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Teacher Quality in a Changing Policy Landscape: Improvements in the Teacher Pool



Policy Information Report
ETS Policy Information Center
December 12, 2007

Teachers' Academic Quality Is Improving

- Policies and strategies aimed at improving teacher quality appear to be working
- Improvements are broad-based
- These improvements bode well for our nation's elementary and secondary school students
- Several challenges remain, including the lack of diversity among teacher candidates and the different academic profiles of some groups of teachers



There Are Longstanding Reasons for Paying Attention to Teacher Quality

- Teachers' academic quality directly affects student learning
- Historically, research has shown that teachers have weaker academic profiles than many other professions
- Concerns about the distribution of academic quality among teachers are particularly troubling
 - Urban, rural and poor children are least likely to have consistent access to quality teachers

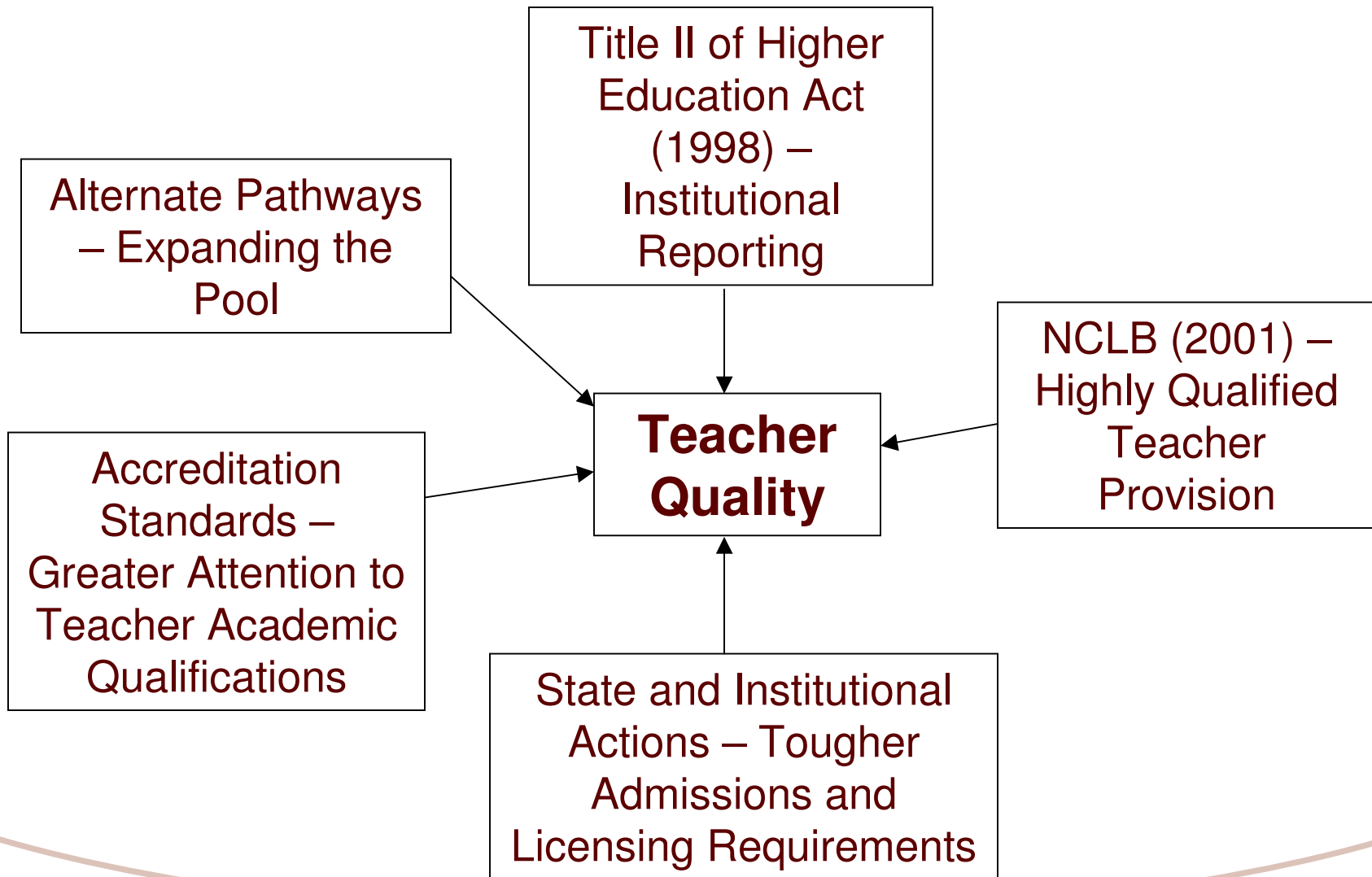


