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The Condition of Pre-K-12 Education in Arizona: 2004

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Introduction

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The Condition of Education in Arizona: 2004 is a collection of ten policy briefs examining various key elements of the state's public education system. The authors, contributors, and reviewers of the briefs are, for the most part, on the faculty of Arizona's three public universities: Arizona State University, Northern Arizona University, and the University of Arizona. ***The Condition of Education in Arizona: 2004*** is the first of a planned series of annual reports sponsored by the Arizona Education Policy Initiative (AEPI). Launched in 2003, the AEPI was created to focus the expertise of faculty from Arizona's public universities on significant education policy issues in the state.

Although the topics taken up in ***The Condition of Education in Arizona: 2004*** are varied, there is one common theme: Arizona often lacks adequate data to make important education policy decisions. Again and again, in one area after another, the authors note the lack of data, conflicting data, or data that can not be cross referenced.

Michael Kelley, of ASU West Campus, and Joseph Tobin, of ASU Tempe Campus, examine Early Childhood Education and Care (ECEC) in the state. They note that there is a large number of children on the state's childcare subsidy waiting list, and that there is a significant disparity in wages paid to ECEC practitioners. Beyond that, they note that data necessary to plan efforts to strengthen and expand ECEC are not available. They recommend a variety of strategies to collect the necessary information in key areas.

Kate Mahoney, of ASU East Campus, and Marilyn Thompson and Jeff MacSwan, both of ASU Tempe Campus, assess how policies affecting English Language Learners (ELLs) are interpreted and implemented in the classroom, and to what extent ELLs are progressing academically. They find that the available data are not adequate to answer such questions.

Sarup R. Mathur and Robert B. Rutherford, both of ASU Tempe Campus, examine education for children with disabilities. They find gaps in the data needed to understand the quality of education that children with disabilities receive. There is, for example, little, if any, data available on the quality of the state's pool of special education teachers or on factors that lead to the retention of high-quality special education teachers in Arizona.

Josué M. González and Elsie M. Szecsy, both of the Southwest Center for Education Equity and Language Diversity at ASU Tempe Campus, find the data on minority student performance of limited value because they can not be disaggregated in ways that would make it possible to identify meaningful trends relating to achievement. They note that by not correcting these data deficiencies, the Arizona Department of Education (ADE) is making it difficult, if not impossible, to compare the adequacy of Arizona school programs to those of other states, or to evaluate the quality of the ADE's leadership in helping local schools improve education for all children.

Sherry Markel of NAU examines the twin issues of teacher shortages and teacher quality. She observes that although the federal No Child Left Behind Act of 2001 (NCLB) equates teacher quality almost exclusively with subject matter knowledge, many experts emphasize pedagogical skills that NCLB ignores. This is a significant issue in Arizona because, in the face of anticipated teacher shortages in specific subjects and in certain geographic areas, there is increased pressure for "fast track" teacher education programs that greatly reduce training in pedagogical skills. Markel notes that a growing body of research raises important questions about the value of such "fast-track" models.

Arnold Danzig, of ASU Tempe Campus, and Walter Delecki, of NAU, report on the supply, demand, and preparation of school administrators. They suggest that schools across the state would benefit from a more rigorous and better organized system for selecting the best candidates for administrator preparation. Danzig and Delecki find that data on administrator supply and demand is not particularly reliable or easily available. Additionally, no data are available to compare the performance of graduates from approved administrator certification programs with that of candidates who apply directly to the state for certification.

Examining attempts to assess public education by measuring student achievement, David R. Garcia, of the Arizona Center for Public Policy, and Joseph M. Ryan, of ASU West Campus, find that recent changes in the state measurement formulas have made it virtually impossible to draw valid conclusions about school improvement and, therefore, impossible to determine the impact of the Arizona LEARNS accountability system.

Thomas M. Haladyna of ASU West Campus describes the incompatibility of the data from two leading measures of achievement: the National Assessment of Educational Progress (NAEP) and the Stanford Achievement Test (Stanford 9). This incompatibility calls into question the validity of conclusions about the performance of Arizona students relative to that of students in the rest of the U.S.

Gene V Glass of ASU Tempe Campus considers the two principal policies for expanding parental choice in Arizona: charter schools and private-school-tuition tax credits. He finds that data necessary to determine whether students in charter schools are performing better academically than they would have performed had they remained in traditional public schools do not exist. Further, he notes that data to determine whether Arizona's private-school-tuition tax credit program has enabled public school students to attend private schools who otherwise could not have done so are not collected.

Finally, Richard Wiggall of Northern Arizona University reviews the recent history of school-finance policy in Arizona, and finds that the state legislature's policies have led to comparatively low per-pupil expenditure. Although the state has developed a funding approach that largely achieves equity, Wiggall concludes that it may have done so at the expense of funding adequacy.

Arizona Education by the Numbers: 2004

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Public School District Profile

The following tables offer a statistical overview of the public education system in Arizona. The tables are divided into six categories: (1) public school district & charter holder characteristics, (2) public school characteristics, (3) public school student characteristics, (4) public school student dropout characteristics, (5) public school teacher characteristics, and (6) public school administrator characteristics. Data limitations for tables within each category are noted following the tables within that category.

