a loan program for teachers, as did Oakland, Los Angeles, Sacramento, and San Diego. Between 1999 and 2003, the city of San Jose was able to assist 300 teachers in buying their first homes with 100% financing. Oakland allocated \$11.5 million for its home loan program and created a Teacher Mortgage Credit Certificate program that allowed teachers to take 20% of their annual mortgage and apply it as a credit against their federal taxes. Oakland unfortunately had very little response to the programs between 1999 and 2003, reporting four specific reasons for the lack of participation: (a) teachers did not want to live in Oakland; (b) teachers did not want to live in areas where they teach; (c) teachers did not want to purchase a home that was below the standard that they were accustomed to through renting; and (e) the district administration had been reluctant to encourage outreach to their teachers (Polonsky, 2003).

In reviewing Annual Reports written by the California Housing Finance Agency and submitted to the California Legislature, the first few years of the housing assistance programs were slow to catch on. In 2002-2003, \$2.5 million for 340 second loans across the state was reserved for the Extra Credit Teacher Home Purchase program, but only 215 loans for down payment assistance totaling \$1.61 million were actually purchased. In the 2003-2004 year, this amount increased to \$2.1 million for 255 loans, and in 2004-2005 with assistance from proposition 46 bond funding, 362 first loans for \$91.5 million and \$4.6 million in down payment assistance was funded (California Housing Finance Agency, 2002, 2003, 2004). While the ratio of teachers taking advantage of the housing assistance and tax credits for teachers was relatively low compared to the number of teachers in the state, the program continued to be offered, and

the president of the California School Boards Association, Chris Ungar, was quoted in the California Housing Finance Agency 2016 newsletter as saying, “By helping these public servants obtain an important piece of the American Dream, homeownership, we are addressing one of the major contributors to attrition from the profession and stabilizing schools and communities in the process” (California Housing Finance Agency, 2016, para. 13). Although housing assistance and tax credits may not appear to be the optimal solution, as teachers would likely prefer to earn enough not to qualify for assistance and be able to afford the cost of housing in the way that their peers in other fields are able to, they are a step in an important direction, recognizing the need to find solutions to the issue.

Conclusion

In evaluating the data on credentialing, particularly when analyzed by pathway, alternative options were very effective in recruiting new teachers, many of whom may previously have been unable to afford the cost of attending a full-time, university-based teacher education program. Other programs that targeted paraprofessionals were also successful in drawing in a population that had already demonstrated a commitment to education through their existing work in schools. Through providing financial assistance to enable them to complete both undergraduate and graduate degrees, as well as earn their teaching credential, thousands of paraprofessionals became teachers, and their high retention rates indicated that the investment in their education was a wise one.

In considering the effectiveness of policies that sought to address recruiting and retention through incentives such as financial assistance for teacher preparation, bonuses for earning National Board Certification, teaching in a low-performing school, or tax credits and housing

assistance, it is difficult to reach a conclusion due to the lack of research and data. As was outlined in the description of the varying programs, some incentives focused on building on the skills that teachers had, and others were purely financial. Most of the financial incentives were introduced toward the end of the 1990s or the very beginning of the 2000s, and the economic downturn began as early as 2003, restricting the state's ability to continue the programs. Loeb and Miller (2006) argued that despite the popularity of financial incentive programs, there was very little research on their effectiveness. They called for further research and greater data collection and tracking of recipients in order to be able to evaluate retention rates of participants.

In 2002, the CTC released its first statistical examination on the teacher retention rates of new teachers in California. In the report, California data were also compared to national data, and it was preliminarily found that California had significantly higher retention rates than the national average in the United States. The findings were based on a comparison of data between the CTC and the Employment Development Department. The report concluded in referencing the measures that the California Legislature had enacted to address attrition and increase retention rates, citing the state's high rate of retention compared to other states as an indicator of the effectiveness of the financial incentives introduced through policy (CTC, 2002d).

Chapter 5 focused on the first part of Research Question 2 in charting the policies that were enacted during the last major shortage between the late 1980s and the early 2000s. Table 22 summarizes these policies, including evaluative data when available. This chapter concentrated on the second part of the question in discussing the connections between the policies and their outcome in the field, particularly as demonstrated by teacher supply. The next chapter will present current policies that have been proposed and enacted in response to the existing shortage.

Table 22

Evaluation of Categorized Legislative Summary

Bill Number	Year	Description	Evaluation
SB 1479	1967	<i>Teacher Education Internship Act</i> —IHE can create intern pathways	+8.8% in university-based interns between 1997-2001; 85% still teaching after four years.
SB 813	1983	<i>Hughes-Hart Education Reform Act</i> —District Intern programs for SS & introduced APLE program	Successful in diversifying workforce and drawing larger numbers. +51% increase in district interns between 1997-2001; 70% still teaching after 4 years. APLE: 79,607 teachers served with \$226.3 million; 54% still teaching in shortage area 4+ years.
SB 1208	1985	Revision of APLE to focus on current candidates	See SB 813 above.
AB 1782	1987	Expanded SB 813. Added MS and Bilingual intern programs	See SB 813 above.
SB 148	1988	California New Teacher Project (precursor to BTSA)	Successful. Led to passage of SB 1422 and the state-wide implementation of BTSA and later requirement for induction.
SB 1636	1990	Paraprofessionals—Career Ladder	3000 by 2012; 98% retention rate
SB 862	1991	Paraprofessionals—Career Ladder	Expanded PTPP. 3000 by 2012; 98% retention rate
AB 1303	1992	Funding to support retired military transition to teaching	\$50,000 allocated. No evaluative data available.
SB 1422	1992	BTSA	284,752 served 1995-2009; \$1.1 trillion invested; 87% still teaching after 5 years.
AB 1161	1993	Expanding alternative/intern pathways	See SB 1479 and SB 813 above.
AB 2112	1994	Paraprofessionals—continued funding	See SB 1636 above.

Bill Number	Year	Description	Evaluation
SB 322	1994	Change Emergency credential to permit. Added CBEST, subject matter, COC requirement	300,000 emergency permits issued 1995-2008; 35-40% attrition after first year.
SB 1657	1994	SPED District Intern programs	Pilot program in LAUSD. No evaluative data available.
SB 1777	1996	Class size reduction	Created 18,400 (+ 28%) vacant teaching positions overnight.
AB 351	1997	Pre-intern program to support emergency permit holders	45,000 enrolled 1998-2008; 10% attrition after first year.
SB 824	1997	CalTeach	Total funding for 1998-2002 was \$28,450,000. 42,901,743 hits to website in 2001. Aided in the hiring of 17,631 credentialed teachers in 2001-2002.
AB 858	1998	National Board certification bonus of \$10,000	4,196 earned in CA 1994-2008. No evaluative data available correlating to retention.
SB 2042	1998	Teacher Education Reform. Tiered credential including induction (BTSA)	Led to two-tiered credential requiring participation in BTSA/induction. 87% retention rate for completers.
AB 31	1999	Expanding APLE to include rural areas as hard to staff	See SB 813 above.
AB 335	1999	Retired K-3 teachers to keep retirement benefit if return to teaching	No evaluative data available.
AB 466	1999	Authorized the addition of SPED to pre-intern program	No evaluative data available.
AB 1114	1999	Bonus as incentive to teach in low-performing school	No evaluative data available.
AB 1117	1999	Precursor to 1643, raising minimum salary to \$32,000	See AB 1643 below.
AB 1242	1999	California Preliminary Credential for single subject to	No evaluative data available.

Bill Number	Year	Description	Evaluation
		those showing particular expertise	
SB 131	1999	Expanding APLE to include teachers committed to teaching in schools with high concentration of emergency permits	See SB 813 above.
AB 877	2000	Reciprocity for out-of-state teachers	Increase of 19% out-of-state credentials awarded in year following enactment. 48,145 credentials issued 1997-2009.
AB 899	2000	Excluded multiple subject as shortage area for APLE program	See SB 813 above.
AB 1087	2000	Precursor to 1643, raising minimum salary to \$32,000	See AB 1117 above.
AB 2060	2000	Extra Credit Teacher Home Purchase Program	\$99.8 million on 802 down payment and first loan assistance 2002-2005.
AB 2879	2000	Annual tax credit for teachers	\$64 million directed to a tax-exempt bond authority.
SB 1643	2000	Raised minimum salary to \$34,000	Salaries raised but no evaluative data available.
SB 1644	2000	Cal Grant T	Only funded for two years. No evaluative data available.

Bill Number	Year	Description	Evaluation
SB 1666	2000	Omnibus—no earning cap for retired teachers; bonus to teachers in low-performing schools; Governor’s Teaching Fellowship	APLE: maximum benefit increased by \$2000 and added 1000 more awards per year. GTF: Funded for only two years. 1,190 fellowships awarded totaling \$23,800,000. 75% of recipients were still teaching in the same school after four years. No evaluative data available for bonuses or removal of retirement cap.
AB 1241	2001	Community College Teacher Preparation Transfer Pipeline	No evaluative data available.
SB 57	2001	Private School Teacher Waiver	No evaluative data available.
SB 321	2001	Pilot 30-day training program for emergency permit holders in Los Angeles Unified School District	Pilot program in LAUSD. No evaluative data available.

CHAPTER 7

CURRENT POLICY

Introduction

The intent of this study was fourfold: (a) to learn the history of how teacher education and credentialing developed as California evolved from early statehood in 1850 until today; (b) to study policy enactments during the last widespread teacher shortage; (c) to evaluate the effectiveness of these policies; and (d) to engage in an interpretive analysis of these policies in order to make informed recommendations and decisions for policy going forward, especially as California is now at the beginning of yet another shortage. In order to make the connection between past and present policy and practice, it is important to first outline current legislation that has been proposed and enacted in response to today's shortage, which began around summer 2015 and has grown larger each year since (Sutcher et al., 2016a). Policy proposals addressing the teacher shortage began in 2016, as the shortage was becoming more prevalent, though few bills have actually passed in the three years since then. This chapter presents these bills, both those that did not pass, as well as the ones that did. Similar to policy proposals from the last shortage, the three identified categories remain, and the chapter is organized in the same order as Chapters 5 and 6.