ETS Prior Research Identified Significant Differences Among Elementary and Secondary Teachers

- The story of academic quality has had several threads
 - The prospective teaching force was not homogenous – quality varied
 - Subject-matter-certified prospective teachers had relatively strong academic backgrounds
 - Prospective elementary and special education teachers were relatively weak academically
- Licensure testing has improved the academic profile of prospective teachers



Unprecedented Policy Actions to Improve Teacher Quality



Research Focused on Changes in the Prospective Teacher Pool

- Demographics (gender, race/ethnicity, SES, language proficiency)
- Academic characteristics (GPA, SAT[®])
- Academic background (academic major, teacher education program)
- Prior teaching experience



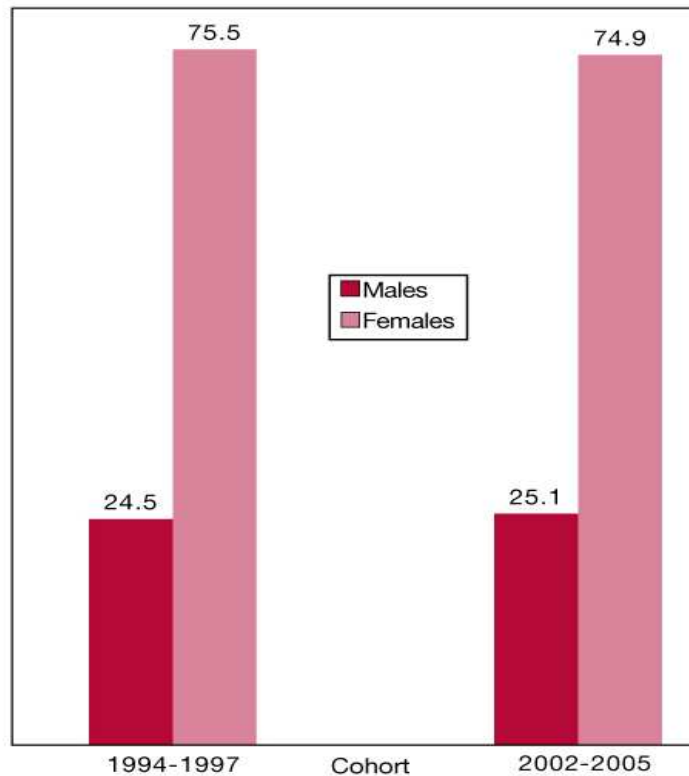
Study Description

- Teachers' academic quality defined by SAT scores and undergraduate GPA
- Data included *Praxis*[™] test takers from 2002-2005 for whom we also had SAT scores
- Results from 2002-2005 were compared with 1994-1997 *Praxis* test takers
- Data were based on 20 states and the District of Columbia