Table 1: Total Public School Districts & Charter Holders

	2003
Elementary School Districts	97
High School Districts	15
Unified School Districts	95
Accommodation School Districts	7
Total Districts	***214***
Charter Holders	308
Total Districts & Charter Holders	***522***

Source: Arizona Department of Education (2003). *Superintendent's Annual Report*. Retrieved April 23, 2004, from http://www.ade.az.gov/schoolfinance/Reports/

Table 2: Total Public School Districts

	2003
Districts serving less than 100 students	30
Districts serving 100 to 500 students	49
Districts serving 501 to 1,000 students	20
Districts serving 1,001 to 2,500 students	46
Districts serving 2,501 to 5,000 students	27
Districts serving 5,001 to 10,000 students	21
Districts serving 10,001 or more students	24
Total Districts with Enrollment Data	***217***
Total Districts	***238***

Source: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 23, 2004, from http://www.ade.az.gov/schoolfinance/Reports/

Table 3: Average Public School District School Size

	Average School Size
Districts serving less than 100 students	54.12
Districts serving 100 to 500 students	179.24
Districts serving 501 to 1,000 students	282.74
Districts serving 1,001 to 2,500 students	416.94
Districts serving 2,501 to 5,000 students	577.49
Districts serving 5,001 to 10,000 students	731.19
Districts serving 10,001 or more students	789.76
Total Districts with Enrollment Data	***647.64***

Source: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 23, 2004, from http://www.ade.az.gov/schoolfinance/Reports/

Limitations: Public School District Profile

For the 2002-03 school-year, enrollment data for 21 public school districts are not available. Consequently, the distribution of public school districts in Arizona according to enrollment size presented in Tables 2 and 3 does not include these 21 school districts

Public School Profile

Table 4: Total Public Schools

	2003	
District Schools	1,512	*71.66%*
Charter Schools	598	*28.34%*
Total Schools	***2,110***	***100%***

Source: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 23,2004, from http://www.ade.az.gov/schoolfinance/Reports/

Table 5: Total District Schools by Type

	2003	
Elementary Schools	1,138	*75.26%*
High Schools	271	*17.92%*
Combined Schools	78	*5.16%*
Accommodation Schools	25	*1.65%*
Total District Schools	***1,512***	*

Source: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 23,2004, from http://www.ade.az.gov/schoolfinance/Reports/
Note: Accommodation schools are schools in which a district hosts or "accommodates" students from another district. This typically occurs when a rural district without a high school sends its students to a neighboring district school.
* May not equal 100% due to rounding.

Table 6: Total Charter Schools by Type

	2003	
Elementary School Sites	291	*48.66%*
High School Sites	222	*37.12%*
Combined Sites	85	*14.21%*
Total Charter Schools	***598***	*

Source: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 23, 2004, from http://www.ade.az.gov/schoolfinance/Reports/
* May not equal 100% due to rounding.

Table 7: Average Public School Size

	2003
Total Public Schools	2,110
Total Public School Enrollment	978,083
Average Public School Size	***463.5***
Total District Schools	1,512
Total District Enrollment	937,955
Average District School Size	***620.3***
Total Charter Schools	598
Total Charter Enrollment	71,680
Average Charter School Size	***119.9***

Source: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 23, 2004, from http://www.ade.az.gov/schoolfinance/Reports/

Limitations: Public School Profile

Tables 4, 6, and 7 all include Arizona charter school information, including total number of charter school sites and average size of charter schools. However, the total number of charter schools reported by the ADE in the *2002-03 Superintendent's Annual Report* does not match the total number of charter schools listed on the Charter School List located on the ADE website. The ADE provides the following disclaimer associated with the Charter School List to explain the discrepancy:

> *"Disclaimer : The following information is self reported and is not an exhaustive list. If the school does not have a Mission Statement in the database it will not show up in the search."*

Public School Student Profile

Table 8: Student Population – All Schools

	2003	
White (non-Hispanic)	491,519	*50.25%*
American Indian or Alaskan Native	63,306	*6.47%*
Hispanic	355,290	*36.33%*
Black (non-Hispanic)	46,859	*4.79%*
Pacific Islander or Asian	21,109	*2.16%*
Total Public School Students	***978,083***	***100%***

Source: Arizona Department of Education (2003). *Superintendent's Annual Report*. Retrieved April 30, 2004, from http://www.ade.az.gov/schoolfinance/Reports/

Table 9: Student Population by School Type

	All Public Schools	District Schools	Charter Schools
White (non-Hispanic)	50.25%	48.26%	54.26%
American Indian or Alaskan Native	6.47%	6.75%	6.54%
Hispanic	36.33%	37.88%	30.20%
Black (non-Hispanic)	4.79%	5.00%	7.29%
Pacific Islander or Asian	2.16%	2.12%	1.73%

Source: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 30, 2004, from http://www.ade.az.gov/schoolfinance/Reports/

Table 10: Public School Students Eligible for Free/Reduced Price Lunches – All Schools

	2003
Total Public School Students	850,216
Total Public School Students Eligible for Free/Reduced Price Lunches	433,714
% of Total Public School Students Eligible for Free/Reduced Price Lunches	***51.01%***

Source**:** Arizona Department of Education (2003, December). "Free & Reduced Price Lunches Data Counts," provided by the ADE Research & Policy Division.

Table 11: Public School ELL Students – All Schools

	2003
Total Public School Students	978,083
Total Public School ELL Students	151,970
% of Total Public School Students who are ELL	***15.54%***

Sources: Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 16, 2004, from http://www.ade.az.gov/schoolfinance/Reports/
Arizona Department of Education (2004, February). "ELL Student Counts Data," provided by the English Acquisition Services Unit.

