
Ensuring Access to High-Quality Learning Opportunities for All Students

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The Learning Policy Institute: Research Action Impact Mission

The Institute conducts, commissions, and communicates independent, high-quality research to advance evidence-based policies that support empowering and equitable learning for all children.



What I Will Talk About Today

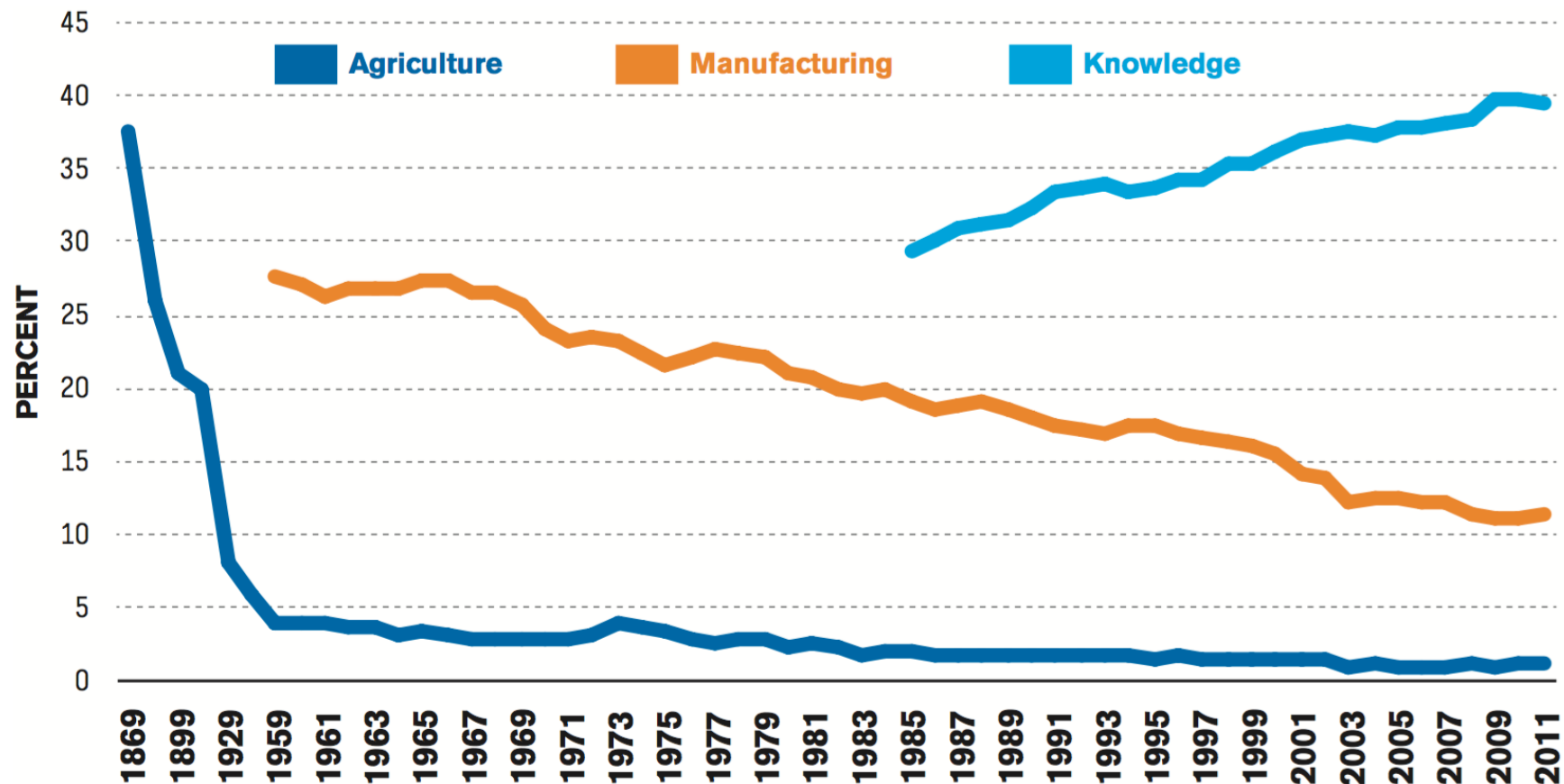
- The radically changing economy
- The skills, knowledge and dispositions students need
- Implications for teaching
- Trends in the current teacher workforce
- Implications for action



A Turbulent, Technological and Transformed Global Economy

Figure 1. Share of U.S. GDP: Agriculture, Manufacturing, Knowledge/Technology-intensive Industries (estimated)

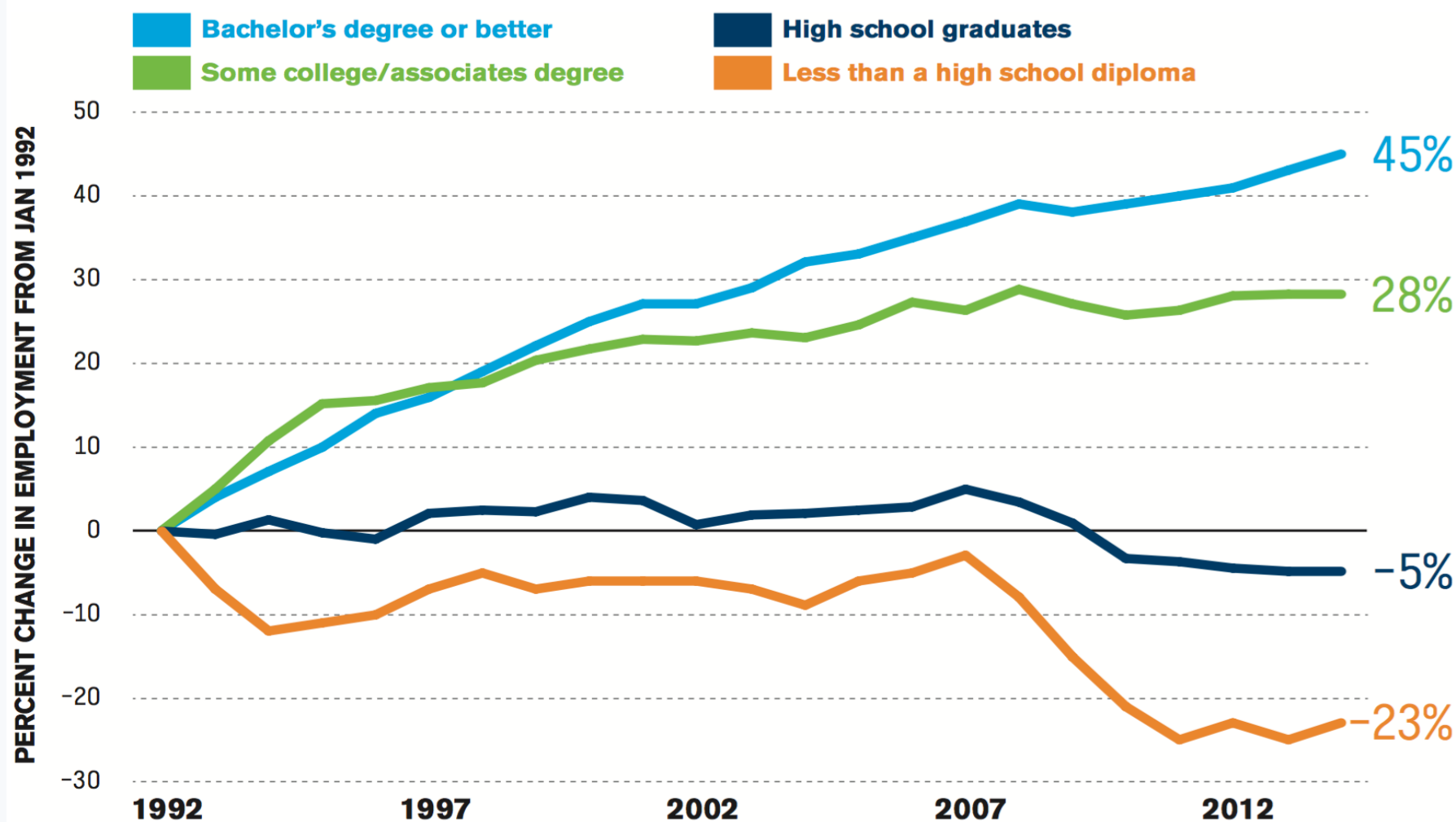
Publicly Available Data Sources: A Brief History of Agriculture, Persistence Pays, U.S. Agriculture Productivity Growth and the Benefits from Public R&D Spending (Alston, Anderson, James, Pardey), 2010, Springer; Economic Reports of the President; Science and Engineering Indicators, National Science Foundation. Data not readily available for all years.