Alternative Pathways: Emergency Certificates, Permits, and Fast Tracks

AB 1918 (O'Donnell, Chapter 127, Statutes of 2016) contended that an acute shortage of special education teachers necessitated the granting of temporary certificates to non-credentialed private school teachers and out-of-state teachers while their applications were being processed. Another bill addressing out-of-state teachers was AB 2248 (Holden, Chapter 103, Statutes of

2016), which authorized the CTC to issue bilingual teaching authorizations to teachers who had prepared outside of California but held equivalent credentials. In 2018, AB 2285 (O'Donnell, Chapter 143, Statutes of 2018) eliminated the need for out-of-state teachers to complete 150 hours of professional development in order to earn a Clear California Credential. Another bill focusing on a similar area was AB 952 (Reyes, 2017), which sought to create a short-term pathway to address the shortage of bilingual education teachers. This bill did pass but was vetoed by the governor. His contention was that pathways had already been created, such as grant funding to universities to create or expand undergraduate pathways.

AB 681 (Chau, Chapter 199, Statutes of 2017) authorized the CTC to expedite the processing time for reviewing applications from teachers who had earned their credential outside of the United States by independently determining equivalency between standards and coursework between the United States and other countries. Another bill was AB 226 (Cervantes & Chavez, Chapter 436, Statutes of 2017), which required the CTC to grant or deny the credential application of spouses of active duty members of the armed forces who held a valid credential from another state.

In addition to temporary certificates, AB 2336 (Olsen, 2016) was proposed, which sought to extend the time that an emergency substitute was allowed to serve in a special education classroom from 30 to 40 days. This bill did not pass. Another bill that did not pass was SB 533 (Portatino, 2017), which tried to create the ability for a district to declare an "Urgent State of Need" in order to "employ as a teacher a person without a valid credential, certificate, or permit otherwise necessary to provide instruction to pupils, as provided" (SB 533, 2017). The California Association of Bilingual Education (CABE) and the California Teachers Association (CTA) both

opposed the bill, as it was similar to emergency permits during the last shortage, which were proven to be ineffective in providing K-12 students with qualified teachers. The bill did not pass.

Recruiting

About half of the bills that focused on recruiting people into the field sought to make teacher education more affordable. SB 62 (Payley, Chapter 806, Statutes of 2016) attempted to revive the Assumption Program of Loans for Education (APLE), and even though the measure passed with a 40-0 vote, the bill was gutted and amended in August 2016, in order to focus on the public utilities commission. It is not clear why, but the previous language on the APLE program was amended out of the bill on August 30th, and replaced by brand new language regarding public utilities. In 2017, AB 234 (Steinorth, 2017) tried to revive the APLE program again as an urgency measure, authorizing CSAC to award 7,200 new warrants for the program. The bill requested an allocation of \$5 million from the General Fund and cited the shortage and high attrition rates at low-performing schools as the impetus for the bill. The California Student Aid Commission reported that in order to serve 7,200 participants, they would in fact need \$31 million as the program was labor intensive and required designated staff. Due to financial constraints, the bill died on the floor. AB 463 (Salas, 2017) similarly attempted to restart APLE, and it was also denied.

In addition to loan assumption programs, two bills attempted to offer grants to assist in the cost of enrollment in a teacher education programs, seeking to revive the Governor's Teaching Fellowship. AB 226 (Cervantes & Chavez, 2017) sought to create a Golden State Teacher Grant Program, which would award all teacher education candidates with a one-time \$20,000 grant if they committed to teach in a high-need field for four years after earning a

credential. In proposing AB 169 (O'Donnell, 2017), which similarly sought to create a \$20,000 grant to all teacher education candidates who committed to teaching in a high-need area for four years, O'Donnell argued that “studies indicate that scholarship programs are highly effective at recruiting students who would not otherwise pursue a career in teaching” (O'Donnell, AB 169, 2017). Both bills attempting to provide funding to teacher education candidates died in Senate Education Committee.

Paraprofessional Teacher Training Program

The 2013-2014 Budget Act included legislation that changed the ways that districts and schools were financed from the tiered categorical funding that had existed up until that point to a Local Control Funding Formula (LCFF), which gave districts autonomy and control over the ways in which they spent their funding based on their unique needs. The Paraprofessional Teacher Training Program, which was discussed in earlier chapters was officially discontinued in 2011 as a program that was funded and monitored by the state, yet some districts, including Los Angeles Unified School District, chose to allocate a part of their LCFF to Paraprofessional programs (CTC, 2015b). In 2016, AB 2122 (McCarthy, 2016) was proposed, seeking to reestablish PTP at the state level, expand eligible recipients to include all non-certificated staff, and increase the possible annual total to \$4,000. This bill died in the Senate Education Committee, but the CTC did end up allocating \$20 million to be spent in the following five years to create the California Classified School Employee Teacher Credentialing Program. The program granted up to \$4,000 per year to classified employees who were completing their undergraduate degrees and teacher education programs. Another \$45 million was allocated in the 2018-2019 Governor's Budget to expand the program in order to recruit more teachers.

Community College Pathway

One of the more contentious bills of 2018 was SB 577 (Dodd, Chapter 603, Statutes of 2018), which authorized the California Community College Teaching Credential Partnership Pilot Program. The program plans to award grants of \$500,000 to partnerships between a community college and an institute of higher education with an existing credential program to collaborate on creating a credentialing program at the community college. Dodd's argument in establishing the need for the program was that many communities do not have access to existing teacher credentialing programs. While the bill passed, it was opposed by the California State University System (CSU), as well as the Association of Independent California Colleges and Universities (AICCU), the California Faculty Association, the California Federation of Teachers (CFT), the CSU Academic Senate, the California Teachers Association (CTA), and the Faculty Association of California Community Colleges. In declaring the consensus among these groups, Kristen Soares (2017), president of the AICCU, wrote a letter of opposition in which she argued: "We respectfully urge that, instead of expanding teacher credentialing programs, the state utilizes the existing capacities of the private, nonprofit colleges and public four-year universities" (para. 6).

Recruiting Centers, Residencies, and Undergraduate Programs

Three other bills were proposed between 2016-2018 with the intent of assisting recruitment efforts. SB 915 (Liu, 2016) attempted to establish the California Center on Teaching Careers, a recruitment center similar to the CalTeach Center, which had been authorized in 1997 and phased out due to funding constraints at the beginning of 2001. While it did not pass in 2016, Governor Brown's 2018-2019 Budget did end up allocating funding for the center. SB 933

(Allen, 2016) sought to create the California Teacher Corps Act of 2016, which would allocate \$60 million in funding to school districts to create teacher residency programs. The measure passed committee, yet it later died in the Senate Education Committee. However, the idea of residency programs was taking hold and would later be addressed by Governor Brown in his 2018-2019 budget.

Lastly, Assemblywoman Susan Bonilla proposed AB 1756 (Bonilla, 2016), which sought to create a grant program at the CTC that would provide funding to universities to create and expand programs for undergraduate candidates to complete coursework and earn their teaching credential concurrently with their bachelor's degree. She cited statistics from 2015, specifically 3,900 vacancies in mid-October and a 70% drop in enrollment in teacher education programs, to justify the need for action. All three of these bills were tied to financial allocations, and all three died in the Senate Education Committee after months of discussion, though interestingly, all three concepts were later addressed in Governor Brown's 2018-2019 Budget.

Retention: Housing Assistance and Tax Deduction Programs

AB 2200 (Thurmond, 2016) would have required the California Housing Finance Agency (Cal HFA) to administer a grant program that would help school districts develop affordable rental housing for employees. The stated intent of the bill was to "close the achievement gap by allowing school employees, including teachers, to remain in the cities where they work" (AB 2200, 2016). Assemblyman Thurmond discussed the work that other districts throughout the state were doing to provide affordable housing for teachers yet called attention to the many financially-strapped districts that were unable to develop such housing. He also made reference to the Extra Credit Teacher Home Purchase program and pointed out that new teachers,

especially ones in high-priced areas, earned salaries that made homeownership unaffordable for them (AB 2200, 2016).

In 2017, Thurmond tried to address housing again with AB 45, which would have required the California Housing Finance Agency to administer a housing assistance program granting funds for predevelopment and loans to districts for developing affordable housing for teachers. The bill passed but Governor Brown vetoed the bill, explaining that he had already signed SB 2 (Atkins, Chapter 364, Statutes of 2017), which provided ongoing funding to local governments to address their own unique housing needs. He did not agree that teachers needed a separate bill. AB 1182 (Low, 2017) also tried to create a housing assistance program in the form of assistance with a 10% down payment. This bill also died. In 2018, Thurmond again proposed similar legislation concerning affordable rental housing in AB 2788 (2018), yet this bill died as well.

All of the bills mentioned above pertain to allocating funding to support affordable housing programs for teachers, and all died in committee or were vetoed by the governor. SB 1413 (Leno, Chapter 732, Statutes of 2016) did succeed in being enacted. This bill established the *Teacher Housing Act* of 2016, facilitating the purchase, construction, rehabilitation, and preservation of affordable housing for teachers and school employees. The bill authorized districts and developers that had received funds for development to restrict occupancy to educators. Another bill in the same category was AB 1157 (Mullin, Chapter 717, Statutes of 2017), which focused on tax exemptions on the sale or lease of property for school districts who developed or renovated property to create affordable rental housing for district employees.

Separate from housing but still a financial incentive for teachers was an effort to support new teachers in fulfilling the requirements to clear their credential. AB 586 (Holden, 2017) sought to create a tax deduction through which professional development expenses could be deducted equal to the amount paid, not to exceed \$2,500 per year. It would have been an above-the-line deduction that would have adjusted a teacher's gross income for taxation purposes, yet this bill died in committee as had many others that required funding.

Education in the State Budget

In his 2018-2019 budget, Governor Brown paid particular attention to education. The primary focus of budget allocations was on targeted teacher workforce investments. These included a variety of grant opportunities addressing the growing teacher shortage, mainly through recruitment and some retention strategies. In regard to retention, funding was made available for professional development through the Educator Effectiveness Block Grant (\$490 million), California Educator Development Grant (\$10 million), and the Bilingual Educator Professional Development Grant (\$5 million). All of these provided funding to enhance or create new professional development programs for teachers and principals “in recognition of the need to recruit and retain qualified individuals into the teaching profession” (Brown, 2018, p. 28). In addition to these grant opportunities, the Classified School Employee Credentialing Grant program was allotted a \$45 million, one-time fund to support 2,250 classified employees seeking teaching certification. The Integrated Teacher Preparation Program was awarded \$10 million to be spent in grant funding to universities seeking to create pathways for undergraduate students to earn their teaching credential concurrently with their bachelor's degree within four years. Lastly,

the Center on Teaching Careers was given \$5 million to support statewide teacher recruiting and retention efforts (Brown, 2018).