Table 12: Public School Students With Disabilities – All Schools

	2002
Total Public School Students	922,242
Total Public School Students with Disabilities	103,488
% of Total Public School Students who have Disabilities	***11.22%***

Sources**:** Arizona Department of Education (2003). *Superintendent's Annual Report.* Retrieved April 16, 2004, from http://www.ade.az.gov/schoolfinance/Reports/
Arizona Department of Education (2004, January & April). "Disability Data Counts," provided by the Exceptional Student Services Division.
Note: Public School Students with disabilities are not yet available for 2003 (personal communication, April 28, 2004, ADE Exceptional Student Services Division)

Limitations: Public School Student Profile

The total enrollment figures presented in Table 8 do not match the total enrollment figures presented in Table 10. The total enrollment figures in these two tables are taken from different reports; Table 8 includes the enrollment figures found in the *2002-03 Superintendent's Annual Report* while Table 10 includes enrollment figures found in the "Free/Reduced Price Lunch" database figures provided by the Research and Policy Division of the ADE. The Research and Policy Division of the ADE verbally confirmed (Personal Communication, 01/04) that the "Free/Reduced Price Lunch" database figures only include reporting school districts and charter schools; therefore, the total enrollment figures in Table 8 are substantially higher than those found in Table 10 (978,083 and 850,216 respectively). Additionally, the Free/Reduced Price Lunch database includes figures for entities that are neither district schools nor charter schools (for example, "Winslow Residential Hall" is a school included on the Free/Reduced Price Lunch list, but is not listed by the ADE as a charter school or as a district school). Therefore, the "Free/Reduced Price Lunch" figures provided in Table 10 cannot be said to precisely reflect the "Free/Reduced Price Lunch" population in Arizona's Public Schools.

Public School Student Dropout Profile

Table 13: Public School Dropout Rate – Grades 7-12 – All Schools

	2003	
White (non-Hispanic)	11,029	4.4%
Native American	14,212	11.7%
Hispanic	3,677	8.7%
Black (non-Hispanic)	1,990	8.0%
Pacific Islander or Asian	301	2.9%
Total Public School Students who Dropped Out	***31,209***	***6.5%***

Source: Arizona Department of Education (2003). *Dropout Rate Study Report*. Retrieved April 16, 2004, from http://www.ade.az.gov/researchpolicy/DropoutInfo/

Limitations: Public School Student Dropout Profile

Table 13 presents data from the *Annual Dropout Rate Report* issued annually by the ADE. It is important not to confuse this dropout rate with other dropout rates which are not annual drop out rates. The ADE offers the following explanation in distinguishing its Annual Dropout Rates from other dropout rates:

> *It is important to note that this particular study produces a "snapshot" of Arizona dropout activity, in that it provides information only on students who drop out and fail to return during one school year. Students who drop out during one academic year and return in a subsequent year to complete their high school education are not taken into account in this annual snapshot.*

Public School Teacher Profile

Table 14: Public School Teacher Population – District Schools Only

	2003	
White (non-Hispanic)	41,384	*84.46%*
Native American	1,075	*2.19%*
Hispanic	5,177	*10.57%*
Black (non-Hispanic)	889	*1.81%*
Pacific Islander or Asian	472	*0.96%*
Total District School Teacher Population	***48,997***	*

Source: Arizona State Department of Education (2003). *School District Employee Report*, School Year 2002-2003, Racial Ethnic Report by Sex and Primary Position.
* May not equal 100% due to rounding.

Table 15: Public School Teachers by Gender – District Schools Only

	Elementary		**Secondary**		**Total**	
Male	5,260	*16.27%*	5,724	*45.61%*	10,984	*24.48%*
Female	27,067	*83.73%*	6,826	*54.39%*	33,894	*75.53%*
Total Public School Teachers	***32,327***	***100%***	***12,550***	***100%***	***44,878***	*****

Source: Arizona State Department of Education (2003). *School District Employee Report*, School Year 2002-2003, Teacher by Gender and Grade Level Report.
* May not equal 100% due to rounding.

Table 16: Public School Teachers by Years of Experience – District Schools Only

	2003	
1	3,945	8.84%
2	3,317	7.43%
3	3,162	7.09%
4	2,970	6.25%
5	2,721	6.10%
6	2,365	5.30%
7	2,301	5.16%
8	2,066	4.63%
9	2,026	4.54%
10	1,685	3.78%
11	1,519	3.40%
12	1,313	2.94%
13+	15,418	34.55%
Total	***44,808***	*

Source: Arizona State Department of Education (2003). *School District Employee Report*, School Year 2002-2003, Teacher Experience Index Detail.
* May not equal 100% due to rounding.

Limitations: Public School Teacher Profile

Tables 14, 15, and 16 describe Arizona public school teachers based on race/ethnicity, gender, and years of experience, respectively. The data for all three of these tables were taken from the ADE annual *School District Employee Report*. The ADE reports three different figures for the total number of public school teachers: Table 14 reports 48,997 public school teachers in Arizona, Table 15 reports 44,878, and Table 16 reports 44,808. The ADE does not provide an explanation for this discrepancy.

Table 17: Public School Administrator Population – District Schools Only

	2003	
Superintendent	190	*8.49%*
Assistant Superintendents	114	*5.10%*
Principal	1,189	*53.15%*
Assistant Principal	744	*33.26%*
Total Administrative Positions	***2,237***	***100%***

Source: Arizona State Department of Education. (2003). *School District Employee Report*, School Year 2002-2003, FTE and Employee Count by Main and Second Position.