Implications for Returns on Education

Figure 13. Employment Growth by Educational Attainment

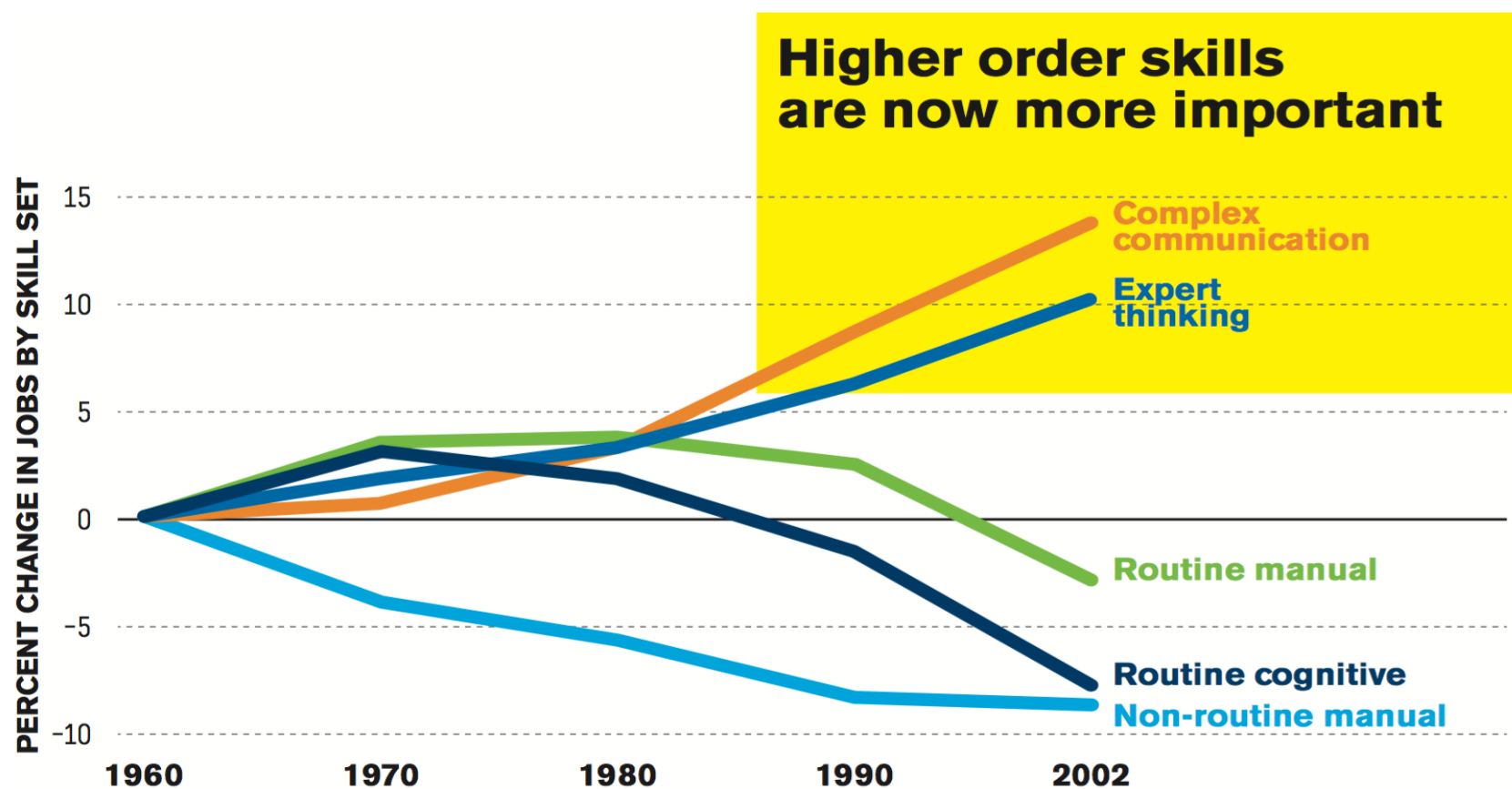
Source: Bureau of Labor Statistics



It's Really about Skills, Knowledge and Dispositions

Figure 11. Higher-Order Skills Have Grown in Importance, Driven by Technological Change and Globalization

Source: Updated version of Figure 1 in David H. Autor, Frank Levy, and Richard J. Murnane, "The Skill Content of Recent Technological Change: An Empirical Exploration," *Quarterly Journal of Economics*, 118(4), November 2003. See also Frank Levy and Richard J. Murnane, "How Computerized Work and Globalization Shape Human Skill Demands," May 31, 2006.



So What Do Students Need to Know and Be Able to Do?

- Master core academic content
- Think critically and solve complex problems
- Work collaboratively
- Communicate effectively
- Learn how to learn
- Develop academic mindsets



Some Big Implications for Learning

NOT:

- Copying, memorizing and reproducing
- Individual seat work
- Acquiring knowledge

RATHER:

- Understanding principles and relationships conceptually
- Community of practice
- Becoming learners

Lambert, 2016

Implications for Teaching

- Create tasks that ask students to make sense of content
- Build on what students know, not faulting them for what they do not
- Use tools and routines that support collaboration and communication
- Offer productive forms of assessment and accountability
- Make it safe and productive for students to publicly perform their academic competency
- Emphasize productive struggle with core content

(Lambert, 2016)

This Is Not News for Teacher Preparation with Increased Efforts to:

- Build strong content knowledge
- Focus on how to teach that content (pedagogical content knowledge)
- Extend and deepen clinical experience
- Develop productive partnerships with schools and districts

But: What Are We Facing in the Future?