Demographics Have Not Changed and Do Not Mirror the Public-School Population

Percentage of Praxis Test Takers by Gender



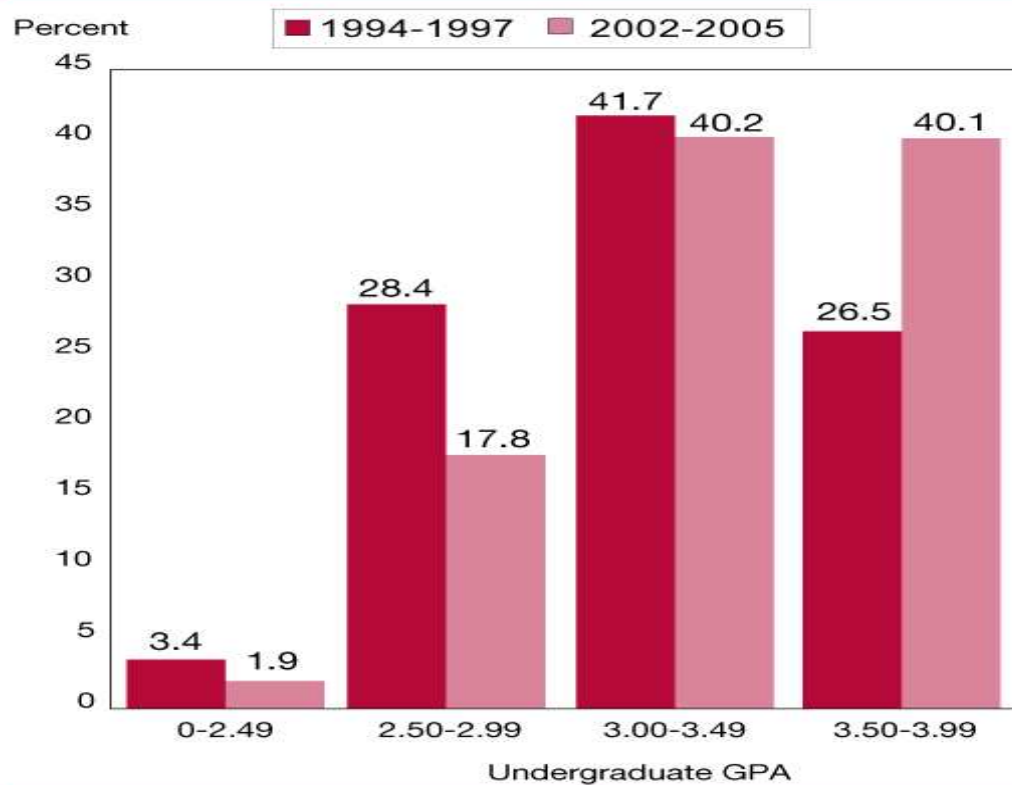
Comparison of the Racial/Ethnic Diversity of Praxis Candidates and K-12 Population for 2003

| Racial/Ethnic Group | Praxis Candidates | K-12 Public School Population |
|---------------------|-------------------|-------------------------------|
| African American | 8% | 16% |
| Hispanic | 3 | 19 |
| White | 88 | 58 |
| Other | 1 | 7 |

Source: Data for K-12 public school population are from National Center for Education Statistics, *The Condition of Education 2005*, U.S. Government Printing Office, 2005.

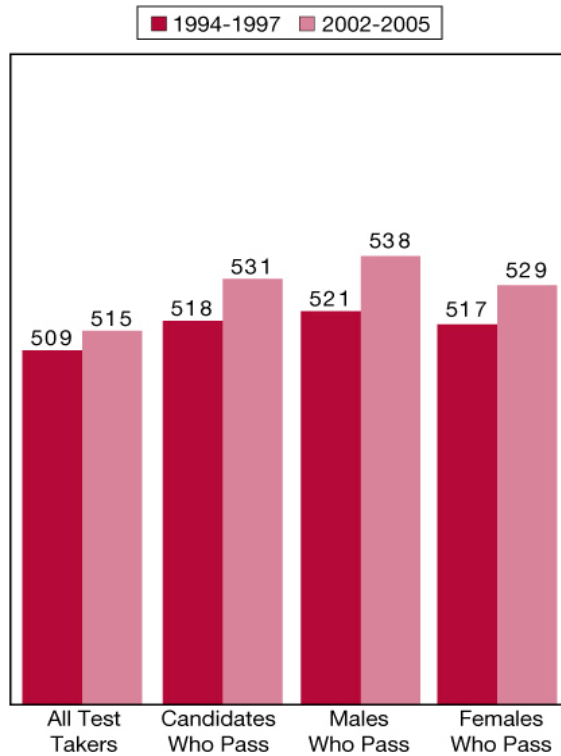
GPA of *Praxis* Test Takers Has Improved