The Condition of Early Childhood Education and Care in Arizona: 2004

Executive Summary

The data on Early Childhood Education and Care (ECEC) in Arizona are poor. At a time when there is widespread support to strengthen and expand ECEC services in Arizona, much of the data needed to plan this effort is either non-existent or hard to find, and the data that are available often do not allow for the kind of aggregation or analysis needed to guide policy. ECEC programs involve a wide range of public and private providers, operating under a wide range of names, funded by a wide range of sources, and supervised by a wide range of agencies. Sufficient data exist to support only two conclusions: A large number of children are currently on the state's childcare subsidy waiting list; and there is a significant disparity in wage data across ECEC practitioners.

Recommendations

It is recommended that:

- The Arizona legislature index the childcare subsidy for eligible families to the most current market rate survey results.
- The Arizona legislature appropriate additional state general fund dollars to increase childcare subsidies to a level that will reduce and ultimately eliminate the waiting list for eligible families.
- The Arizona legislature give the School Readiness Board (SRB) the authority and funding to develop and implement a plan to increase wages for all ECEC personnel so that wages are commensurate with the wages of other professionals with similar levels of education and experience.
- The Arizona legislature give the SRB the authority and funding to develop a comprehensive, coordinated statewide plan for the collection of critical data across the full range of ECEC programs.
- The Arizona legislature give the SRB the authority to coordinate and implement a Quality Rating System (QRS) to identify and improve the level of education and care for all children from birth to five-years.
- The Arizona legislature expand and fund the S*CCEEDS program to collect training and wage data on the educational levels of all ECEC teachers and providers of care so that universities, community colleges, school districts, and ECEC practitioners can plan appropriately for ECEC teacher preparation and staff training needs.
- The Arizona legislature give the SRB the authority and funding to identify and track annually the amount of federal and state dollars invested in ECEC.
- The SRB develop and implement an evaluation plan that will use the school readiness indicators data to track child readiness outcomes over time and that the Arizona legislature fund the plan.

The Condition of Early Childhood Education and Care in Arizona: 2004

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Background

Early Childhood Education and Care (ECEC) in both Arizona and the nation at large is difficult to describe and evaluate because it is characterized by a diversity of programs and funding streams. Some programs emphasize childcare, others education, but most offer a combination of both. There are infant care programs for infants and toddlers, pre-schools for three- and four-year-olds, and kindergartens for five-year-olds. Some ECEC programs are center-based, others operate out of homes, and still others are in elementary schools. Center-based programs may be public, private non-profit, or private for-profit. Working parents of young children make use not only of center-based programs, but also of certified and non-certified family childcare providers who operate small businesses out of their homes, as well as nannies, baby-sitters, and an informal network of relatives and friends. There are federally funded programs (e.g., Head Start), state-supported programs (e.g., "Block Grant" pre-schools), a robust for-profit private sector dependent on tuition, and programs that combine funding streams. Programs that offer both care and education using public funds are required not only to figure out how

to combine two or more funding streams, but also how to respond to two or more different sets of regulations for accounting, evaluation, and health and safety. There are half-day and full-day kindergartens located within public and private schools, as well as connected to child-centers.

The number of young children in Arizona enrolled in ECEC programs is growing rapidly. Twenty years ago, about one-quarter of four-year-olds in Arizona were cared for outside the home; now the figure is closer to three-quarters.[1] In general, the history of ECEC in Arizona, as in the nation, is a story of increasing support for and acceptance of young children being educated and cared for, at least part of the day, by someone other than a parent. The story of ECEC is also the story of the struggle for the supply of quality programs to keep pace with the demand.

What follows is background on several key ECEC programs.

Head Start

Launched in 1965, this federal program provides early education to three and four year old children whose families' annual income is either at or below the federal poverty level. Head Start programs are mandated to provide three hours per day of education, but many Head Starts offer a full day of care or partner with other childcare entities to provide it.[2] The overall goal of Head Start is to improve the social competence in pre-school children from low-income families. To achieve this goal, Head Start offers comprehensive services including early childhood development, child health services, and family and community partnerships.[3]

Early Head Start

The purpose of Early Head Start (EHS) is to promote healthy prenatal outcomes for pregnant women, to enhance the development of very young children, and to promote healthy families.[4]

Kindergarten

Kindergarten programs are defined as school-based programs for children who are five-years-old at or soon after the beginning of the school year. The history of

kindergartens in the U.S. reveals a process of states and school districts adding first half-day and then full-day programs. Arizona requires school districts to provide half-day kindergarten. Enrollment is not compulsory, but the great majority of five-year-olds attend. State funding for half-day kindergarten is available for all Arizona public schools. School districts offering full-day kindergarten draw on various sources of funds.[5]

Center-Based Programs

Center-based ECEC programs have a split history, having developed out of what were once called nursery schools (which were half-day programs for the children of middle-class parents with at-home mothers) and daycare centers (which were full-day programs for the children of working parents). In the 1970s, the historical differences between the two systems began to merge, and both changed their names to "childcare centers" or "pre-school."[6] In addition to the school-based "Block Grant" pre-school program discussed below, Arizona has non-profit and for-profit center-based programs.