Anecdotal Evidence of Teacher Shortages

**Principals say state teacher shortage now
a crisis**

**Bay Area schools
teacher shortage**

SD schools

State finds teacher shortage in more subject areas

**Teacher shortage
special ed p**

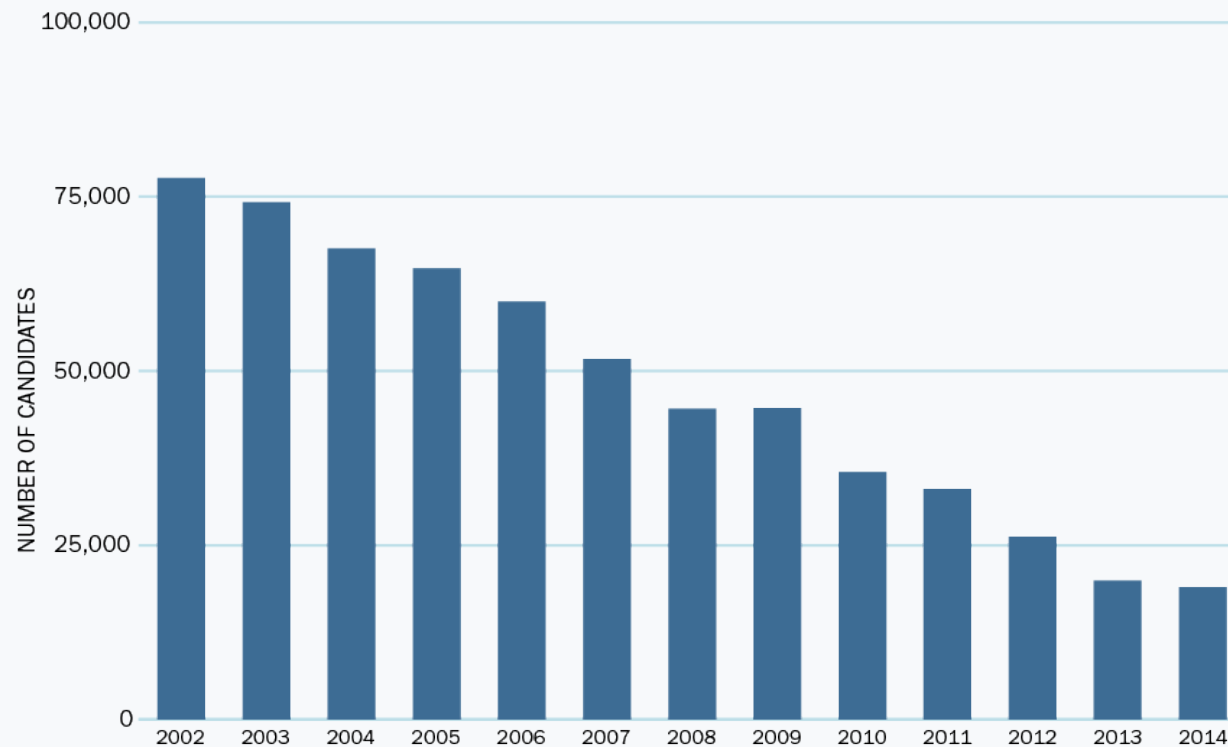
**SHORTAGE OF TEACHERS
IN CALIFORNIA AFFECTS
LOCAL SCHOOL
CLASSROOM SIZES**

Teacher Shortage

SLO County school districts feeling impacts of teacher shortages

**Monterey County dealing
shortage**

Teacher Preparation Enrollments Down 76%

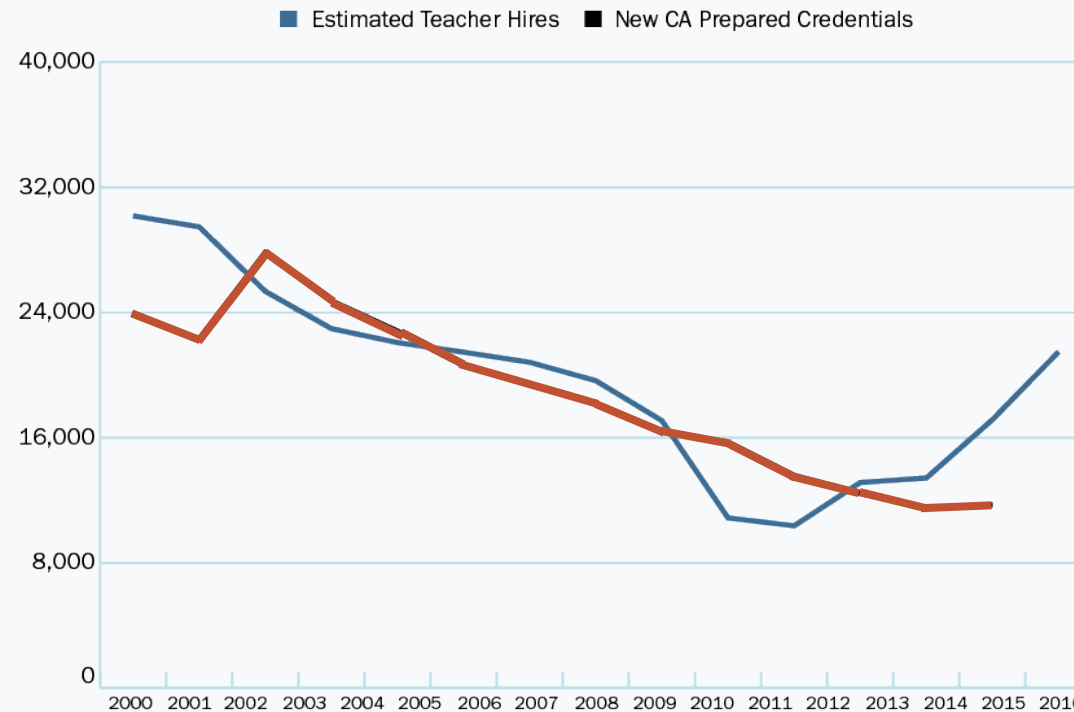


Number of candidates enrolled in California teacher preparation programs, 2001-02 to 2013-14

Source: California Commission on Teacher Credentialing, 2002-2014. Teacher Supply in California: A Report to the Legislature. Data available at <http://www.ctc.ca.gov/reports/all-reports.html>; 2014 Title II State Program Information. Data available at <https://title2.ed.gov/Public/Report/StateHome.aspx>.

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California's Teacher Shortage



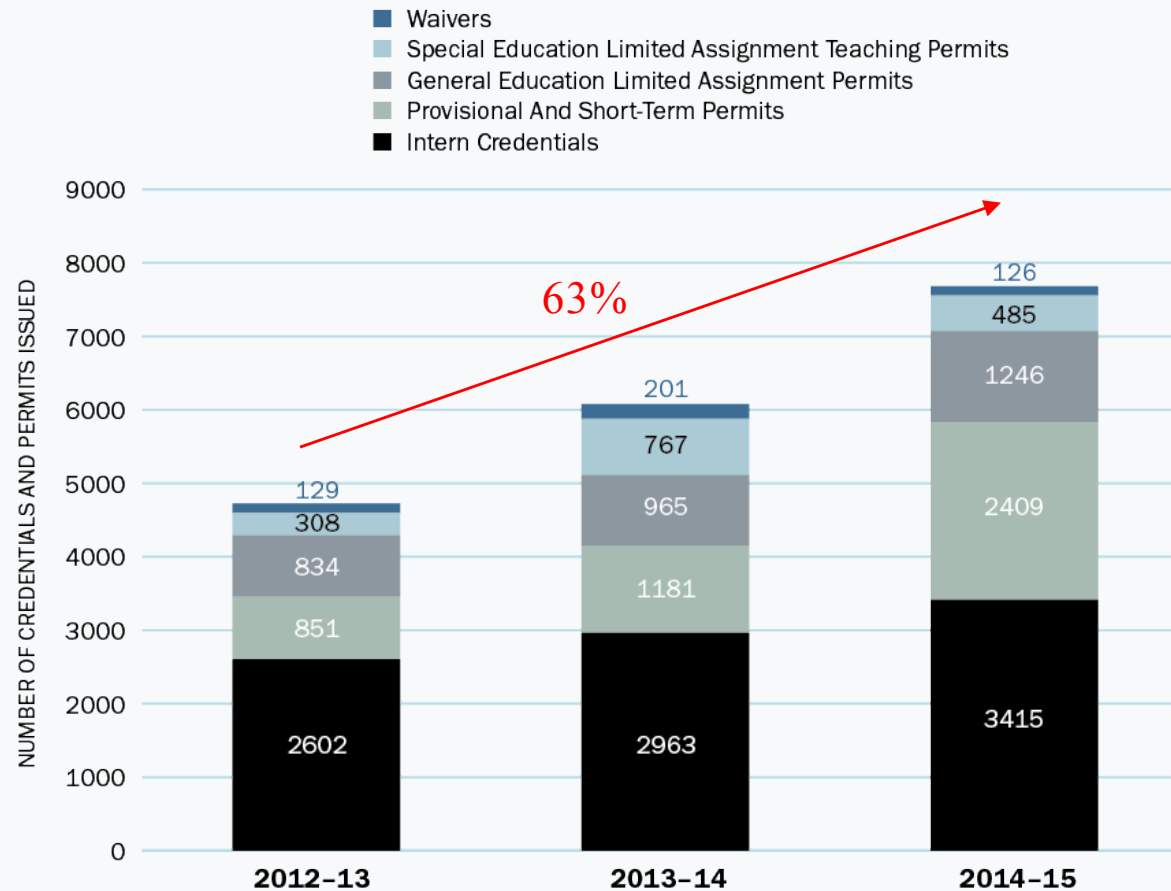
Number of preliminary new teaching credentials issued and district-estimated new hires, 1999-2000 to 2015-16