Undergraduate Grade Point Averages (GPA) of Praxis Test Takers

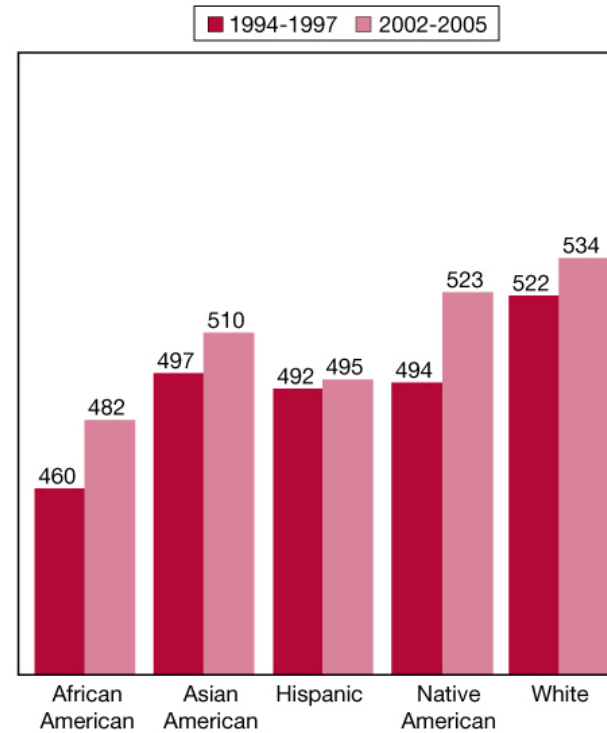


SAT Scores Have Increased

SAT Verbal Scores for Praxis Test Takers

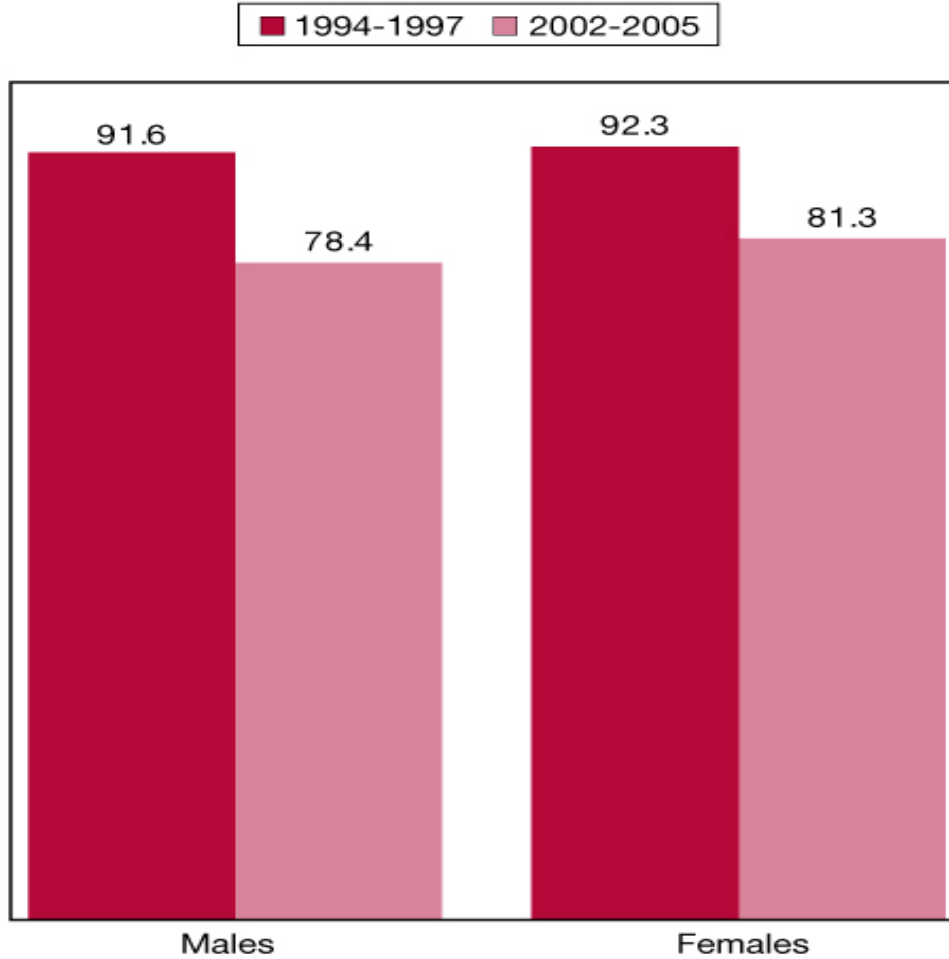


SAT Verbal Scores by Racial/Ethnic Group for Those Who Pass Praxis Tests



Praxis Passing Rates Have Declined

Praxis Passing Rates by Gender