Non-Center-Based Care

Many of Arizona's children under age five are cared for during the day by someone other than a parent.[7] This "non-center-based care" category includes proprietary family childcare homes, nannies, and "kith and kin" care by family friends or relatives other than the parents. The category of family childcare/small group homes (programs in which parents leave their children during the day with a provider who runs a business out of her home) includes Department of Economic Security (DES) certified programs; Department of Health Services (DHS) certified programs; licensed but unregulated programs; registered (lawful) but unlicensed programs; and alternate approval homes.

The Early Childhood Block Grant (ECBG) Program

Approximately 4,100 children in Arizona are enrolled in pre-schools run by school districts under the ECBG Program. School districts provide early childhood education programs on site or subcontract with private pre-school providers. Block grant

pre-schools serve three- to five-year-old children who are statistically at risk of failing in school. In practice the Arizona Department of Education (ADE) defines "at-risk children" to mean children of low-income families. A complication of this program is that the ECBG funds may be used by school districts not just for at-risk pre-schools, but also for supporting full-day kindergarten and class-size reduction in elementary K-3 classrooms.[8]

Recent Developments

Developments at both the national and state levels during the past few years hold significant implications for ECEC in Arizona.

Brain Research

Research on early brain development suggests that the structure of the brain and therefore its capacity for learning and for positive social development are influenced significantly by the environment and experiences of the first few years of life. This research has served as a focal point to rally support from business leaders, school superintendents, and politicians for more investment in ECEC.[9]

Good Start, Grow Smart

Good Start, Grow Smart is an early childhood initiative proposed by the Bush Administration to help states and local communities strengthen early learning for young children. This initiative focuses on introducing a new accountability system for Head Start that addresses standards-based early childhood curricula, personnel training, and assessment of children.[10]

No Child Left Behind (NCLB) Act

NCLB calls for increased accountability for states, school districts, and schools; greater choice for parents and students, particularly those attending low performing schools; more flexibility for states and local education agencies in the use of federal

education dollars; and a stronger emphasis on reading, especially for younger children. Many state political leaders argue that NCLB is an under-funded federal mandate.[11]

The Arizona School Readiness Task Force

In 2001, Children's Action Alliance convened the Arizona School Readiness Task Force. The Task Force researched the issue of ECEC in Arizona and released a report entitled *Growing Arizona*. The recommendations derived from this report focused on improving quality and governance structure, and on appropriate financing to create a comprehensive ECEC system.[12]

The School Readiness Board

The School Readiness Board (SRB) was established by Executive Order in 2002, and the first meeting of the State Board on School Readiness (SRB) was convened by Governor Napolitano in March 2003. Over the course of the next nine months, members of the community and the SRB met to develop policy recommendations to improve the delivery, quality, and funding of ECEC services. This process led to policy initiatives, approved by Governor Napolitano, to include a Quality Rating System (QRS), a scholarship program for the professional development of early childhood teachers, health screening and consultation, the establishment of an early childhood fund with the ability to accept private and public funds, and the phase-in of voluntary full-day kindergarten programs.[13]

Full-Day Kindergarten

Governor Napolitano recently announced that the centerpiece of her legislative agenda for the year is the phase-in of voluntary full-day kindergarten in public schools throughout the state, beginning next year with those schools with at least 90 percent of children enrolled in the free or reduced-price lunch program.

S*CCEEDS

Growing out of the Head Start Collaboration of the Child Care Advisory Committee of the Department of Economic Security (DES), the Statewide Child Care and

Early Education Development System (S*CCEEDS) was created to address the lack of a career development system for ECEC workers. S*CCEEDS created a career ladder system, a mechanism for recording the completion of professional development activities, a database identifying the education levels of ECEC staff, and a registry of trainers qualified to provide that education.[14]

School Readiness Indicator Project

This project is a multi-state initiative to improve school readiness. Participating states have been asked to develop a set of child outcomes and well-being indicators to use to assess children from birth through third-grade. The goal is for states to adopt an indicators-based definition of school readiness that can be tracked over time. The indicators will focus on monitoring the capacity of child and family programs to prepare children to read by the end of grade three.[15]

Available Data

To plan and monitor a system of ECEC, data are needed on a variety of dimensions, including demographic information on the birth through age five population, enrollments in the various types of programs, the professional development levels and needs of the staff in these programs, funding levels, and quality outcome indicators. There are a variety of agencies in Arizona that collect pieces of this set of data. The Department of Economic Security (DES) collects data on the family childcare homes it certifies, and monitors the funds it provides for childcare subsidies. The Arizona Department of Education (ADE) collects data on the Block Grant pre-schools it runs, as well as on kindergartens. The Department of Health Services (DHS) collects data on childcare centers and childcare small group homes. Head Start collects data on its programs. Non-profit agencies, including the Association for Supportive Child Care, Child & Family Resources, and Children's Action Alliance, also collect and analyze data on aspects of ECEC, as does the Arizona Child Care Association. We have pulled data from reports by these organizations, the U.S. Census, and from recent reports produced by the Arizona School Readiness Taskforce, the Center for Business Research of the

W. P. Carey School of Business at Arizona State University, the Child & Family Policy Center, the National Institute for Early Education Research (NIEER), the National Association for the Education of Young Children (NAEYC), the National Accreditation Commission for Early Care and Education Programs (NAC), and the National Early Childhood Program Accreditation (NECPA). Finally, we obtained information from key staff members of the above-referenced state and community organizations.