Note: Estimated teacher hires are reported annually by each California school district for the upcoming school year. New credentials are preliminary credentials issued to California-prepared teachers. 2014-15 credential data are preliminary.

Source: Estimated hires data are from California Department of Education DataQuest Web Page, at <http://data1.cde.ca.gov/dataquest/>. New credentials data were provided from the California Commission on Teacher Credentialing upon request.

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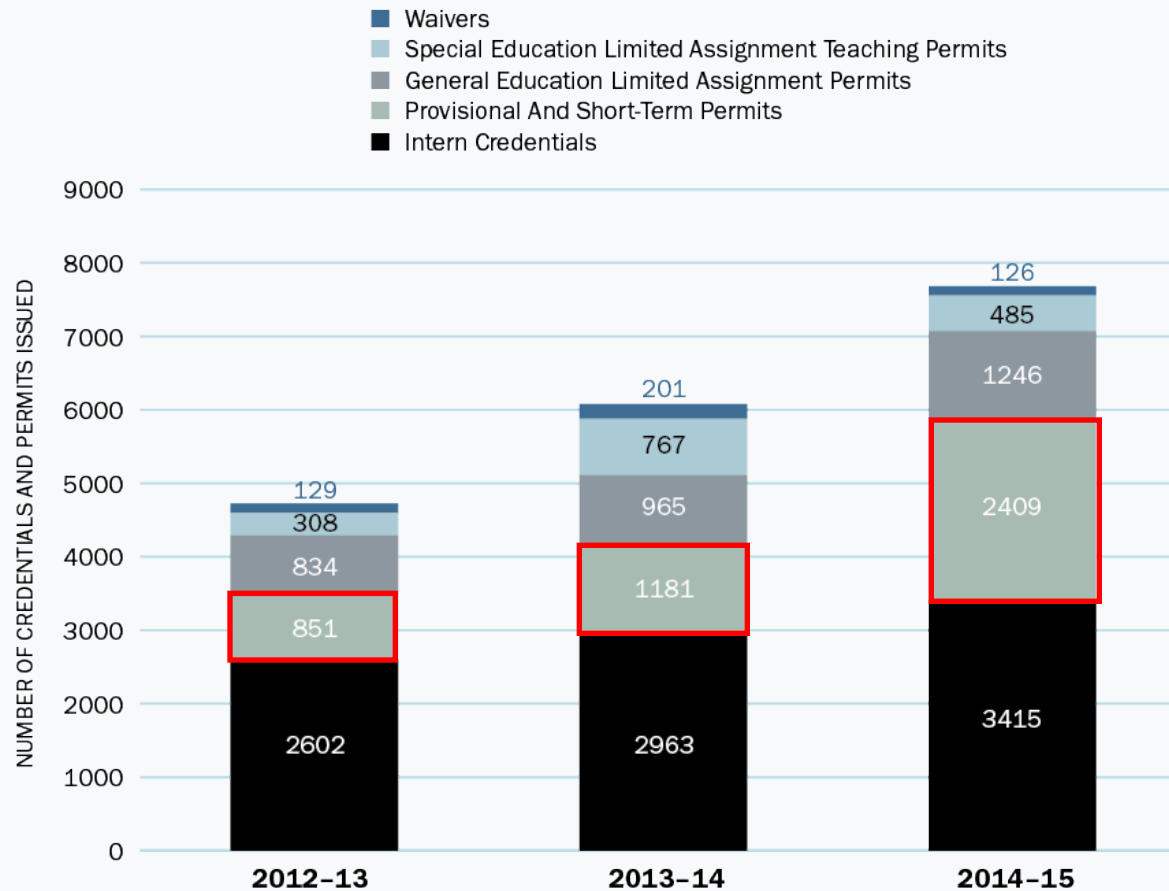
Underprepared Teachers Are on the Rise



Note: Number of credentials issued between July 1st of each year and June 30 of the following year.
(See Appendix B.)

Source: Data provided by the California Commission on Teacher Credentialing through a special request.
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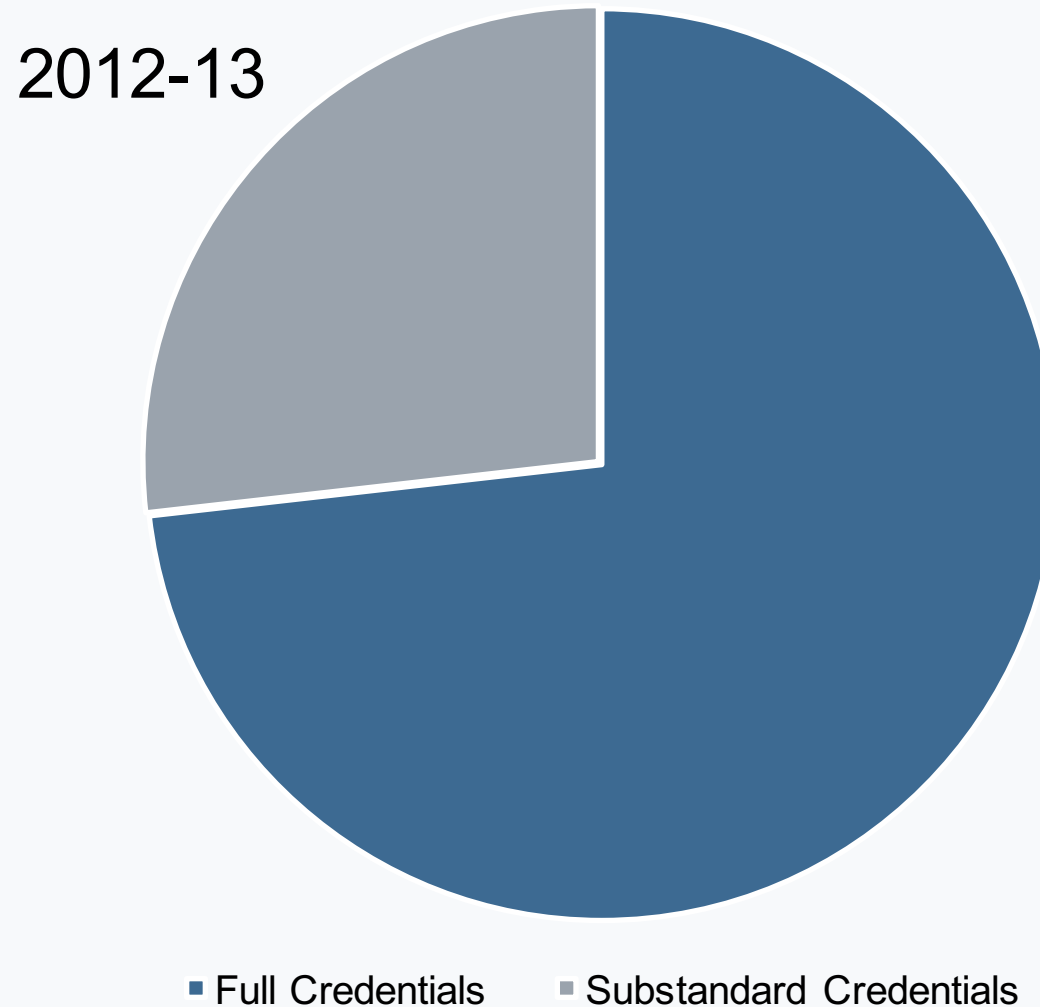
The Least Prepared Teachers Are Growing the Fastest