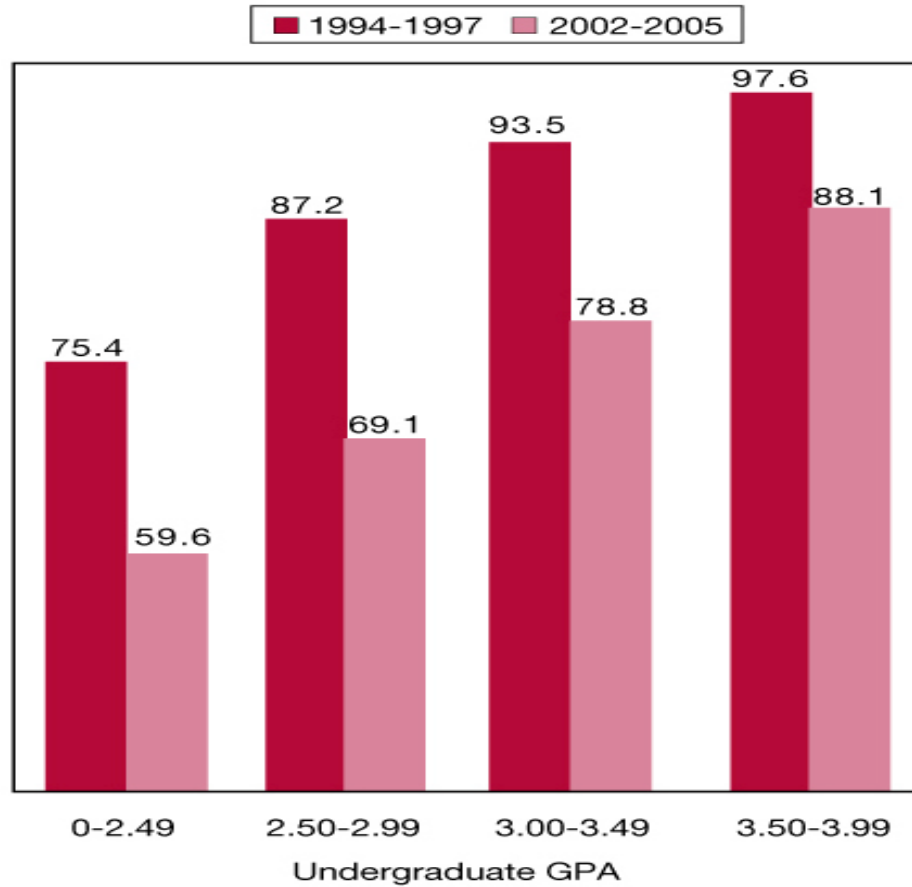
Tougher Testing Requirements Account for Lower Passing Rates of the Recent and More Able Cohort

- 80% of states have raised their minimum passing scores or changed the required tests
- *Praxis* tests are aligned with the Standards movement
- *Praxis* tests are aligned with modern conceptions of teaching practice