Demographics of ECEC in Arizona

Table 1: Number of Children by Age in Arizona

0-5	459,141
Under 1 year	77,421
1 year	77,174
2 years	75,241
3 years	75,990
4 years	76,560
5 years	76,755

Source: U.S. Census Bureau (2000). *American Fact Finder*. Retrieved March 6, 2004, from http://www.factfinder.census.gov/home

Table 2: Projections of the Arizona Population Under Age 6, 2000-20

Year	Population	Percent increase from 2000
2000	459,141	
2005	531,100	16%
2010	605,800	32%
2015	693,000	50%
2020	790,200	72%

Source: Center for Business Research, L. William Seidman Research Institute, W. P. Carey School of Business, Arizona State University (2004). *The Economics of Early Care and Education in Arizona.* Tempe, AZ: Arizona State University.

Table 3: Working Parents of Children Under Age 6

Children 0-5	459,151	
With Primary Caregiver(s) in Workforce	270,900	59%

Source: Arizona School Readiness Task Force (2002). *Growing Arizona*. Phoenix, AZ: Children's Action Alliance.

Table 4: Risk Factors for Arizona's Children Under Age 5

Children Under 5 in Poverty	21%
New Babies At Risk*	29%

Source: School Readiness Indicator Project (2003). *Measuring School Readiness: How Do We Know When We're on Track?* Phoenix, AZ: Children's Action Alliance.
*2 of 4 risk factors: mother is 19 years or younger, mother is unmarried, mother has less than 12 years of education, birth is paid for by Arizona Health Care Cost Containment System (AHCCCS).

Early Childhood Program Enrollments

Table 5: Enrollments in ECEC Programs

Nursery Schools and Pre-schools	81,923
Kindergarten	77,930

Source: U.S. Census Bureau (2000). *American Fact Finder*. Retrieved March 6, 2004, from http://www.factfinder.census.gov/home

Table 6: Enrollments and Capacity by Program Type

	Programs	Enrollment	Capacity
Childcare Centers	1,561[1]	96,695[2]	166,151
Block Grant Pre-schools (School Districts)	591[3]	4,162[4]	
Head Start	864[5]	21,473	
DHS Certified Small Group Homes	361[6]		3,003[7]
DES Certified Childcare Homes	1,512[8]		6,048[9]
DES Relative Childcare Homes	3,425[10]		N/A[11]
Unregulated Registered[5] Childcare Homes	790[12]		
ADE Alternate Approval Childcare Homes	2,560[13]		
Early Head Start		988[14]	

[1] Center-based care as defined by DHS, excluding Block Grant Pre-schools and Head Start Programs.
[2] On an average day.
[3] Department of Health Services, Office of Child Care Licensure.
[4] Arizona Department of Education.
[5] Head Start reports numbers of classrooms, not programs or sites (Nagle, A. *Head Start in Arizona Annual Report*, 2002).
[6] Department of Health Services, Office of Child Care Licensure.
[7] Per personal communication with staff of DHS Office of Child Care Licensure.
[8] Department of Economic Security, Child Care Administration.
[9] Based on certification limit of 4 children for compensation per home.
[10] Department of Economic Security, Child Care Administration.
[11] Department of Economic Security only pays for care for care by relatives for children who are eligible for child care assistance. This figure does not capture the larger population of people who provide care for children to whom they are related.
[12] Association for Supportive Childcare, Child Care Resource and Referral; Child & Family Resources, Child Care Resource and Referral.
[13] Arizona Department of Education.
[14] Nagle, A. *Head Start in Arizona Annual Report*, 2002. Phoenix, AZ: Arizona Head Start Association.

Table 7: Arizona Head Start Facts 2001–02

	Regional	Migrant	Tribal	Total
Children Enrolled	14,852	558	6,063	21,473
Percent under Age 3	5.7%	17%	0.6%	4.6%
Percent aged 3 or older	93.5%	83%	99.4%	95.4%
Number of Classes	589	37	238	864
Number of Staff	2,555	149	1,202	3,906
Number of Volunteers	20,384	358	4,037	24,779

Source: Nagle, A. (2004). *Head Start in Arizona Annual Report, 2002*. Phoenix, AZ: Arizona Head Start Association.
Note: Based on actual enrollment.

Table 8: Arizona Kindergarten Facts 2003

	Public	Charter
Kindergarten-Aged children	65,381	3,367
In Half-day Programs	36,326	1,718
In Full-day Programs	28,813	1,986
Schools Offering Full-day K	511	44

Source: Nagle, A. (2003). Unpublished survey regarding kindergarten facts and figures. Phoenix, AZ.

Table 9: Projections of Demand for ECEC Programs

	Total Non-Parental Care	Center-based Care
2000	178,200	72,100
2005	206,100	83,400
2010	235,100	95,100
2015	268,900	108,800
2020	306,700	124,000

Source: Center for Business Research, L. William Seidman Research Institute, W.P. Carey School of Business, Arizona State University (2004). *The Economics of Early Care and Education in Arizona.* Arizona State University: Tempe, AZ.

Early Childhood Professional Development

Table 10: ECEC Professionals 2001

Assistant Teachers	6,732
Teachers	9,940
Teacher Directors	1,363
Administrative Directors	1,317
Total	19,352

Source: Maricopa County Office of Research and Reporting (2001). *Arizona Wage and Benefit Survey, A Study of Child Care/Early Childhood Education Center Based Personnel*. Phoenix, AZ: Governor's Division for Children.
Note: Licensed centers only

Table 11: ECEC Practitioners and Trainers Registered with S*CCEEDS

	Applied	**Assigned Career Level**
Practitioners	1,800	1,282
Trainers	320	270

Source: Personal communication with Boni Lowney of the Association for Supportive Child Care, S*CCEEDS Program, March 4, 2004.