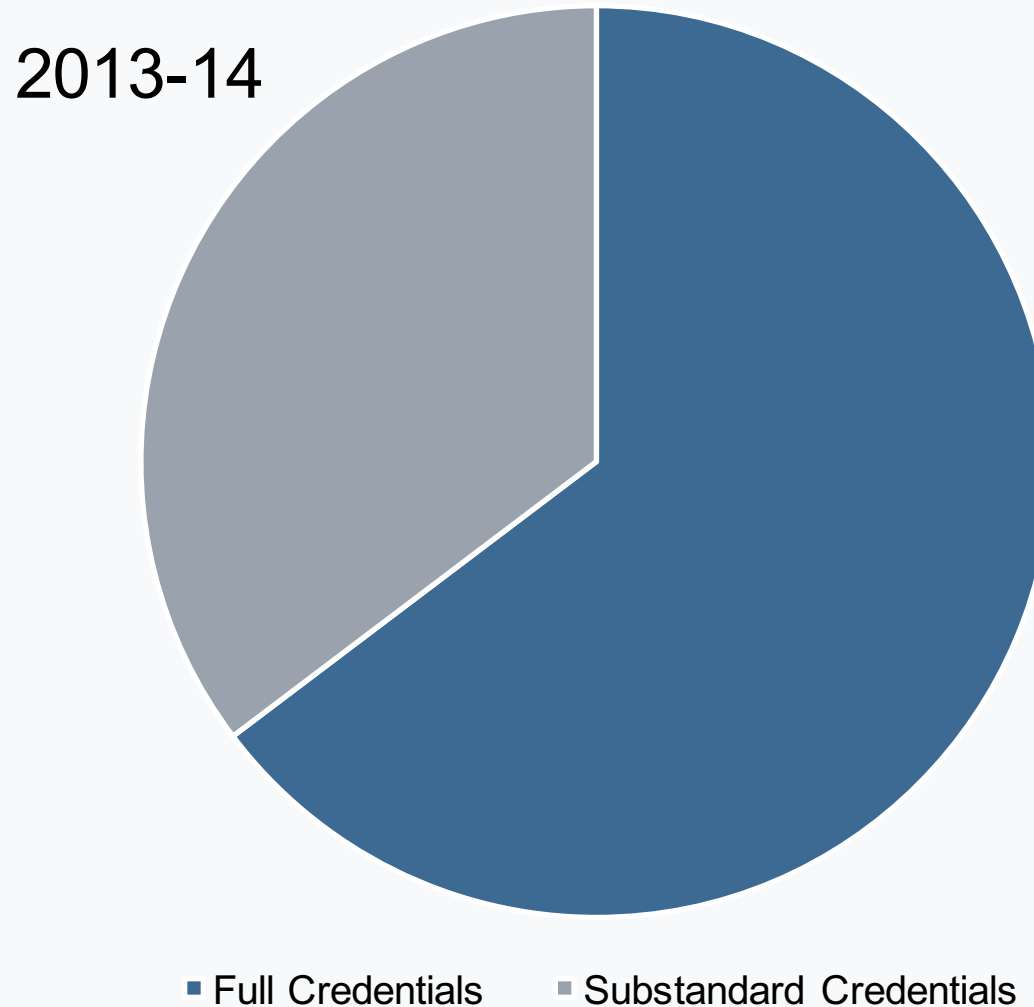
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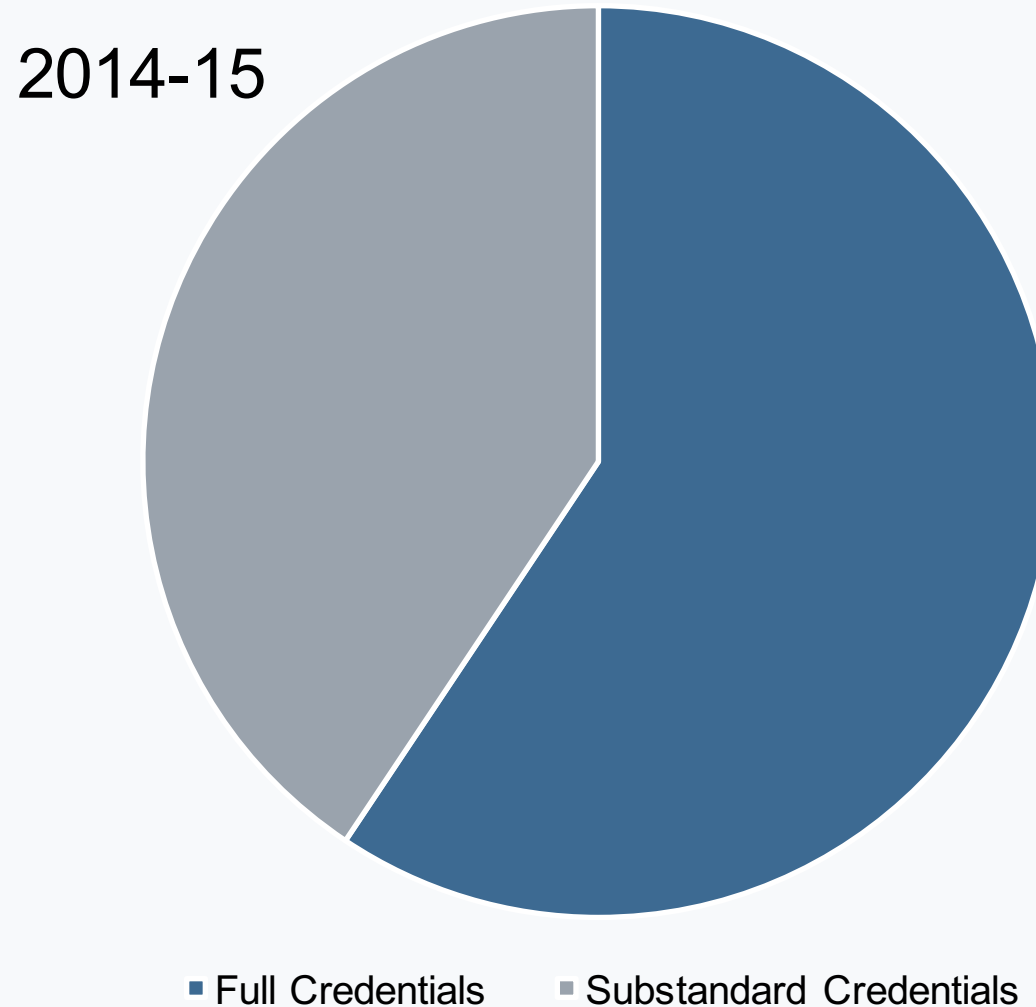
2013: 26% of New Credentials and Permits Are Issued to Underprepared Teachers