Just as Governor Brown did not include renewed funding for loan assumption programs, such as the APLE program, California's new Governor Newsom's 2019-2020 budget did not either. Funding to CSAC increased by 11.9% between 2018-2019 and 2019-2020, yet these funds were directed toward Cal Grant A and B spending, including both entitlement programs based on need, as well as competitive programs based on merit. In addition to these, \$121.6 million was earmarked for low-income student-parents to increase their graduation rates and reduce child poverty. The brand-new budget also made a substantial investment of \$500 million for the development of housing for moderate-income households, with \$43 million of these funds to be used to begin SB 2 (Chapter 364, Statutes of 2017). Although not focusing specifically on teachers, SB 2 does include them as one category eligible for assistance (Newsom, 2019).

Another focus in the current budget is the continued rise of special education teachers providing instruction with a substandard credential. In response to this shortage—and because two-thirds of school districts have been identified as having poor special education performance—the budget proposed an additional \$100 million investment to increase and retain special education teachers.

Teacher Residency Programs

While SB 933 (Allen, 2016) had sought and been denied designated funding for teacher residency programs, a relatively new model of teacher preparation, it was not until 2018 that Governor Brown made the decision to make a significant investment in this alternative and innovative approach to credentialing. Two separate grant programs were created, one being the

Teacher Residency Grant Program, which was allotted \$50 million in one-time Proposition 98 General Funds to support school districts in creating local residency programs for special education teachers, as well as an additional \$25 million for STEM and bilingual residents. The other was the Local Solutions Grant Program, which similarly allotted \$50 million in one-time Proposition 98 General Funds to provide one-time competitive grants to districts in order to address their shortage needs in special education.

Summary

Twenty-five bills have been proposed or enacted from 2016 to 2019, specifically in response to the teacher shortage. These bills have focused on a variety of approaches to addressing shortage, generally aligning to the categories that were identified in Chapter 5: creating alternative pathways and fast tracks into the classroom, recruitment methods, and retention efforts. Of these 25 bills, eight were pathway bills, focusing on creating fast tracks or temporary certification to fill urgent needs created by shortage. Only five of the eight bills passed and were chaptered and made law. These five focused on temporary certification for special education (AB 1918) and bilingual education teachers (AB 2248) who had been credentialed out-of-state or who had private school experience. Others that passed authorized the CTC to expedite the processing for teachers prepared out of state and in other countries (AB 681 and AB 2285) as well as spouses of active military personnel (AB 226). One bill that sought to create a short-term pathway did pass, but was vetoed by the Governor (AB 952), while another that would extend the time that a short-term substitute would be allowed to teach in a special education classroom (AB 2336) did not pass. The last of these bills would have allowed districts to declare an “urgent

state of need” in order to hire in a similar way that emergency permitting had allowed (SB 533), and this bill did not pass.

There were 10 bills that focused on recruiting efforts, five that attempted to create financial assistance programs (SB 62, AB 234, AB 463, AB 226, and AB 169), and five that sought to recruit specific populations such as paraprofessionals (AB 2122) or community college candidates (SB 577), set up career recruitment centers (SB 915), or expand undergraduate (AB 1756) or residency programs (SB 933). Not one of the financial assistance bills passed, and only one of the recruiting bills did, the community college pilot program (SB 577).

Lastly, there were seven bills that focused on retention. Six of them addressed affordable housing for teachers (AB 2200, AB 45, AB 1182, and AB 2788), only two of which passed (SB 1413 and AB 1157). The last of these bills proposed a tax deduction for teachers (AB 586), which did not pass. One additional bill was enacted that focused on affordable housing for the workforce in California, which included teachers, yet the bill itself was not written specifically for teachers (SB 2).

Conclusion

While an analysis of the policies discussed in Chapter 5 was possible due to the many years that have passed since they were enacted, allowing for data to be gathered and evaluation to occur, the same is not possible for this current set of bills as they are too new. Mostly policies related to extending pathways and fast tracks have passed, as they did in the first few years of the last shortage. Financial policies have almost entirely failed to pass, aside from a few that focus on affordable housing. As was seen in the timeline of policy during the last shortage in Chapter 5 (see Figure 3), financial approaches to solving the shortage did not start happening until much

later, and the situation had become dire. Only one policy that focuses on recruitment has passed, as the approaches to recruitment all involved an investment into a center or financial assistance. Although not enacted through official bills, the Governor's budgets for education in the last two years do indicate a positive step in focusing on the shortage. More money is being invested, particularly in the new residency model, as well as in expanding recruitment into undergraduate programs and professional development.

The next chapter will conclude the study by engaging in a comparative analysis of policies during both shortages, as well as presenting a set of informed recommendations based on what has been learned through this research.

CHAPTER 8

IMPLICATIONS FOR FUTURE POLICY

Introduction

As California once again moves further into a teacher shortage crisis, school districts, teacher education programs, policy think tanks and research institutions, the California Commission on Teacher Credentialing (CTC), the California Department of Education (CDE), and the California State Legislature have all been looking for solutions. As discussed throughout these chapters, shortage is not a new phenomenon, and even if it is successfully addressed and solved in the next few years, this will not be the last time that the state and the nation are faced with shortage. Workforce supply and demand will always fluctuate, corresponding to real-time events occurring in society, the economy, the world, and politics. It was with this repeating cycle in mind that I designed this study. In order to address shortage, we need to understand why it is happening because it is not always for the same reason, and the reasons will inform the solutions. We also need to ensure that our ways of addressing it do not undermine teacher quality or exacerbate inequity by allowing underprepared and even unqualified teachers into classrooms in patterns that affect low-income communities of color disproportionately.

As a director of a university-based teacher education program, I have seen firsthand how we have moved from continual layoffs and our graduates having a difficult time finding work, to shortage and our candidates being recruited from the program before they have even completed. Recruiters from our neighboring school districts are becoming more and more desperate to fill their openings, and the number of vacancies that remain open after the school year has started is growing. Wanting to understand the reasons for shortage and to learn how shortage was

addressed in the past, I set out to engage in a historical policy study. The goal was to learn about the history of credentialing and how policy has been enacted in the past, specifically during California's last widespread teacher shortage, to find balance in the teacher workforce. The following three research questions guided the study:

1. How has policy regarding teacher credentialing developed in California since 1850?
2. What educational policies were enacted between the late 1980s and early 2000s, during California's last teacher shortage, and what connections can be found between specific policies and the supply and demand of the teacher workforce during that time?
3. How can an interpretive policy analysis of this time period inform current policies regarding teacher shortage?

Methodology

Chapter 3 presented the methodology that guided this research. This study is an interpretive policy analysis of teacher credentialing, focusing particularly on the state of California during times of teacher shortage. Once I gathered and presented the extensive history and data, as well as evaluated their effectiveness, the analysis continued. I framed the entire study using an adaptation of Yanow (2000) and Pigott's (2009) approaches to policy analysis and interpretation. They differ from traditional policy analysis primarily in that they propose a qualitative rather than quantitative methodology. Chapter 4 answered the first research question, and Chapter 5 and 6 answered the second research question. Chapter 7 reviewed current policies that are being proposed in response to today's shortage. The third research question, which has been addressed to some extent in each chapter, will be answered in this chapter.

Steps 1 and 2: Mapping the Field and Problem Formulation

In adapting Yanow (2000) and Pigott's (2009) approach, I formalized and outlined six steps that were engaged in as the work progressed. Although they were presented as steps, they did not always occur in chronological order, and often, it was necessary to circle back and engage again in a particular step as new information was discovered. Step 1, to map the field, proposed to conduct background research, which included an extensive literature review of credentialing and policy proposals and enactments, as well as relevant data pertaining to them. Step 2, problem formulation, presented the issues relevant to teacher shortage, specifically how teacher preparation pathways may connect to retention and attrition. The intent in this step was to draw connections between policy and practice. This step primarily occurred in Chapter 2, which presented a literature review pertinent to shortage and the causes of shortage.

Steps 3 and 4: Data Collection and Evaluation

Step 3, data collection, occurred throughout the majority of this study, particularly in Chapters 4 through 7. Each chapter presented a different set of data, whether qualitative data such as historical narrative data, literature review, descriptions of policy proposals and enactments, or quantitative data. Data connecting to the last shortage were presented in Chapter 6 to evaluate the effectiveness of these policies. Step 4, data evaluation, at its most literal sense occurs in Chapter 6, where effectiveness is evaluated, yet there was a less literal intent in this step as well, which included an evaluation of how policies were proposed and an attempt to understand the social and political context of policies. This happened primarily in Chapter 4, in which credentialing is presented through the lens of historical context.

Steps 5 and 6: Data Analysis and Interpretation and Recommendations

Step 5, data analysis and interpretation, began in Chapter 6 and continues through Chapter 7 and 8. This step sought to adapt Yanow's (2000) approach, which focused on interviews, observation, and document analysis. This study primarily applied the third of these steps and engaged in document and data analysis as it sought to evaluate policies in retrospect, after implementation, in the hopes of being able to make a set of recommendations for future policy. Step 6, recommendations, occurs at the end of this chapter, wherein the entire history of policy, evaluation of effectiveness, and interpretive analysis has occurred and been presented. The recommendations seek to identify future areas of focus in policy on teacher preparation and credentialing, as well as public education at large.

Limitations

It is interesting to observe how definitions and concepts change as research progresses. When initiating the study and writing the research questions, my understanding of shortage was as a very concrete event, occurring over a specific period of time. Similarly, policies addressing shortage and data on credentialing seemed to be straightforward and readily available. Research on the first question, concerning the history of teacher credentialing in California, was in fact straightforward, and resources and literature were easily found and plentiful. When moving on to the second question, beginning with a deep dive into policy enactments and searching assembly and senate bills, the research encountered the first of many complications and road blocks. This continued as I sought data that would connect to policy enactments with the hope of evaluating effectiveness.

In terms of shortage, its nature turned out to be much more fluid than initially anticipated. Rather than being one specific event during a fixed period of time, research revealed that shortage in certain locations, as well as in specific credential areas, has been quite constant. Math, science, and special education have experienced shortage for a long time, before the scope of the research period in the second research question, as well as after. In these areas shortage never ended, even during the 2008-2012 period during the economic recession when layoffs became an annual event. Other credential areas, especially multiple subjects, English, and social studies, as well as art and physical education, which were virtually eliminated, experienced shortage during specific periods, then found surplus again. In these areas, shortage came in waves, often depending on the context of the times, including immigration and population growth or decline, or the implementation or elimination of class size reduction programs.