Table 12: Median Hourly Wage for ECEC Practitioners 2001

Assistant Teachers	$7.22
Teachers	$8.00
Teacher Directors	$10.19
Directors	$13.84
Kindergarten Teachers (public school)	$25.35

Sources: Maricopa County Office of Research and Reporting (2001). *Arizona Wage and Benefit Survey, A Study of Child Care/Early Childhood Education Center Based Personnel*. Phoenix, AZ: Governor's Division for Children.
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Funding for Early Childhood Programs

Table 13: Funding Levels for ECEC Programs

Early Head Start	$12 Million[1]
Head Start	$87 Million[2]
Early Childhood Block Grant	$19.5 Million
Block Grant funds used for Pre-school	$9.95 Million
Childcare Subsidies	$148.7 Million
Kindergarten	$134.2 Million[3]
Kith & Kin	$171,335

Source: Early Childhood Programs Matrix (2003). Phoenix, AZ: Arizona State Board on School Readiness.
[1]2003. Includes tribal program.
[2] 2003. Does not include tribal and migrant worker programs.
[3] Does not include the multiple funding streams being utilized by school districts to fund all-day kindergarten.

Table 14: Total and Per Capita Spending by Child

In Millions of Dollars					In Dollars		
Age	**State & Local**	**Federal**	**Total**	**# of Children**	**Per Capita State/Local**	**Per Capita Federal**	**Per Capita Total**
0-5	11.50	218.67	230.17	459,141	25	476	501
6-18	5,076.95	441.26	5518.21	982,098	5,169	449	5,619
19-23	1,003.71	284.37	1288.08	368,440	2,724	772	3,496

Source: Bruner, C., Elias, V., Stein, D., & Schaefer, S. (2004). *Early Learning Left Out: An Examination of Public Investments in Education and Development by Child Age.* Retrieved February 26, 2004, from http://www.voicesfor americaschildren.org

Table 15: Average Daily Rates for Full-Time Childcare in Arizona

Age of Child	0-1	1-2	3+
Licensed Centers	$25.20	$22	$20
Approved Homes	$16	$16	$15
Certified Group Homes	$19	$18	$18
Unregulated Homes	$20	$18	$17

Source: Maricopa County Office of Research and Reporting (2002). *Child Care Market Rate Survey 2002.* Phoenix, AZ: Arizona Department of Economic Security, Division of Employment & Rehabilitation Services Child Care Administration.

Table 16: Spending Per Child Enrolled

Childcare Subsidies	$3,672[1]
Block Grant Pre-schools	$2,473[2]
Head Start	$7,288
K-12	$5,900

Source: Personal communication with ADE staff, March 4, 2004.

[1]Average monthly DES payment per child in SRY2004 is expected to be approximately $306/month. Source: Personal communication with DES staff, March 4, 2004.

[2] Represents state block grant resources per child only. This figure does not represent total funding per child as school districts supplement with additional dollars.

Table 17: DES Childcare Subsidy Waiting List

March, 2004	4,681 Families	9,362 Child

Source: Personal communication (e-mail) with DES staff, March 5, 2004.

Program Quality

Table 18: Arizona Public School Reading Outcomes for 2002

NAEP 4th Grade Reading[1]	AIMS 3rd Grade Reading[2]
49% below basic level	9% below the standard
29% basic level	17% approached the standard
17% proficient level	45% met the standard
4% advanced level	29% exceeded the standard

Source: School Readiness Indicator Project (2003). *Measuring School Readiness: How Do We Know When We're on Track?* Phoenix, AZ: Children's Action Alliance.
[1]National Assessment of Educational Progress
[2] Arizona's Instrument to Measure Standards

There are several categories of statistics available that bear some relation to program quality. The National Institute for Early Education Research (NIEER) report[16] gave Arizona a score of four out of ten on quality of ECEC programs, but this was based mostly on assessments of the ECBG pre-schools, which make up a small percentage of the ECEC programs in the state. Another way to measure program quality would be to chart the frequency of ECEC programs found to be in non-compliance by the Department of Health Services (DHS). Between November of 2002 and October of 2003, DHS conducted approximately 2,100 licensing inspections of childcare facilities. During that time frame, DHS issued to ECEC facilities six cease and desist orders, 54 civil penalties, and two intent-to-deny-license notices. The agency also held 47 enforcement meetings.[17] DHS licensing surveyors' caseloads are large: 87 programs per surveyor in 2004, up from 56 per specialist in 1997. In FY2002-03, DHS was determined to be "out of time" 58 times. Of these 58 times, 46 times DHS failed to respond to requests to process licensing applications, and 12 times DHS failed to respond to licensing changes.[18]

Accreditation is a widely accepted criterion of ECEC program quality. The majority of Arizona's ECEC programs appear to not be accredited, but accreditation rates are hard to determine because of the number of accrediting agencies and the lack of an overall accreditation registry. There are 256 programs in Arizona listed as having National Association for the Education of Young Children (NAEYC) accreditation, 22

accredited from National Accreditation Commission for Early Care and Education Programs (NAC), and three accredited from National Early Childhood Program Accreditation (NECPA).[19] Totals for programs accredited by the other four accrediting organizations are not available. Of the 2,152 licensed childcare centers and pre-schools, approximately 281, or 13 percent, are accredited.