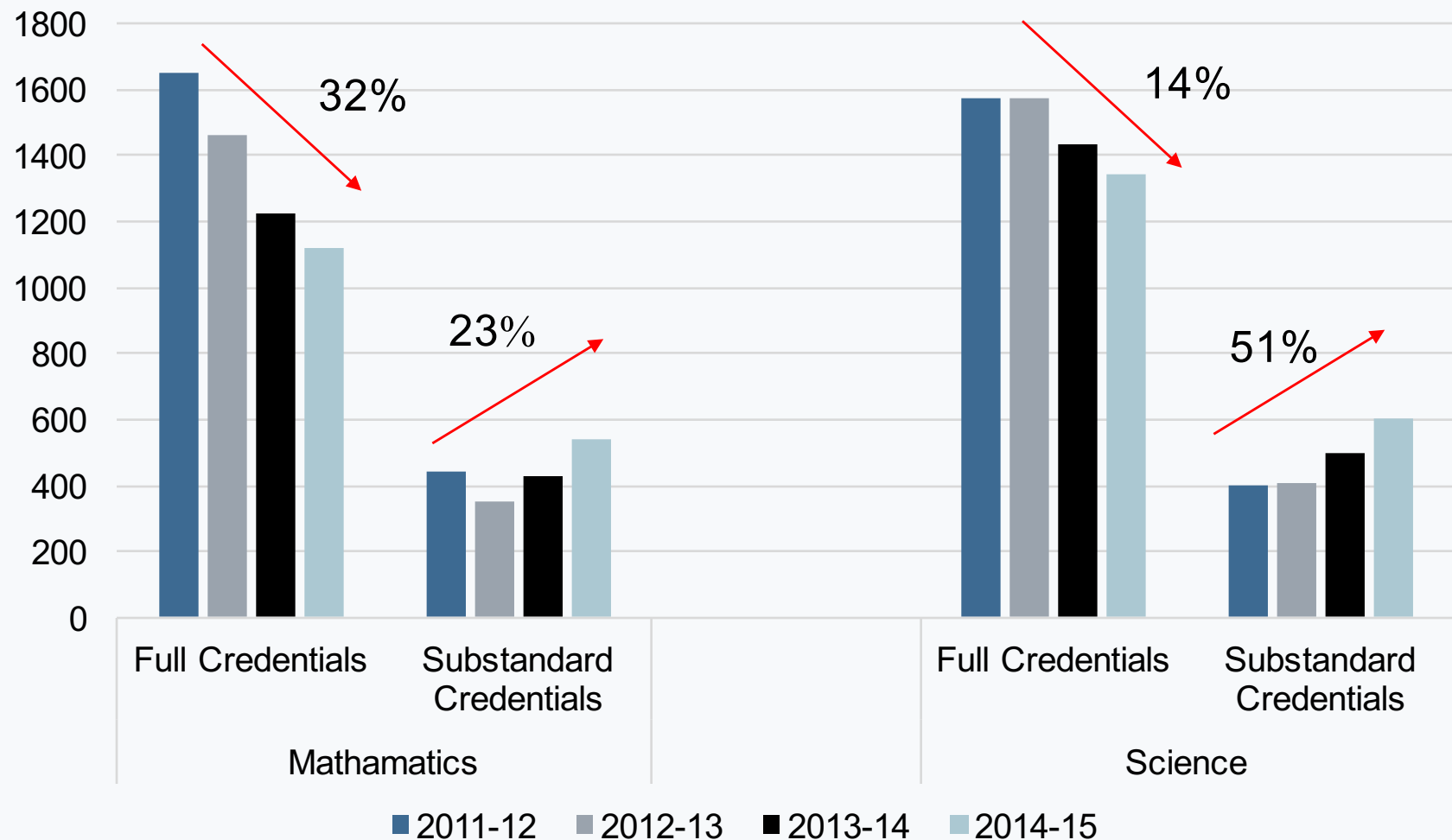
2014: 35% of New Credentials and Permits Are Issued to Underprepared Teachers



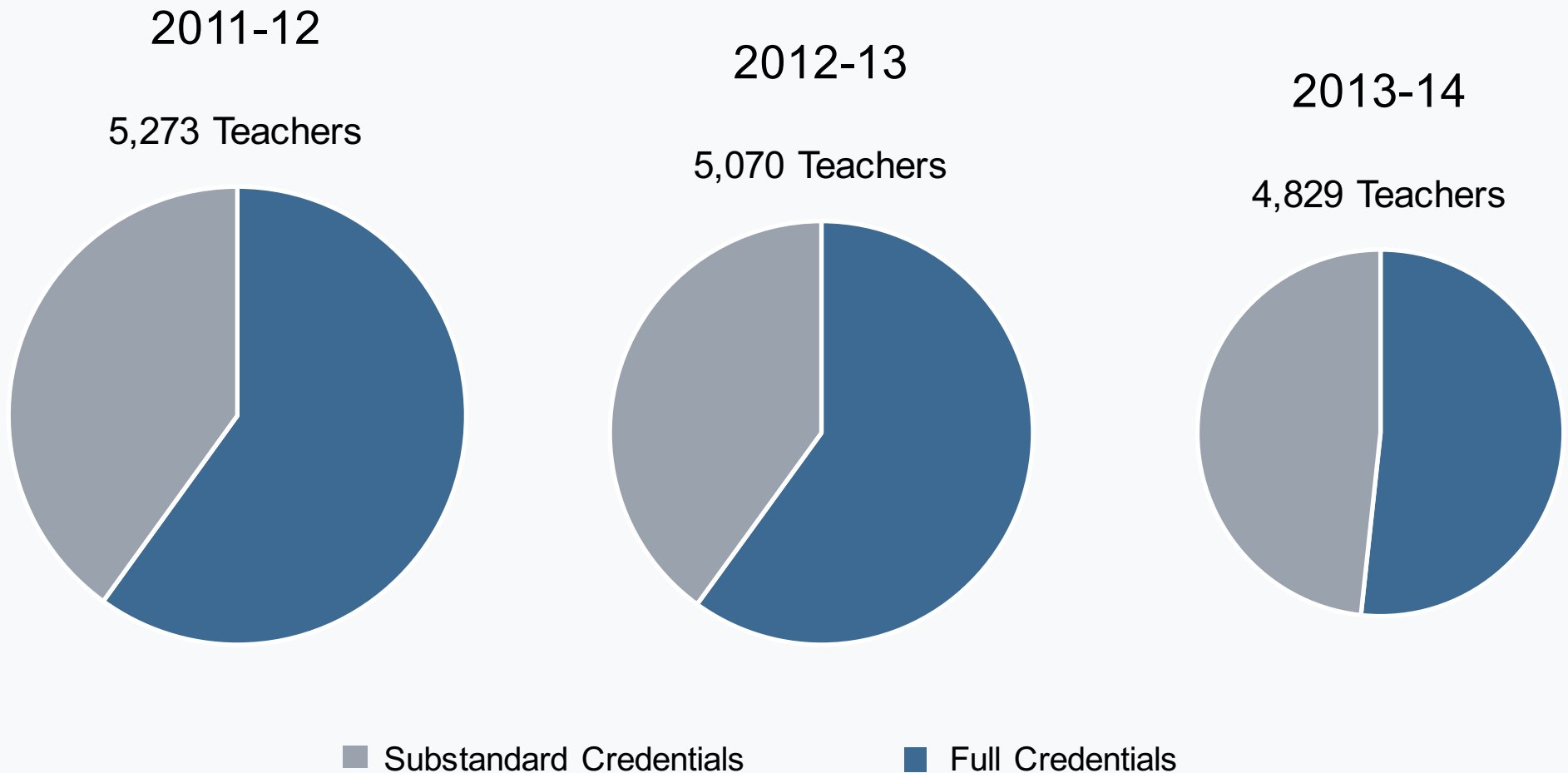
2015: More Than 40% New Credentials and Permits Are Issued to Underprepared Teachers