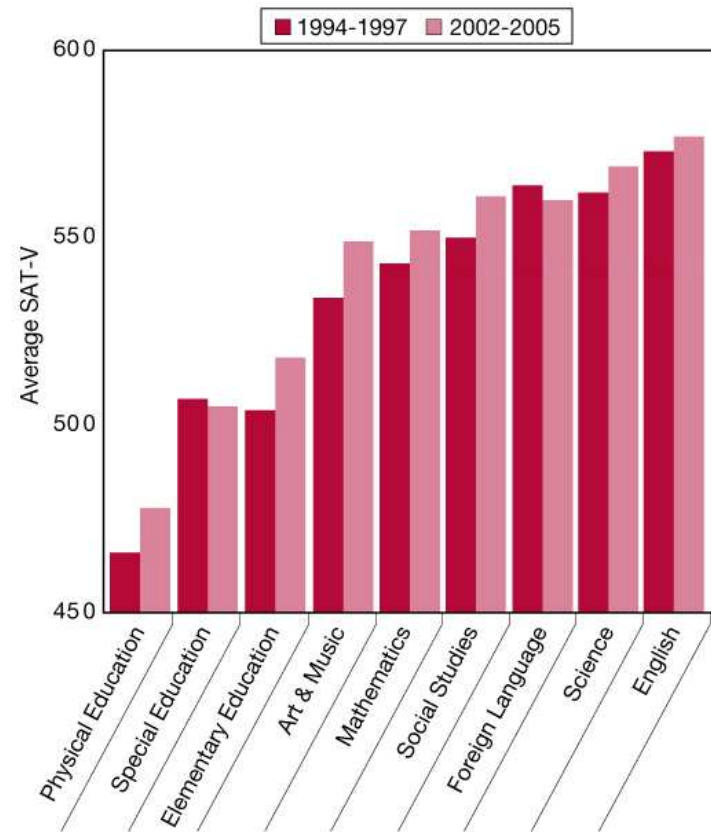
Students With Better Grades Do Better on Teacher Licensure Tests

Undergraduate GPA and Percentage Passing Praxis Tests



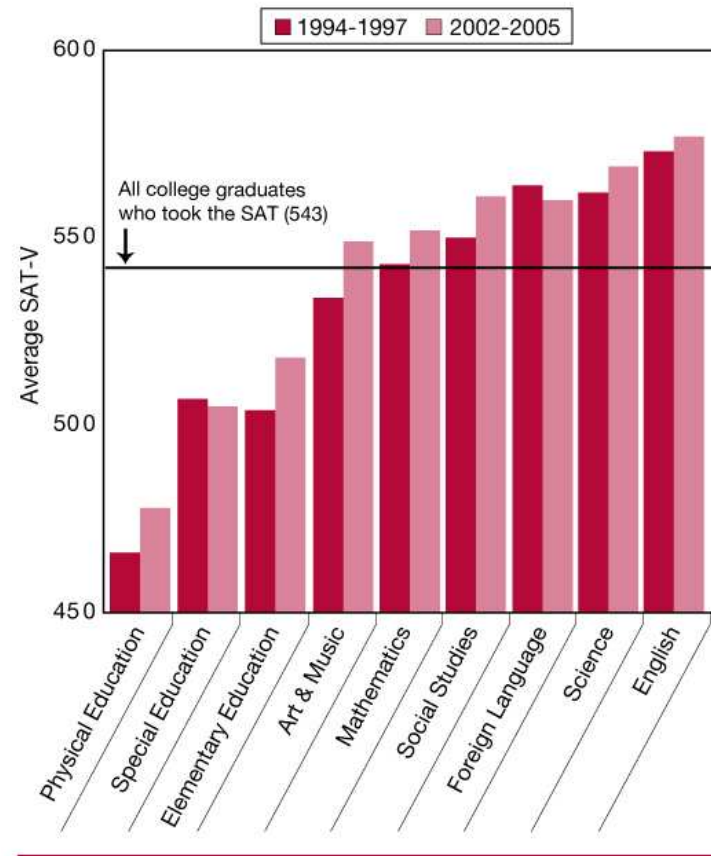
Subject-Matter-Certified Teachers Have Higher SAT-V Scores Than Elementary-Certified Teachers