Research on historical policy was much more difficult than anticipated. I had a misconception going into the study that this information would already be compiled somewhere and readily available, and that my work would entail analyzing it. It made sense to think that the CTC or the CDE—or especially the legislature—tracked policy enactments and evaluated their effectiveness and made this information readily available to the general public. This was not always the case. There is a gap in the literature on educational policy. Certain policies have of course been researched and written about, such as SB 1422 (Bergeson, Chapter 1245, Statutes of 1992), which initiated the BTSA program. There is extensive literature and data available discussing and evaluating SB 1422. Other policies, especially the ones focusing on financial assistance and raising salaries, had been researched very little, especially on a longitudinal basis that extends beyond the requirements of the bill, such as beyond the four years of participation in

the APLE loan assumption program (SB 813, Hughes-Hart, Chapter 498, Statutes of 1983). In finding that there was no list of important policy enactments, the search became much more complex.

The California Legislative Information website has a searchable database that goes back to 1999. For policies enacted before that, an archive that can be manually searched is available on a linked page. The archive contains folders full of zip files that when opened contain thousands of pages, mostly in .lob file formats that cannot be opened with mainstream software. These files are also not organized by code type, such as education, or by category, such as teacher certification. Combing through them was arduous, and there was no sense that the important bills were being identified, and many of the bills had no further information when searching for connected literature or discussion. The research librarian I consulted knew of no other ways to access policy information, so the solution was to constantly cross-reference the databases with any bills mentioned in CTC Annual Reports and publications. Eventually, I found a site maintained by the Golden Gate University School of Law, and their Digital Commons contains a section on education law, and an archive of Legislative Summaries is available for most years. These summaries contained every bill proposed, in consideration, chaptered, or vetoed for each year, and though their description was very brief, they finally provided complete lists of all education bills. Once identified through the summaries, I further investigated each bill on the California State Legislative page and cross-referenced it with other publications and reports.

Lastly, once all policies had been researched, categorized, and discussed within Chapter 5, the analysis began, attempting to evaluate the effectiveness of the bills. In some cases, data

were easily accessible, such as in reports available through the California Student Aid Commission (CSAC), outlining the number and type of APLE loans awarded annually and the amount spent each year. Anything occurring after 1998 had much more searchable data as well, as the CTC and CDE databases and dashboard began in that year. Requests had to be made to CTC Data Services for information prior to 1998. This information was provided after a month, though without knowing whether the data would in fact be available, the missing information was researched in the meantime through combining CTC reports and evaluations and piecing together data from different years into comprehensive tables. A certain limitation in having to conduct research and find data in this manner was that different reports often contained different information, even when reporting on the same thing at the same time point. In such cases, I included footnotes in the chapter and discussion, though there was no way of ascertaining which of the numbers in each circumstance were in fact correct.

Despite the difficulties that arose throughout the research process and the extended time that was needed to ensure that the study had been thorough, the information gathered and compiled into Chapters 5 and 6 are comprehensive and provide a reference that was previously unavailable. In this way, the research filled a gap by gathering data from hundreds of files, reports, databases, documents, evaluations, and search engines. Even though this was not the intent of the study, it provides a new resource in the field, while also answering the research questions and providing a clear understanding of credentialing in California, policy enactments during the last shortage, and discussion and analysis of their effectiveness.

Discussion of Findings

Historical Context

Chapter 4 focused on the first research question, charting the development of teacher education and certification in the state of California. Beginning in 1850 when the state was brand new and schools were generally single-room schoolhouses with one teacher, there were no official mandates for the level of education or degree required for teachers. By the end of the first decade, state superintendents pushed the state legislature to create a state board of examiners to grant teacher licenses, and the first normal school in the state for teacher training was opened. Teacher education and licensure continued to evolve, and in studying this growth over time, a pattern emerged in which finding a balance was a constant give and take, seeking to meet the needs of the field, especially during shortage, and maintaining high standards for entry into the field.

I explored shortage and outlined factors that contributed to or caused it. They included a changing economy, a changing workforce—often in relation to the economy, immigration, population increases, declining interest in the profession, and sometimes even policy—such as in the class size reduction initiatives in 1996 (SB 1777, O’Connell, Chapter 163, Statutes of 1996). I found through the literature that solutions to teacher shortages that focused on recruiting often, if not always, involved lowering or relaxing standards and requirements, creating pathways that made it easier to enter the field. They included emergency credentials, credential waivers, and emergency permits, as well as fast tracks and intern options (Darling-Hammond, 2017; Darling-Hammond et al., 2016; Fitch & Tierney, 2011; Inglis, 2011a, 2011b). I also found that low-income communities of color were often disproportionately affected by these solutions, as they

were the ones that were consistently assigned under- or unprepared teachers (Darling-Hammond, 2017; Howard, 2003 Johnson & Birkeland, 2003; Johnson et al., 2005). In recognizing and naming this historical pattern, the intent was to next identify the exact policies that had addressed shortage, then analyze and evaluate these policies.

Addressing Shortage through Policy

Chapter 5 answered the first part of the second research questions, which asked about policy enactments during the last widespread teacher shortage in California. When first written, the research question stated a very specific time period, but through the research process, I found that the shortage was much more fluid and the last shortage did not in fact did have a clear start and end date. The study period and research question were therefore revised to span the late 1980s through the early 2000s. This is admittedly not as distinct, and certain relevant policies that I studied even extended into the mid 2000s, but this was something that only research could ascertain—shortage is not a static, controlled event that starts and ends all at once.

Alternative pathways. Through an extensive policy study of the time period, I identified 35 bills that dealt with teacher education, credentialing, or retention with the stated intent of addressing shortage. Each bill in fact referenced shortage in substantiating the need for the particular bill; language that was in the text of the bill demonstrated its necessity. In reviewing the content of these bills, three distinct categories began to emerge. Toward the beginning of the shortage, the majority of the bills focused on the creation of alternative pathways to credentialing, including the expansion of university-based intern programs (SB 1479), district intern programs (SB 813, AB 1782, AB 1161, SB 1657, and AB 1242), emergency permits,

credential waivers, and fast tracks (SB 322, AB 351, and AB 466), as well as extended training for emergency permit holders (SB 321).

Recruiting. The second category pertained to recruiting new teachers into the field, whether that be existing teachers who were non-credentialed private school teachers or teachers who were credentialed in other states (SB 57 and AB 877). Other bills focused on military personnel seeking to transition to teaching after military budgets were drastically cut and jobs were phased out (AB 1303) or paraprofessionals who were already employed in schools (SB 1636, SB 862, and AB 2112). The creation of a statewide recruitment center was also authorized (SB 824), as was a project exploring the feasibility of creating a community college pathway (AB 1241). In addition to these specific recruitment efforts, an additional 11 bills focused on recruiting through financial assistance programs. They included loan forgiveness programs such as the Assumption Program of Loans for Education (APLE), which was authorized and expanded upon repeatedly in the time studied (SB 813, SB 1208, AB 31, SB 131, and AB 899), and scholarships such as the Governor's Teaching Fellowship (SB 1666), which awarded selected recipients \$20,000. Other financial incentives included expansion of the Cal Grant program to include aid specific for teacher education candidates in Cal Grant T (SB 1644) and raising the minimum starting salaries for teachers in order to make the field more competitive (AB 1087 and SB 1643). Lastly, there were incentives to attract retired teachers back into the classroom, generally lifting the cap on annual income so that they could concurrently earn a salary and receive their earned retirement benefits (SB 1666 and AB 335).

Retention. The third and last category was one that focused on increasing retention. Recognizing that creating pathways and recruiting new teachers were not enough and that in fact

the leaking bucket needed to be slowed (Darling-Hammond, 2017; Darling-Hammond et al., 2018; Ingersoll & Smith, 2003), policymakers turned to ways of keeping existing teachers in the field. The largest and most far-reaching program in this category was the Beginning Teacher Assessment Program (BTSA), which supported and assessed new teachers to help ensure their growth and success in their first years, when burn out and attrition were most likely (SB 148 & SB 1422). The restructuring of the credential in California, creating a two-tiered credential that included a preliminary credential, and then the requirement to clear the credential through participation in induction, emphasized the importance of BTSA or other induction programs (SB 2042). Like the recruitment category, bills focusing on retention also had a financial subcategory. There were bonuses tied to teachers who committed to teaching in low-performing and hard-to-staff schools (AB 1114 and SB 1666) and bonuses for earning National Board Certification (AB 858 and SB 1666), as well as housing assistance and tax credits for teachers (AB 2060 and AB 2879).

Evaluating Policy Effectiveness

While Chapter 5 outlined policies that were enacted in order to address and attempt to curb shortage in response to the first part of the second research question, Chapter 6 responded to the second part of the question, seeking to evaluate the effectiveness of these policies. Certain programs that had been authorized through policy enactments required extensive reporting and evaluation, and these programs were much easier to analyze. When data were tracked, generally through CTC and CDE dashboards and online databases, enrollment, participation, and completion of programs were easy to enter into tables that could be analyzed as a whole. Other programs had only scattered reporting through CTC Annual Reports or other commission

documents and publications. I was able to evaluate them to some degree, yet lack of consistent data made it more difficult to make any positive connections or to ensure that the program had accomplished its intended purpose. A few programs, such as Troops to Teachers (TTT), or the CAP credential for professionals with specific areas of expertise, were not reported on at all, and no data were found that would give conclusive indicators of effectiveness. Some of these did have narrative and anecdotal reporting, which gave a general idea of the program. Others, such as the TTT program, had national data and figures, yet nothing was available at the state level even when requested directly for the sake of this study.

Evaluating alternative pathways. Overall, data on participation in and credentialing through alternative pathways clearly indicated their effectiveness, especially in regard to recruiting more people into the field. As shortage grew more extreme as the 1990s progressed, alternative pathways proved to be effective in drawing greater numbers into the field. University-based teacher education programs, including university-based intern programs, grew by 8.8% between 1997 and 2001, but the more substantial growth in terms of percentages occurred with district intern programs, which grew by 51%. In addition to meeting the goal of increasing enrollment and credentialing, effectiveness could further be evaluated by examining retention rates of interns. In studying retention, I found that 85% of university interns and 70% of district interns had become fully credentialed and were still teaching by the fourth year, a rate that was much higher than the national average, where close to 50% left by the same time (Reed et al., 2006).