Math and Science: New Fully Prepared Teachers Decline As Underprepared Teachers Increase



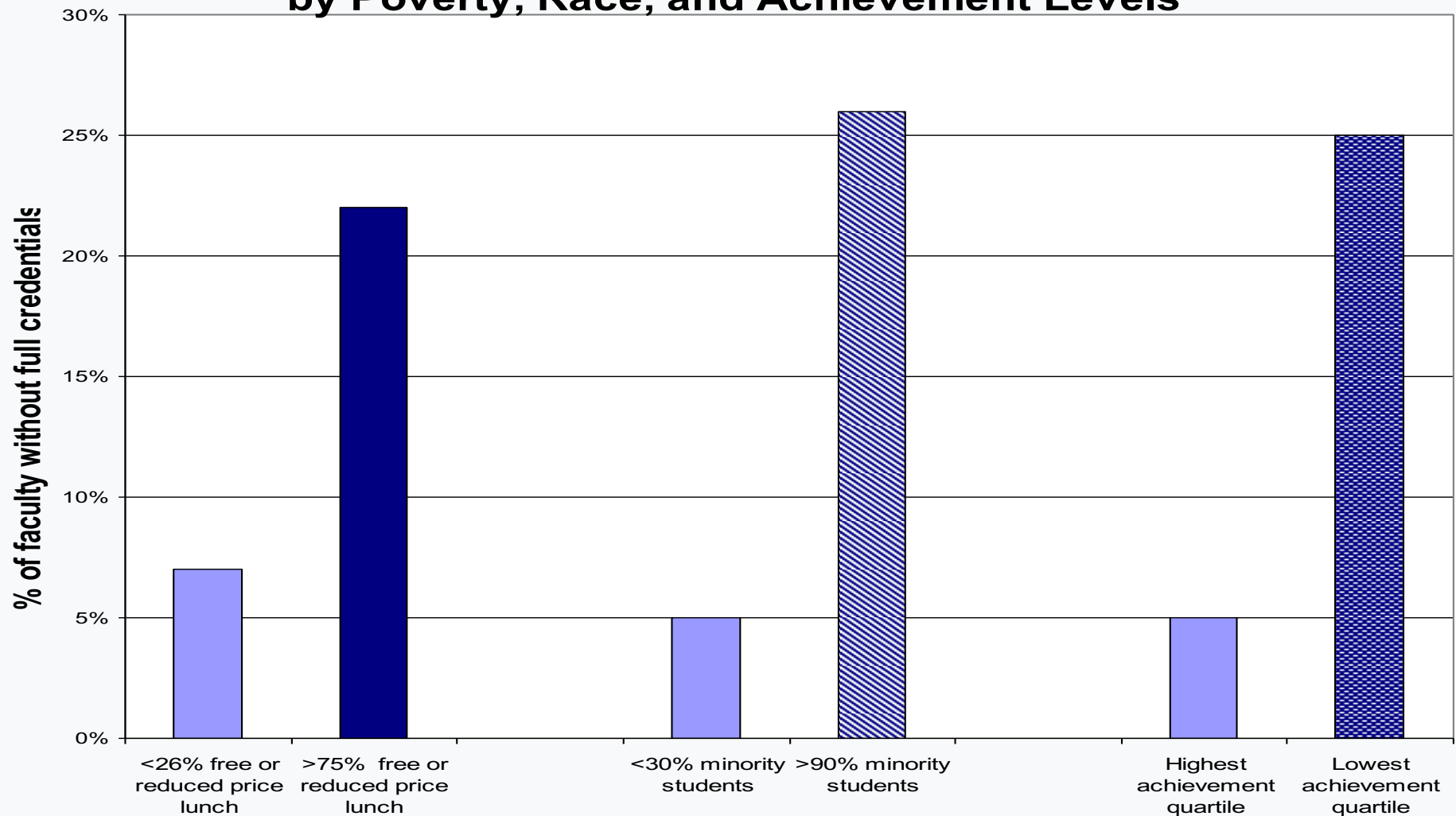
Almost 50% of Entering Special Education Teachers are Underprepared



Déjà vu all over again

Unequal Access to Qualified Teachers in California, 2000

**Distribution of Uncertified Teachers
by Poverty, Race, and Achievement Levels**



Source: Shields et al., 2001

Learning from the Past

“ [A]cross most schools, teachers of English Language Learners (ELL) felt least prepared. For example, one teacher explained that she was assigned a sheltered class when she first came to the school and thought it was for foster care students from homeless shelters. Several reading teachers also had no preparation in reading instruction and were teaching students who were reading well below grade-level. According to both teachers and administrators, teachers’ inexperience accelerates teacher burnout”

-- Williams v. California

What Matters in Recruiting and Retaining Teachers

- Attractiveness of the Profession
- Compensation
- Preparation
- Mentoring
- Teaching Conditions

What do Successful States and Countries Do?

- Respect for Teaching as a Profession
- Career-Long Commitments and Low Attrition
- Comparable Compensation with Other Careers
- Free Preparation in High-Quality Programs
- Guaranteed Mentoring and Supported Induction
- Ongoing Learning Opportunities, including Collaborative Learning Time

What Should We Do?

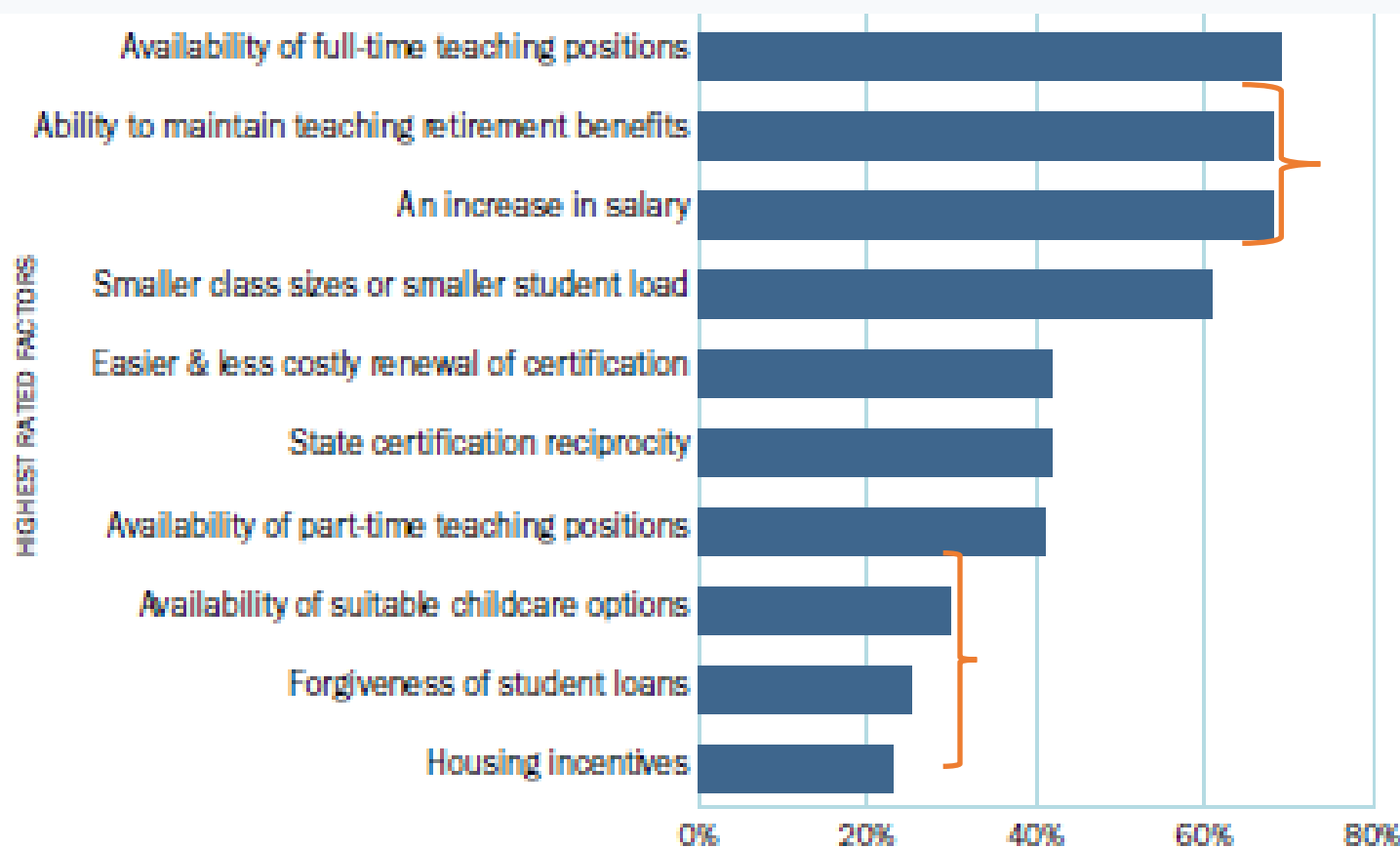
Value the Teachers We Have: Support Retention