SAT Verbal Scores by Licensing Area for Those Passing Praxis Tests



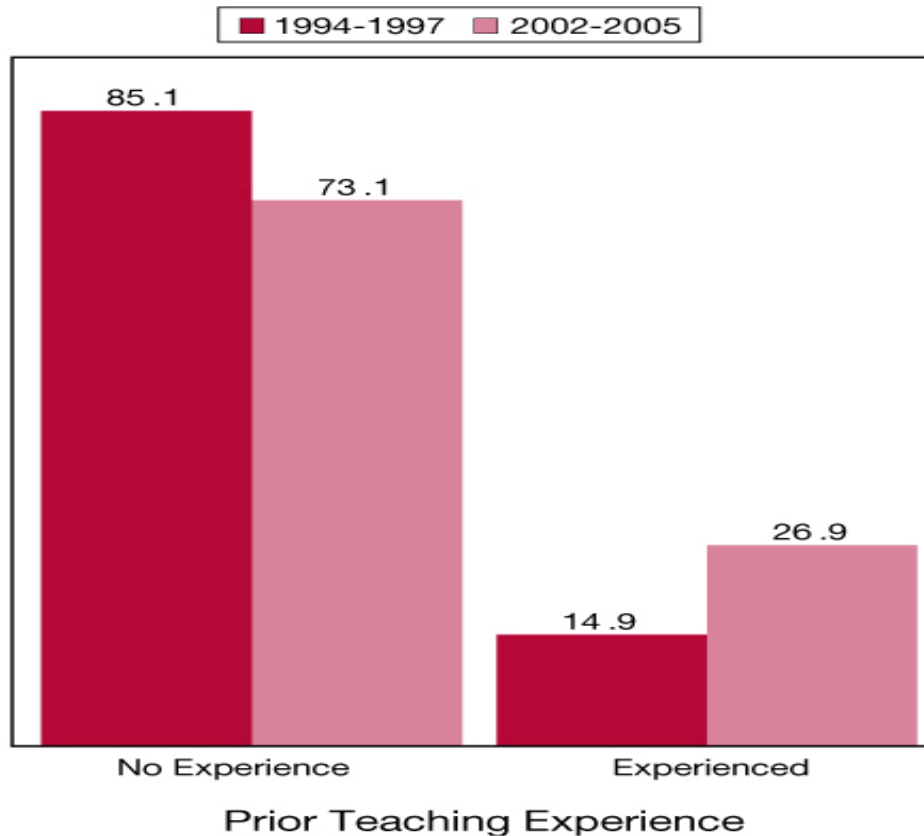
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The Proportion of Test Takers With Prior Teaching Experience Has Increased

Percentage of Praxis Test Takers by Teaching Experience



Graduates of Teacher Education Programs Have Higher SAT Scores Than Graduates in the Past

Praxis Test Takers Currently in Teacher Education with no Prior Teaching Experience

| | 1994–1997 | 2002–2005 |
|------------------|-----------|-----------|
| Percent of Pool | 66.3 | 49.9 |
| Passing Rate | 95.4 | 86.0 |
| SAT Verbal* | 522 | 532 |
| SAT Mathematics* | 508 | 524 |