Nevertheless, not all alternative pathways experienced the same success. Emergency Permits were widely issued, so in terms of recruiting people, they worked. Between 1995 and

2008, the state of California issued almost 300,000 emergency permits, according to data published by the CTC on their DataQuest database, as well as through their Annual Reports and program evaluations (CTC, 2000b, 2001a, 2012; DataQuest, 2018). By 1997, policymakers were already recognizing that emergency permitted teachers were receiving very little training and support and 35-40% of them were quitting after the first year. In addition to high attrition rates, the quality of instruction was questioned when teachers with negligible prior teacher preparation and equally negligible support once in the classroom were allowed to become teachers of record. In response to this, the pre-intern program (AB 351) was created in 1997 with the intent of supporting emergency permit holders as they completed entry requirements for intern programs (such as subject matter competency testing), which would hopefully reduce the number of emergency permits that would need to be issued. Data tracked by the CTC did in fact reveal that the pre-intern program was reducing the number of permits, and in regard to retention, 90% of pre-interns were rehired the following year, as opposed to 60-65% of those with emergency permits (CTC, 2000b).

Evaluating recruitment efforts. Although alternative pathways were in fact a tool for recruitment, formed with the intent to create greater access and multiple points and options for entry into the field, they were categorized separately, as they all focused specifically on alternative paths to teaching. Other policies were enacted that focused on bringing different groups in to teaching, such as non-credentialed private school teachers, credentialed teachers from out of state, retired military personnel, and paraprofessionals. Early on in the period of shortage being studied, the Paraprofessional Teacher Training Program (PTTP) was created as a career ladder for existing employees who worked in the classroom and thus already showed a

commitment to the profession (SB 1636). Even though the program was authorized in 1990, funding was not allocated until 1994. The initial funding was quite low, at only \$1.478 million intended to assist up to 600 participants. In 1999, Governor Davis addressed the importance of the PTTP program and increased funding by \$10 million. While the numbers were not large, as fewer than 3000 paraprofessionals had been credentialed by 2012, long after this study period, the program was deemed successful in drawing in a population that had already demonstrated a commitment to education through their existing work in schools. Completers of PTTP had a 98% retention rate once entering the field as teachers of record, a higher rate than any other program (CTC, 2006, 2015b).

Evaluation of other recruitment programs such as the CalTeach recruiting center were favorable in terms of meeting the initial intent of the legislation, which included the launch of their media campaign to increase awareness and disseminate information about teacher credentialing. The website alone was getting about 43 million hits per year after only four years. Data showed that credentials had increased by 8.2% in the time that CalTeach operated, that teacher preparation program enrollment increased, and that the Teacher Recruitment Centers reported that they had aided in the hiring of 17,631 credentialed teachers in 2001-2002 alone. Yet, the CTC found that there was no clear way to definitively correlate these data with CalTeach. Therefore, I found that even though CalTeach was meeting its intended goal and was effective according to that classification, the CTC sought ways to demonstrate impact in a clear way going forward (CTC, 2003).

As mentioned, the TTT program was difficult to evaluate at the state level simply because data were not disaggregated in that way. Nevertheless, demographic data on TTT

completers indicated that goals of increasing minority and male entry to the field were met as participants of the program were 86% male and 33% minority (U.S. GAO, 2001, 2006). In addition, California was identified as one of seven states with the highest participation rates in TTT. I found other recruitment programs such as reciprocity for out-of-state teachers to be effective, particularly as indicated by the increase in out-of-state credentials by as much as 18% in the year following enactment of AB 877.

In terms of financial incentives and assistance to support recruiting efforts, the APLE program was the largest and most expensive of the programs. Between 1986 and 2006, a total of 79,607 teachers were served, totaling \$226,280,698 in loans forgiven (CSAC, 2006). Since one of the intended goals of the legislation was to recruit teachers into specified shortage areas, the program was deemed successful, as 89% of participants did indeed go on to teach in one of the shortage areas. Those who did not teach in a shortage area were withdrawn from the program. In terms of retention, legislation only required tracking it through the length of the program, so data were only available for the four years that participants were enrolled. The California Student Aid Commission (CSAC) found that 54% continued to teach in an identified shortage area for four or more years, and 72% taught for three or more years (CSAC, 2003a). These data aligned with national data, so retention rates did not improve based on participation, yet loan forgiveness is not intended to increase retention, only to make the path to entry more affordable. The Governor's Teaching Fellowship and Cal Grant T similarly helped candidates with the cost of credentialing, though both programs were short-lived due to budget constraints, and substantive data were not collected or reported that would make evaluation possible.

The last of the policies pertaining to financial recruitment efforts were the bills that focused on raising the minimum salary for beginning teachers to \$34,000 across the state. Whereas competitive salaries could certainly help with retention as well, the minimum salary concerned brand-new teachers more specifically, and the intent behind the legislation was to make the profession more attractive by offering salaries that compared to those in fields that required similar levels of education. While no data were collected, nor were attitudes of teachers concerning salaries evaluated by the CTC, Loeb and Miller (2006) found that just as with any profession, teachers considered salaries in their decision to both enter and leave the field.

Evaluating retention efforts. Given that attrition is one of the leading causes of shortage, with an estimated 88% of demand being attributed to attrition annually (Darling-Hammond et al., 2018), policymakers focused on programs that would curb this trend. Some of these programs aimed to increase retention through improving the standards for teacher preparation or by increasing the skills and levels of support provided new teachers, and others focused on financial incentives. In attempting to evaluate efforts that focused on financial measures such as bonuses for earning National Board Certification, teaching in a low-performing school, or tax credits and housing assistance, it was not possible to make solid connections between the assistance or award programs and actual increases in retention because that information had not been studied. The lack of data made it difficult to reach a conclusion regarding the effectiveness of financial incentives. Loeb and Miller (2006) argued that despite the popularity of financial incentive programs, there was very little research on their effectiveness. However, the drastic drop in interest in the field necessitates that measures be

taken to make the profession a competitive one and that teachers are able to afford a standard quality of living if they are expected to remain in the field.

Even though financial incentives were more difficult to evaluate, larger programs focusing on retention were extensively analyzed and reported on. In the same way that the APLE program was the largest effort in recruiting through financial assistance, the BTSA program was by far the largest program created with the direct intent of increasing retention through supporting first-year teachers during their experience as new teachers and in improving their practice. Between BTSA's inception in 1995 and 2009, 284,752 new teachers had been provided services, with a total of \$1.1 trillion invested in the effort (CTC, 2010). Since retention was the primary purpose of BTSA and alternate induction programs and the credential itself changed in order to require participation in induction (SB 2042), evaluation of effectiveness would then be indicated by analyzing retention data for BTSA participants. I analyzed data from 128 BTSA programs across the state and found retention rates to be high, with a mean of 92.71%. I also found that BTSA participants were more likely to stay in economically disadvantaged settings than in wealthier areas, with an average of 94.94% retention among first-year teachers in low-income communities compared to 89.69% retention in low-poverty districts (Tushnet et al., 2002). Retention of BTSA completers continued to be studied by the CTC, and by 2008, it found that 94% were still teaching after two years and 87% were still teaching after five years (CTC, 2008). Compared to the national average of 40-50%, the difference was significant (CTC, 2010).

Current Policies

The third research question sought to inform current policy in response to the present teacher shortage through an interpretive analysis of policy enactments during the last shortage. In

order to do so, it was necessary to first research the type of policies that have been proposed, and perhaps even enacted, this time around. California is only a few years into the present shortage, but predictions and discussion of the impending shortage, as well as policy proposals in response, began on a larger more focused scale in 2015-2016. Chapter 7 outlined the 25 bills that have been proposed or enacted in response to teacher shortage between 2016 and 2019. These bills aligned for the most part with the categories from the last shortage: pathways, recruitment, and retention.

Alternative pathways. Eight bills focused on creating alternative pathways to credentialing, five of which passed and were chaptered. These five bills focused on fast tracks into special education (AB 1918) and bilingual education (AB 2248) for teachers who had been credentialed out-of-state or who had private school experience. There were also bills that authorized the CTC to expedite the processing time for foreign teachers or those who were prepared out of state (AB 681 and AB 2285) as well as spouses of active military personnel (AB 226). The bills that did not pass were attempting to revive the emergency permit model (SB 533), or the ability to extend the period that a substitute can teach in a special education classroom (AB 2336). One bill seeking to create another fast track (AB 952), did initially pass, but was later vetoed by Governor Brown on the basis that it was too similar to a previous bill.

Recruiting. Out of the 25 bills, 10 of them focused on recruiting efforts. Of these, half of them sought to strengthen recruiting through expanding or reviving financial assistance programs (SB 62, AB 234, AB 463, AB 226, and AB 169), and the other half focused on recruiting specific populations such as paraprofessionals (AB 2122) or community college candidates (SB 577), set up career recruitment centers (SB 915), or expand undergraduate (AB 1756) and

residency programs (SB 933). The only one of these ten bills that passed was a controversial bill that authorized the establishment of a community college pilot program (SB 577). None of the financial assistance bills passed.

Retention. The last seven bills focused on retention. Six of these addressed affordable housing for teachers (AB 2200, AB 45, AB 1182, and AB 2788), and the seventh proposed an above-the-line tax deduction for teachers which would lower their gross, taxable income (AB 586). Only two of the housing assistance bills passed (SB 1413 and AB 1157), and the tax deduction did not pass. One additional bill was enacted that focused on affordable housing for the workforce in California, which included teachers, yet the bill itself was not written specifically for teachers (SB 2).

The Governor's budget. While the majority of the 25 bills did not pass, some of the intent or action sought through their proposals did end up happening through other means. Governor Brown's 2018-2019 budget for education included some very large allocations intended to address teacher shortage (Brown, 2018). Five-hundred and five million dollars were designated for professional development of current teachers and administrators in an effort to increase retention. These grants included the Educator Effectiveness Block Grant (\$490 million), California Educator Development Grant (\$10 million), and the Bilingual Educator Professional Development Grant (\$5 million). To enrich recruiting efforts, the Classified School Employee Credentialing Grant program was given a \$45 million, one-time fund to support 2,250 classified employees seeking teaching certification, and the Integrated Teacher Preparation Program was allotted \$10 million to be spent in developing and supporting concurrent undergraduate teacher education programs. SB 933 (Allen, 2016), the proposal to authorize and fund a new model for

teacher education through residency programs did not pass the legislature, yet Governor Brown did make the decision to invest in the model in last year's budget. Two grant programs were created through the CTC, one being the Teacher Residency Grant Program, which was allotted \$50 million to support school districts in creating local residency programs for special education teachers, as well as an additional \$25 million for STEM and bilingual residents. The other grant was the Local Solutions Grant Program, which similarly allotted \$50 million to provide one-time competitive grants to districts in order to address their shortage needs in special education.