1. Ensure high-quality mentoring for novices
2. Make teaching affordable: salaries, housing subsidies, child care, retiree options
3. Address the conditions of teaching: pupil loads, supportive principals, collegial time

Stemming Attrition Has Many Benefits

- High rates of attrition undermine achievement for all students in a school
- Each teacher replacement costs \$15,000 - \$20,000
- Reducing attrition could solve most of the teacher shortage problem
 - Cutting overall attrition from 8 % to 3% would reduce hiring needs in half

What Would Bring Leavers Back?



Factors rated by former teachers as important in a decision to return

Source: U.S. Department of Education, National Center for Education Statistics, 2012-13 Teacher Follow-up Survey.

Attracting Great Teachers to High-Need Schools

“ I would move [to a low-performing school], but I would want to see social services for parents and children, accomplished leadership, adequate resources and facilities, and flexibility, freedom and time.... One of the single greatest factors in school success is principal leadership. Effective administrators are magnets for accomplished teachers..... Finally, as an accomplished teacher, my greatest fear is being assigned to a hard-to-staff school and not being given the time and the flexibility to make the changes that I believe are necessary to bring about student achievement.”

-- National Board Certified Teacher

What Should We Do?

Be Strategic About Recruitment

1. Reinstate CalTeach to entice and connect prospective teachers to programs & jobs
2. Subsidize Preparation for high-need teachers:
“If you teach we will pay for your education.”
3. Support early pipelines into teaching: Career Pathways, Grow Your Own Programs

What Should We Do?

Invest in Successful Preparation

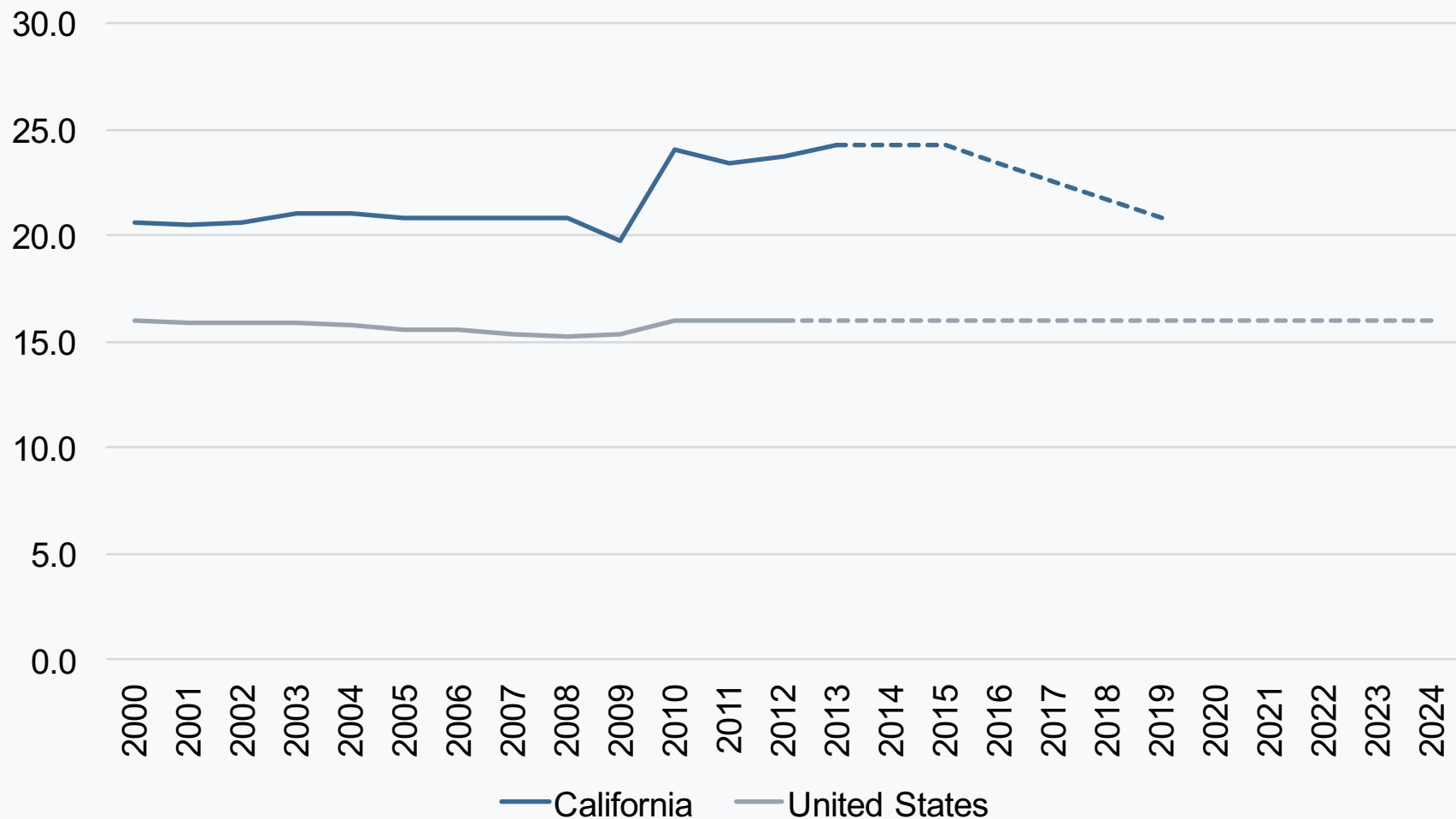
1. Create a CA Teacher Corps with teacher residencies in high-need communities
2. Expand undergraduate options
3. Invest in and expand new model blended programs for special education, bilingual / ELD teachers, & others

Where can we get the money?

- **Workforce Investment Act** \$ can be used to address workforce shortages - \$460 million (85% local; 15% state): local strategies and state teacher education investments
- **Professional Development Block Grant** can be used for beginning teacher mentoring, residencies, learning supports
- **Proposition 98 / LCFF** funds can be deployed for CalTeach, teacher residency programs, compensation and working conditions
- **Federal funds** are available to supplement scholarships and teacher residencies

Looking to the Future

CA Needs 60,000 Additional Teachers to Return to Pre-Recession Student-Teacher Ratios



CA Needs 135,000 Additional Teachers Reflect the National Average Student-Teacher Ratio