* Of those passing *Praxis*



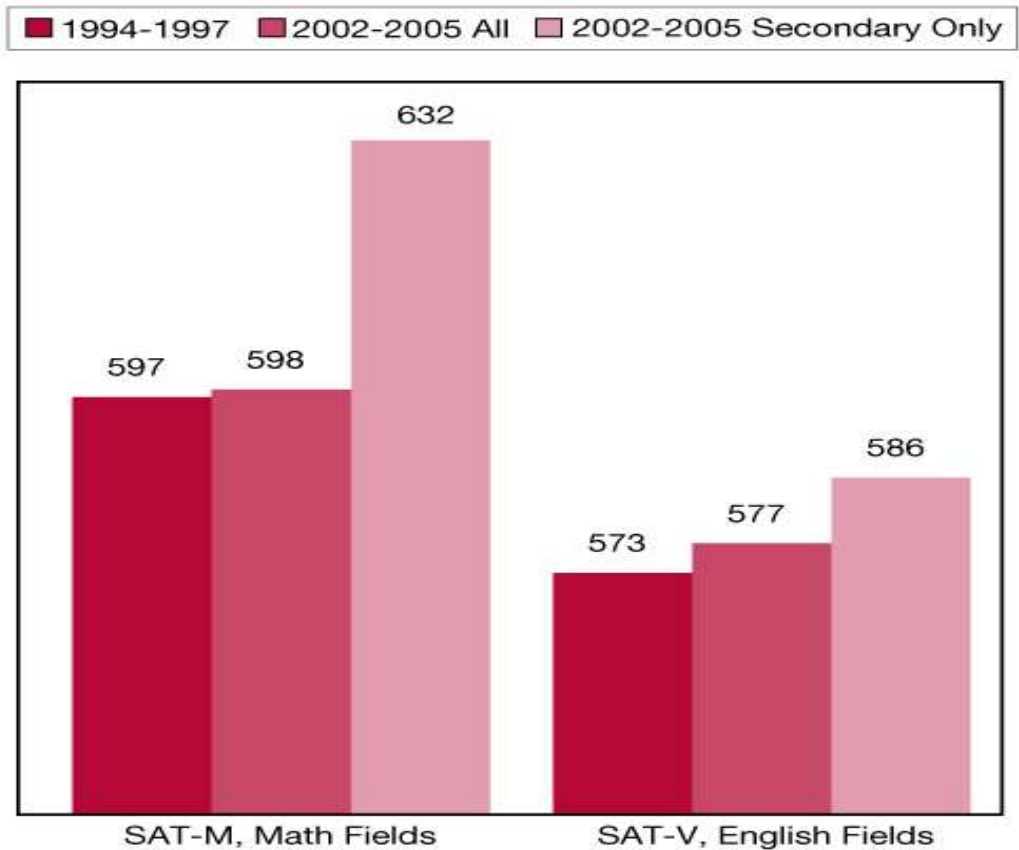
Middle-School Tests Emerge to Satisfy the Highly Qualified Teacher Provision (An Example From Mathematics)

- The middle-school tests were not in use in the 1990's.
- By 2002-2005, over half of all those certified in mathematics took the middle-school content test
- 69% of secondary mathematics test takers majored in math or math education, compared with 4% of middle-school test takers
- 63% of middle-school test takers were elementary education majors, compared with 5% of secondary mathematics test takers
- SAT scores of secondary test takers are 70 points higher than middle-school test takers



Cohort Gains Are Even More Impressive If Only Secondary-Subject Test Takers Are Considered

SAT Scores for Praxis Middle-School and Secondary Subject Test Takers for Math and English Licensure Fields



Much Progress Has Been Achieved Since Recent Spate of Policy Actions

- Policies targeted at improving the academic quality of the teaching force are paying off
- The improvement is broad-based, with credit to:
 - federal policy
 - state policy
 - teacher education institutions
 - alternative routes
 - accrediting agencies
- These improvements should have a significant impact on student achievement



Important Challenges Remain

- The academic profile of elementary, special, and physical education teachers though improving, is relatively weak compared with other college graduates
- A disjuncture exists between the demographic characteristics of the national student population and the pool of prospective teachers



The Following Questions Should Be of Interest to Policymakers and Educators

- How can we ensure all students have access to strong teachers through hiring and retention practices?
- What is the ultimate impact of certification via middle-school content tests on the instructional effectiveness of middle-school teachers?
- What is the ultimate impact of the Highly Qualified Teacher Provision of NCLB?
- How have the changes observed in this study resulted in improvements in teacher instructional practices and ultimately, in student achievement?