Recommendations for Policy

As has been discussed above, the process of researching policy connected to teacher credentialing revealed a pattern in which finding a balance between meeting the needs of the field, especially during shortage, and maintaining high standards for entry into the field, which ensures well-prepared, high-quality educators and addresses the professional regard of the field. This is important to keep in mind when analyzing policy. In a perfect world, fast tracks would not be necessary, and all teachers would enter their first day of teaching with a solid education and extensive clinical practice. They would have every support and resource necessary available to them, including mentors to guide them, and time for collaboration with their colleagues. Unfortunately, this is not the current reality, so we must deal with what is here and now and approach policy in connection and alignment to that.

Research Question 3 focused on what we can learn by looking at the history of credentialing, especially examining historical policies that were enacted in response to shortage, and how we can apply this knowledge to effectively address the current shortage. Through a comparative analysis of historical policy enactments and an assessment of their outcomes, and

then by examining the focus of policy today, I have constructed a set of recommendations to inform a possible approach to teacher shortage through policy going forward. These recommendations apply to public education and the state of the environment in schools, both at a physical level, in terms of the buildings, equipment, and material resources, and at the socio-emotional level, such as teachers feeling supported, safe, collaborative, encouraged, and respected. They also apply to teacher education programs, whether traditional university-based ones, or a variety of alternative pathways. On a larger scale, they apply to the state, in terms of what needs to be done in order to shift public perception of the profession, as well as the financial reality involved.

A New Alternative Pathway: The Residency Model

Alternative pathways and fast tracks are a must when there are thousands of vacancies across the state; yet there should be a long-term plan that aims to create an affordable teacher preparation model that will attract candidates and thoroughly prepare new teachers for the work. The very first teacher residency program began in the Chicago Public Schools in 2001, when shortage in hard-to-staff schools had become too large to ignore. Education, business, and community leaders gathered together to propose solutions, and they drew from the medical residency model for inspiration. Since then, residencies have appeared, scattered across the nation, and by 2016, there were at least 50 residency programs in existence (Guha, Hyler, & Darling-Hammond, 2016). In 2018, his last year as governor, Jerry Brown included in the annual budget \$125 million in grant funding to go to school districts that sought to create teacher residency programs. The first round of capacity grant proposals was due in September 2018, and subsequent rounds for residency grants have been awarded since.

Although the majority of the current bills that have been proposed were very similar to policies enacted during the last shortage, residency models are a new approach to address teacher shortage in California. In terms of being a new, third pathway to credentialing, it is conceptually the most comprehensive combination of a traditional and intern program. If designed and implemented correctly, residencies are founded through a strong partnership between a school district and an accredited teacher education program within an institution of higher education. Coursework on content and methodology are intricately connected to clinical practice experiences in the field, allowing candidates to learn and actually experience a true integration of theory and practice, which is often talked about or aspired to but is much more difficult to enact if clinical placement is sporadic or only at the end of a program in student teaching.

While the new program standards for teacher education in California require an increased 600 hours of clinical practice that must begin in the first term of a traditional pathway program, candidates do not get paid during student teaching, making it difficult for many to afford the cost of preparation as their ability to work concurrently becomes limited. Even though intern pathways also provide a full-time clinical environment from day one, and interns are paid as the teacher of record, interns do not benefit from the experience of learning through working with an experienced master teacher, being able to try things, reflect, and discuss through the mentoring relationship. In a residency model, candidates work alongside a mentor teacher, co-teaching at least half-time for an entire year. In the strongest models, resident candidates are paid for their work, usually on an instructional aide salary schedule, and they receive a stipend to assist with the cost of tuition and materials. Not only does this type of preparation create a strong alternative pathway, but it sets teachers up for success by being prepared and rich in experience on their first

day of teaching, which increases retention (Guha et al., 2016). It also ensures that children are provided a teacher of record that is credentialed and has experience, which intern models do not. Even though many intern teachers are strong from the first day, there is no guarantee that the children who have been assigned an intern teacher will be receiving the best possible education that year.

The residency model recognizes the financial reality that candidates who pursue the traditional pathway are dealing with, as well as the reasons that people choose the intern pathway. The model aims to support the candidate through compensation for the work, as well as tuition support. In an ideal residency, candidates would begin the first day of their career without any loans to weigh them down. In terms of recruiting, the possibility of enrolling in a program that offers such a breadth and depth of preparation and experience at a low, often negligible cost will likely attract many more candidates than are currently making the decision to enroll in traditional teacher education programs. All of these factors attend to each of the categories that policies in the past attempted to address: pathway, recruiting, and retention. If done right, residencies are a hopeful, innovative approach that finally attempt to do something different and new, not just abide by how it has always been done (DeMoss et al., 2017).

While the state has already recognized the benefits of the residency model, as evidenced by the \$125 million that was allocated for the Teacher Residency Grant programs in 2018, my first recommendation is that the state continue to fund school districts across the state to partner with teacher education programs in order to offer comprehensive, apprentice-like residency programs. An added recommendation is that state funding to school districts should be contingent on them paying residents for their work in the classroom. In the current residency

grant program, paying residents is left at the discretion of the district, and in many cases districts are choosing not to pay residents, but rather to follow the student-teaching model in which candidates do not get paid.

Retention

Even though it is important to address all causes of teacher shortage, including the decreasing level of interest in the profession, and ways to increase participation and enrollment in teacher education programs through financial support and incentives, the largest factor that causes shortage is attrition (Boe, Bobbitt, & Cook, 1993; Boe, Cook, Bobbitt, & Weber, 1995; Croasmun, Hampton, & Herrmann, 1999; Darling-Hammond et al., 2018; Sutcher, Darling-Hammond, & Carver-Thomas, 2016b). Therefore, it is necessary to continue the focus on strengthening teacher preparation pathways, including residency models, and expanding induction and support of new teachers to ensure that they are thoroughly prepared and receive the support they need to stay in the field.

The new two-tiered credential had well-meaning intentions to require participation in an induction program that focused on extensive support and mentoring for all candidates, not just those who chose to participate in a local BTSA program. Yet, the allowance of five years to complete the two-year program in order to clear a preliminary credential also created some inadvertent set-backs. In districts that have limited funding, decisions sometimes have to be made that restrict enrollment in induction to those for whom it is most necessary to clear their preliminary credential within the required five years. During the past year, graduates from our teacher education program have contacted us in frustration that their district would not allow enrollment in the district induction program as first-year teachers, because priority goes to third-

and fourth-year teachers who must complete an induction program in order to clear their preliminary credential on time. This issue was discussed at a recent meeting between seven local university-based teacher education programs and a large partnering school district. It was agreed that new teachers need induction and support immediately if the aim is to increase retention. If new teachers make it to year three or four, the chances that they will stay are already quite high, and participation in an induction program is now more about clearing the preliminary credential than increasing retention. The district did recognize the importance of participation in the first year of teaching, so more may need to be done to ensure that all districts providing induction make it available to first year teachers.

At a meeting focusing on retention at a large local school district, the district presented information on its comprehensive new teacher support program that had been designed for all new teachers—whether credentialed, intern, or on permit. Only 40% of new teachers attend the monthly support meetings, or take advantage of the many services offered to all new teachers in the district. Districts cannot require teachers to attend additional meetings after school if not already negotiated through collective bargaining, but this particular district tried to entice teachers by offering a choice of service credits in exchange for attendance or pay for participation. The question arose whether there was a possibility for the district to partner with the teacher's union in order to find ways to make participation obligatory. Could a compromise be found where certain hours are completed during collaboration time? These new teacher supports were separate from induction, as only new teachers holding preliminary credentials participate in induction, leaving interns and many others without support. Both types of support are necessary, and I am encouraged by the district's attention to the importance of retention.

With this in mind, I recommend that districts and unions collaborate on requirements for new teacher support programs. I also recommend that the state require, and fund, all districts to provide induction and new teacher support to all first- and second-year teachers. I also recommend that teacher education programs collaborate with partner districts to ensure that teacher candidates are being prepared in ways that align with the current needs of the field, which includes strong partnerships that foster comprehensive clinical practice.

Compensation and Housing

As research has shown, we must also increase compensation in order to make teaching salaries competitive with other fields (Allegretto & Mishel, 2016; Berry & Shields, 2017; Darling-Hammond, 2018; Darling-Hammond et al., 2016; Kirby & Grissmer, 1993; Loeb & Miller, 2006). When students are considering next steps in making decisions about their future, some may choose teaching for purely altruistic reasons, but many may consider the high level of education required and the cost associated with it, and the relatively low pay the profession provides. These thoughts, coupled with negative press about the condition of schools and lack of resources and support, have very likely been the reason for the 74% decrease in teacher education enrollment (CTC, 2002, 2016a; Ellison & Freeberg, 2015). Salaries must align with a certain standard of living, yet the feasibility of doubling or tripling teacher salaries is untenable financially. Nevertheless, the state must take a more serious look at the imbalance between cost of living and income. Whether the solution lies within correcting the real estate market or connecting salaries to inflation and cost of living increases, the discussion needs to become a more prominent one, and a serious consideration if the state hopes to reverse the waning interest in the profession.

Little extensive and longitudinal research has been done on the effects of financial incentives and assistance on increasing teacher recruitment and retention. While the *Teacher Housing Act* of 2016 was being discussed and analyzed in the California State Legislature, Senator Leno, the author of the bill, argued that a stable housing market for public school employees was critical to the success and stability of public schools. He insisted that teachers living in the community in which they teach strengthens the community, and students benefit. He also stated that 25% of teachers nationwide saw housing incentives as an important factor in making the decision to return to teaching. When communities become too expensive to live in, Leno contended that the lack of affordable housing creates barriers to teacher retention and effective teaching (SB 1413, 2016). Based on this need, combined with the need to address the teacher shortage, the bill authorized districts to develop affordable housing on district property.

SB 2 (2017) did not focus specifically on teachers but rather the California workforce as a whole, yet section 2 part 12 of the bill did specifically address teachers as one important example of the effects of rising housing costs on the workforce. The section stated:

In high housing cost areas, low teacher recruitment and retention rates are largely a consequence of salaries insufficient to cover housing costs. In rural areas, rental housing is often unavailable. In both instances, the long commute faced by teachers and other classified employees further pushes school employees to leave their position or the profession entirely. School employee housing provides a tool that school districts can use to recruit and retain qualified teachers. (Atkins, SB 2, 2017, Section 2, part 12)

Part 14 of section 12 continued to discuss the effects on the workforce, arguing that employees in many parts of California are experiencing longer and longer commute times to and from work as

they must move farther away from the communities in which they work in order to find affordable housing. Although recruitment and retention are certainly an important consideration, the bill argued that the state must also consider the issue of congestion and the strain that this exponential growth in commuting places on the state's transportation system, as well as the increase in greenhouse gas emissions (Atkins, SB 2, Section 2, part 14, 2017).

When Assemblyman Low proposed AB 1182 (2017), he was seeking to strengthen the *Teacher Housing Act* of 2016 by providing additional assistance, this time in the form of down payment aid. He cited the teacher shortage and the waning interest in the field and argued that schools would only be able to attract and retain the best teachers if those teachers were able to afford living in the communities in which they. He gave as specific examples the San Francisco area, where the average teacher salary was \$67,000 but the income required to own a single-family was over \$200,000. Similarly, in Santa Clara County average salaries were \$80,000 - \$90,000, but the required income was \$170,000 (AB 1182, 2017).

All of these policy approaches agreed upon the importance of paying attention to the financial realities that teachers are finding themselves in as their salaries remain stagnant and the cost of living, especially housing, continues to rise at exponential rates. This reality undoubtedly affects both interest in entering the field as well as the decision to leave it. In a January, 2019 meeting with a local school district, the issue of long commutes being the single largest contributing factor to the district's attrition was discussed. The director of Human Resources (HR) explained that while veteran teachers mostly lived in the area, as they had purchased homes back when housing was affordable, even on beginning salaries. Because of this, they enjoyed a very low cost of living and were able to live comfortably because their salary covered their

mortgage. The HR director went on to tell about the issue that new teachers are facing. New teachers generally do not own their own homes. They begin their first year of their career making less than other more veteran teachers. Nevertheless, new teachers have to pay current rates for housing. New teacher salaries do not cover the cost of rent in most of the Los Angeles area, and they certainly do not allow for the purchase of a home. Because of this, new teachers often commute more than an hour away from the district in order to be able to afford the cost of housing. The drive back and forth, in conjunction with the stress of the first year, becomes too much for many teachers and they elect not to return. Some of these teachers find work closer to their homes, but many give up on the profession and leave as soon as they can find higher-paying work.

While creating subsidies for teachers is not optimal as an overall solution, it is a needed solution until something more comprehensive can be done. My recommendation is that districts continue to build and provide quality affordable housing for new teachers, to help attract them to the district, as well as to retain them. A more sustainable approach is for the state to provide home purchasing assistance, particularly in the form of low-cost loans, and assistance with down payments. Rent is often more than the cost of mortgage on a like home, yet most teachers do not have savings to cover a down payment. If zero-interest loans for down payment could be provided, these could be bundled with the mortgage, and the cost would still be below the cost of rent. Neither of these recommendations would of course be necessary if teachers earned a salary that covered the cost of living the way that it did only twenty years ago. My last recommendation in this area is, thus, to tie teachers' salaries to the cost of living within a certain distance of the school or district where they work.

Cost of Teacher Preparation

In seeing that every recent bill that addressed financial incentives and assistance for teacher education failed to pass, and that even in the Governor's budget, no resources were allocated to revive or expand assistance for teacher education, my recommendation is that this approach be reconsidered. As tuition costs continue to increase annually, preparation for certain public professions should be subsidized. The state needs to invest in scholarship and loan assumption programs that will make the path into the field more affordable. As discussed previously, alternative pathways such as the residency model are another solution, as long as residents are paid for their work, and they receive assistance with tuition costs. During the fall of 2018 conferences were held to support applicants to the CTC Teacher Residency Grant program. The California Teacher Residency Conference Series was a day-long institute designed to inform and support districts and institutions of higher education, with three separate dates held in cities across California. One of the topics discussed was the importance of paying residents for the almost full-time work that they do in the classroom. Some districts shared the ways in which they had successfully funded their existing residency programs, while others worried that they would not be able to fund the additional hours. One district faced difficulties with the classified employees' union, as it could not create new paid positions without negotiating with that union. These types of complicating matters must be addressed. If done properly, residency programs offer a comprehensive pathway into teaching that prepares candidates through coursework and intense participation in clinical practice, in an affordable way for the candidate.

Residency programs are expensive for the district, yet as data are becoming available on the high retention rates of residents, the cost of residencies should be seen as an investment, as it

offsets the cost of attrition within four to five years of the resident teaching in the school (DeMoss et al., 2017). The same can be said for the high cost of teacher education, based on the level of education required to earn and clear a credential. The majority of policies that attempted to create financial assistance programs, either through grants or loan assumption, or in the form of housing and tax incentives and aid, did not get enacted. The high cost of teacher education must be considered in relation to the low rate of return on investment in a financial context. Both assistance and financial aid, or perhaps removing cost for teacher education all together, as well as competitive salaries, need to be more seriously addressed moving forward if the state wants to attract young people into the field.

My recommendations are that loan assumption programs such as the APLE program should be revived, and new grant programs and scholarships specific to teacher education candidates be created. Going one step further, the ultimate commitment that the state could make to solving the teacher shortage would be to remove or subsidize the cost of teacher education entirely. The state allocated \$46 million to cover the cost of the first two years of community college through passage of AB 19 (Santiago, Chapter 735, Statutes of 2018), known as the California College Promise program. In the same way, a program could be designed that would fund or subsidize the cost of teacher education, during times of shortage, or perhaps on an on-going basis to ensure that we always have a qualified pipeline.

A last recommendation is to focus specifically on student teaching in traditional programs, and funds to be allocated for student teachers to be compensated for the 600 hours of clinical practice that are required to be completed throughout enrollment in a program. The loss of income that candidates face in order to be able to complete these hours can be crippling.

Employment in a regular 9-to-5 type job is impossible during the time that a candidate is enrolled in traditional teacher education programs because of the new state requirement and expansion of clinical practice. While the enhancement is critically necessary to strengthen preparation, the state should compensate student teachers with a stipend, or direct pay for completion of their required hours.

Investing in Public Education

If we pay attention to what teachers are citing as the basis of the walk-outs and strikes that are spreading across the nation, school districts must look at rising class sizes and communities of support, such as counselors, mental health professionals, nurses, and librarians. They must also reconsider the amount of time spent on standardized testing. In addition to pay, pension, and healthcare benefits, these were all issues that the United Teachers of Los Angeles were fighting for during their recent six-day strike (United Teachers of Los Angeles, 2019). Available resources must be evaluated, and adequate supplies must be assured. A principal was interviewed on a local National Public Radio segment, and she was lamenting the fact that her students were using a book in which Barack Obama was still described as a senator. This should not be the case in a country as rich as the United States, and a state whose \$2.7 trillion economy sits behind only the United States, China, Japan, and Germany (Segara, 2018).

As discussed in Chapter 2, when conditions in the school environment make it difficult or impossible to feel effective, teachers do not feel the intrinsic job satisfaction that they were seeking when entering the field. This can lead to feeling burned out, and ultimately when coupled with other dissatisfying components of teaching, many may give up and leave the field (Johnson et al., 2005). For many teachers, a sense of autonomy, respect, and ability to engage in

leadership provides an important connection to and satisfaction with the work (Sutcher et al., 2016a). Attention to these matters is vital if the field of public education is to address the cause of shortage and waning interest in the field. Job satisfaction is an important issue that must be considered when seeking to stem attrition. Research has repeatedly shown that as satisfaction increases, so does the probability of staying, while on the other hand, as satisfaction decreases, rates of retention decrease as well (Johnson et al., 2005; Perrachione et al., 2008).

With all of this in mind, it is imperative that schools and districts do more to listen to teachers and respect their expertise and autonomy enough to allow them to lead the field and co-construct environments that are conducive to the work and, more importantly, to learning. At a basic level, those environments need to be safe and provide the necessary resources that should be expected within a state and nation as prosperous as California and the United States. My recommendations therefore begin with the need for the state to prioritize the allocation of sufficient funding to allow for safe and high-quality schools, regardless of the socioeconomic reality of the community in which the school is located.

A second recommendation is that school leadership must engage directly with teachers to find solutions to the local issues within each individual site that teachers feel lead to frustration and burn out. Given that school systems have long had a hierarchical structure, with decisions being made by specific people in power, such as superintendents and principals, a comprehensive shift across all schools is necessary. Administrators need continued training and directives to engage in a transformative leadership style that involves the entire school community and empowers teachers to co-construct the educational environment. School leaders should be trained to work together with their faculty and staff in identifying and working toward

a shared vision. Leaders should work with faculty and staff to identify issues, and then address them. Leaders should actively listen in order to understand to reality of the environment, and then work together to find solutions. Rather than top-down, authoritative organizations, schools should become inclusive learning communities where power and responsibility is shared, led by a leader who is capable of such a style. In such environments, teachers will have a much greater chance of feeling heard and involved. These feelings can lead to greater buy-in on the part of the teacher, which can foster a feeling of commitment to the school and work (Owens & Valesky, 2015; Shields, 2013).

State-Wide Database to Track and Understand the Field

My last recommendation connects to the importance of longitudinal data in understanding the profession. A comprehensive state-wide initiative to track candidates as they leave their teacher preparation program and move through their career should be built in order to improve our ability to understand the needs and realities of the field better. Chapter 6 was able to assess whether each bill had been effective in realizing its intended outcome by analyzing evaluation reports and data. For many of the programs, the data tracking ended after participation in the program ended, such as the four years of the APLE program. My recommendation is that rather than establish separate tracking efforts in which only participants of specific programs are studied, we should be looking at all teachers. Teacher education programs generally try to keep in touch with their alumni, yet as years pass and e-mail addresses change, they more often than not lose touch. It would be beneficial to be able to query whether alumni are still in the field—whether at the same school, or position, or if they have left.

The state should create its own version of the Schools and Staffing Survey conducted by the National Center for Education Statistics (NCES), as well as exit surveys for those who leave their position. Information on those who stay, those who move, and those who leave is important. Finding out detailed information on why leavers leave is also important if we want to understand the issue and use that understanding to solve for the problem. For those who leave, an exit survey should be created that seeks to understand the teacher's experience and reason for leaving. Conversely, we need to understand why the stayers stay. What is happening at that school site, or within that district to keep teachers from leaving? Also, can we look at alumni from different teacher education programs and see any patterns? If some program completers have unusually high retention rates, can other programs learn best practices from them? This analysis would not be used to "catch" good and bad districts, school sites, or teacher education programs, but rather as a data-driven approach to learn from each other in a collaborative environment, and perhaps offer greater support to programs that are struggling, and seek guidance from programs that are experiencing positive results.

Many programs are reticent of such connectable data, as the worry exists that negative results such as high attrition rates among certain program completers, or within certain schools or districts would reflect badly upon their program. My recommendation is that schools of education should welcome such data and recognize the benefit of having access to it. If graduates of a teacher education program are quitting at higher than average rates once they enter the field, the program should want to know in order to understand why. In the same way, it would be helpful to analyze programs for whom graduates have high retention rates. Annual surveys of

teachers would be informative to teacher education, enabling programs to understand what factors are impacting them in both positive and negative ways.

Evaluation of Legislation

In contemplating this study and reflecting on the work, one of the issues that became apparent is the very inconsistent availability of evaluative data connected to each policy that had been enacted. Many bills included requirements for evaluative reports to be submitted to the legislature, and for these bills it was rather simple to conduct an interpretive analysis of the policy in order to assess its effectiveness. There were many other bills that did not require this type of reporting, and even extensive research did not yield information that would allow such analysis and evaluation. Many of these bills required considerable funding allocations and expenditures, yet there was no built-in mechanism that would allow for the study and assessment of effectiveness. My recommendation is that all programs and initiatives that are enacted should be tracked and evaluated, beyond the dates of participation in the program. For instance, if the intent of a specific policy is to increase retention rates, then each participant's job status should be tracked in order to effectively evaluate the program in meeting its intended outcome. If a database were to be developed as recommended in the previous section, fields for these types of programs could be created in order to connect teachers to the programs that they participated in, making reporting and evaluation simpler.

Summary of Recommendations

A total of 20 recommendations have been presented in seven different areas connected to teacher education and the profession. These recommendations are summarized in Figure 4.

A New Alternative Pathway: The Residency Model

- The state should continue to fund residency programs.
- The state should require districts to pay residents for required resident work

Focus on Retention

- Districts should be required to offer induction in first two years of teaching.
- Districts should expand support of all new teachers (including non-credentialed).
- Districts and unions should collaborate on requirements for new teacher support programs.
- Teacher education programs and districts should collaborate regularly to ensure new teachers are starting with necessary skills and meeting the needs of the field.

Compensation and Housing

- Compensation should be increased in order to make teaching salaries competitive with other fields requiring comparable education.
- Salaries should be tied to cost of living increases within proximity to school.
- Districts should continue to build and provide quality affordable housing for new teachers, to help attract them to the district, as well as to retain them.
- The state should provide home purchasing assistance, particularly in the form of low-cost loans, and assistance with down payments.
- The state should increase/expand tax credits for teachers.

Cost of Teacher Preparation

- The state should revive loan assumption and scholarship/grant programs.
- The state should subsidize the cost of teacher education in high-need areas during teacher shortage.
- The state should compensate for the required 600 hours of student teaching.

Investing in Public Education

- The state should prioritize the allocation of sufficient funding to allow for safe and high-quality schools, including facilities and resources.
- School leadership must engage directly with teachers to find solutions to local issues within each individual site and district that teachers feel lead to frustration and burn out.
- Administrators need continued training and directives to engage in a transformative leadership style that involves the entire school community and empowers teachers to co-construct the educational environment.

Statewide Database to Track and Understand the Field

- A comprehensive state-wide initiative to track candidates as they leave their teacher preparation program and move through their career should be built in order to improve our ability to understand the needs and realities of the field.
- The state should create its own version of the Schools and Staffing Survey conducted by the National Center for Education Statistics (NCES), as well as an exit survey for those who leave their position.

Evaluation of Legislation

- All policies that enact programs or initiatives should be reported upon and evaluated, beyond the dates of participation in the program.

Figure 4. Summary of Recommendations

Future Research

This study was limited in its scope and engaged only in document analysis and literature review, one of three areas that Yanow (2000) suggested are critical components of interpretive policy analysis. The first two processes, interview and observation, did not occur, and they are highly recommended as important aspects for future research. Through the research I was able to identify policy and study its effectiveness to a certain extent based on published data and evaluation, yet it did not connect to the community. I would recommend that teachers be involved in this research, elevating their voices and experience as decisions are made at the policy level. Likewise, students, parents, and communities should be included and studied to understand how these policies have affected different communities in varying ways.

Research is needed on how low-income communities of color are affected by the alternative pathways that are created to address shortage. Cristina Garcia has just proposed AB 221 (2019), which seeks to prohibit the Teach for America program from being able to assign any of their candidates to schools where 40% or more of the population is low-income, starting in the 2020-21 academic year. In doing so, she is attempting to balance the placement of teachers who are still earning their credentials across all schools, not only in hard-to-staff or low-income schools. This bill is one of the first to address the issue, though she proposed a similar bill (AB 2082) in 2018. Since this bill failed, the passage of AB 221 is uncertain. More research is needed in this area, seeking to understand the impact that teachers from varying pathways have on the K-12 populations that they serve. The design of such a study would be difficult, as impact is defined in different ways by different people. Nevertheless, the focus on evenly distributing underprepared teachers is an important one, and perhaps a consideration of the population at a

school is important as well when a district considers assignments and hiring practices. A study on whether salary increases would motivate experienced teachers to teach in low-performing schools may shed light on how we can get the strongest teachers to where they are needed most.

Lastly, similar to the National Survey of College Freshman discussed in Chapter 2, which analyzed trends in career aspirations over a 50-year period, the state should conduct a similar study with undergraduate college students, focusing specifically on regard for the teaching profession. As interest declines, the state needs to understand the reasons for this turn away from the field in order to ensure that proposed solutions are actually targeting real reasons, not ones that we as researchers ascribe based on our own experience. As the College Freshman Survey found, only 4.5% of this generation is interested in elementary and secondary education (Eagan et al., 2016). We need to find out why.

Conclusion

When standards and requirements are lowered or removed in order to quickly fill vacancies, a general level of respect for the profession erodes. The same approach of lowering standards and requirements rarely, if ever, happens in other fields, such as medicine, law, psychology, or even cosmetology. In no other professional career that requires a license would a person be allowed to begin working without training. Whether a doctor, therapist, or hairdresser, all are required to take coursework and observe before they begin residencies or internships. Perhaps in teaching, the idea of “messing up” is not seen to be as dangerous as it would be for a doctor, but this only considers physical repercussions. In teaching, the danger of an unprepared or unqualified teacher may not be physical, but the effects of a poor education will have a lifelong impact on each child who has been denied an equitable, high-quality educational

experience. In addition to the personal experience of each child who grows to be an adult, there are far-reaching social implications for having subsets of the population that have not been educated to the breadth and depth that builds a true democracy in society.

Dewey (1916) argued in his seminal book, *Democracy and Education*, that democracy is “more than a form of government; it is primarily a mode of associated living, of conjoint communicated experience” (p. 87). It is through an equitable educational system that true democracy can exist. When certain populations are disproportionately and consistently taught by underprepared teachers, no matter how well-meaning they are, in facilities that lack quality resources and support, the stratification of society is reinforced and strengthened. It is with this in mind that we as educators must constantly seek to ensure quality and equity. In a utopian society, education would be regarded with the same level of respect that doctors and lawyers are afforded. If such were the case, teachers would be treated with reverence, and they would be paid a wage that would remove most of the financial obstacles they face today. When enrollment in teacher preparation programs decreases by 74% in less than two decades, there is a crisis in perception, one that must be addressed.

In countries such as Finland, Canada, Australia, China, and Singapore, all of which have demonstrated high academic performance, studies have found a common thread: All insist on a well-qualified teaching force, and they do so through their selection process. In most of these countries, less than 10% of applicants are accepted to teacher education programs. This creates a level of prestige in the profession that teaching in the United States does not have. Teachers in these countries are also paid at competitive levels compared to other professions requiring similar levels of education. Retention rates are high, and there is very little turnover once

teachers have started their career. In Finland, 90% of teachers remain in the field for the entirety of their career (National Center on Education and the Economy, 2018).

Is it realistic to propose that the United States make an about-face and approach teaching in the same way? Probably not. While most educators would likely agree that such a change in the profession would be wonderful, the prospect of getting there in a timely way that will solve the present issue is unlikely. When thousands of classrooms have no teacher assigned, those vacancies obviously must be filled immediately, and in many cases, the person who does so is just a warm body (Sutcher et al., 2016b). We must therefore first and foremost address the immediate crisis at hand. We have done so through creating alternative pathways and fast tracks, increasing recruiting efforts, and finding ways to decrease attrition.

In the current political landscape, where we have a vocal percent of the population questioning the value of higher education and a very palpable backlash against academia and intellectual engagement, the possibility of reaching an agreement on the importance of equitable access to high-quality education becomes difficult to imagine. There is, however, a flicker of hope as the national conscience seems to be paying more attention to access to and the importance of education. A decade ago, even liberal politicians on the left had joined the education choice movement, lambasting teachers' unions who fought for the collective bargaining rights of teachers. When Vermont Senator Bernie Sanders ran in U.S. presidential primaries against Hilary Clinton, a new narrative began emerging concerning the importance of education in a democracy and that in fact such education should be free and accessible to everyone.

A new support for the workers in society was also highlighted. Unions that had been bashed and villainized by the press and the public and by viral documentaries such as the 2010 *Waiting for Superman* were starting to feel the shift, and they began to feel emboldened to protest (Chilcott & Guggenheim, 2010). From the beginning of 2018 to today, teachers in West Virginia, Oklahoma, Arizona, Kentucky, North Carolina, Colorado, Virginia, and most recently, Los Angeles, Denver, Chicago, and Oakland have all engaged in protests, walk-outs, and strikes. The media and the nation are finally paying attention. A slew of articles reported on the low salaries and the poor working conditions of teachers. *Time Magazine* ran a cover story in September 2018 that featured stories of teachers in America. The cover image showed Hope Brown, a U.S. history teacher, sitting at a desk in a classroom in Kentucky, and its headline read: “I work [three] jobs and donate blood plasma to pay the bills. This is what it’s like to be a teacher in America” (Reilly, 2018, cover).

The negative imagery and stark reality of teaching may certainly have had a cooling effect on young high school and college students making decisions about their future careers, yet the tiny flicker of hope is that the nation is waking up to the reality that teachers have known all too well for a very long time. The hope is that this new attention and public pressure will motivate politicians and policymakers to pay greater attention to the field of education and write policy that lifts the profession up. In doing so, a new educational system will be built in the state and country that provides *all* children, no matter their background, socioeconomic status, race, or ability with a quality education provided by strong teachers that are prepared to teach, excited about the work that they do, and supported in that work by a system and society that values the integral importance of education.

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