There is not much data collected or available on student learning outcomes. Of the ECEC programs in the state, only Head Start and the ADE's Block Grant Pre-schools and kindergartens require any assessments of children. These data are inaccessible and not organized in any systematic fashion. Each local Head Start or Early Childhood Grant Block (ECGB) pre-school program may conduct child assessments, but the assessment tools they use vary and the assessment data they collect are not collected or packaged uniformly. Moreover, since there is no entity responsible for systematic data collection, any data that the individual programs may collect are not useful for ECEC program evaluation or child outcome purposes.

Evaluation of Available Data

The variety of agencies and groups involved and the lack of a systematic and coordinated statewide data plan make it difficult to evaluate the validity, integrity, and consistency of the ECEC available data. No statewide entity is responsible for coordinating the collection of data that would inform ECEC policy.

Demographic Data on ECEC in Arizona.

The two tables that report numbers of young children in Arizona, population projections through 2020, and number of children aged 0-5 years in ECEC programs, are drawn from year 2000 U.S. Census and the 1999 National Survey of American Families. These data reflect the strengths and weaknesses of survey data.[20] Although the census and survey data are more than three years old and potentially underestimate the numbers of undocumented immigrants (who are most likely in unregulated home care), these are

the most robust and substantive broad datasets available. The methodology used by the Center for Business Research in formulating future forecasts is based on recent birth data. Figures for poverty and new babies at-risk suggest a great need for ECEC intervention. A limitation of these demographic datasets is their inability to break out the patterns by socioeconomic status of the children by each one-year age range, making it difficult to determine what types of ECEC arrangements are needed.

Early Childhood Program Numbers and Enrollments

Pre-school and kindergarten enrollment data are not systematically collected or organized. The state's child-care data are problematic for a variety of reasons. Because DHS licenses centers, the agency is able to report licensed capacity. DES, however, estimates enrollment data on an average day basis that does not disaggregate full-time from part-time attendance or pre-school-aged children from school-aged children receiving after-school care. DHS does not collect data on the number of slots available for each age range. The data on childcare center enrollments and capacity suggest that there are ample childcare slots available for children. However, anecdotal data suggest that there are limited slots available for infant care, however, and high-quality accredited childcare centers report substantial waiting lists for slots. Enrollment data on various categories of home-based care are even more difficult to gather. Thus, there is no reliable way at this time to determine an accurate picture of the supply and demand curve for childcare.

Head Start reports actual enrollments. Although these data are reliably collected annually, they do not tell us the percentage of eligible children who *do not* receive service due to lack of federal and state funding. Nationally, it is estimated that only three in five income-eligible children are served by Head Start.[21] If that ratio were applied to Arizona in 2002, then roughly 15,000 eligible low-income children in Arizona were not served by Head Start. That figure is likely higher today, given Arizona's relatively high birth rate and rapid population growth.

The data profiled on kindergarten-aged children are based on a survey conducted by Ami Nagle in Spring 2003. These data are problematic for some planning purposes, as not all schools responded to the survey. It is difficult to reliably forecast future

capacity needs, particularly for full-day kindergarten, without valid enrollment data coupled with birth and population migration projection data and data predicting how many families would enroll their children in full-day kindergarten if it were available in their district.

The data on projections of demand for ECEC programs in Arizona through 2020 are useful for general planning, but because there is no way to break down the projections by age category or socioeconomic status, it is difficult to identify the particular types of ECEC programs needed in the future.

Professional Development

The available data on number and type of ECEC professionals working with children are very limited and problematic. The data are more than two years old and account only for those working in licensed centers; they do not cover practitioners working in kindergartens or in childcare homes. The S*CCEEDS data are also partial and limited. The hourly wage data show a wide disparity in wages paid to ECEC professionals who work with young children in programs other than public school kindergartens. This is a measure that can be tracked over time. Data on the numbers of practitioners needing further education are scattered and not aggregated, making it difficult for employers and post-secondary education programs to allocate resources to meet this growing need.

Funding for Early Childhood Programs

The data on funding for ECEC programs have limited utility. All that is clear is that many children are underserved and that funding for the birth to age five sector is weak. The complexities of the funding streams that contribute to full-day kindergarten make it difficult to pin down the cost of the move to full-day kindergartens statewide.

Program Quality

The data on ECEC program quality are extremely limited. The NIEER report is based only on the Early Childhood Block Grant (ECBG) pre-schools and does not address the full scope of ECEC program offerings. The National Assessment of

Educational Progress (NAEP) and Arizona Instrument to Measure Standards (AIMS) data, while more rigorous, do not identify who received ECEC services. Because their caseworkers are overworked and because only five percent of programs were found to be out-of-compliance, there is reason to conclude that the Department of Health Services (DHS) licensure compliance data are neither valid nor reliable. The accreditation data gathered by the Arizona Department of Education (ADE) are problematic because each accrediting body employs different standards, procedures, and levels. Moreover, many of the accrediting bodies do not report data that could serve as a reliable benchmark for future comparison. Finally, there is little or no readiness or learning outcomes data available on children in ECEC programs. It should be noted that although policy makers seek child outcome data, this brief is not recommending *formal* testing of young children.

Key Unanswered Policy Questions

Demographic and Enrollment Issues

Even though census and population projections data tell us the big picture on numbers of children aged zero to five years, it is not known how many young children need early care and education and what types of programs are most needed and wanted.

Professional Development

Can the universities, community colleges, and school districts meet the training and certification needs of ECEC practitioners in Arizona in the coming years? Will the requirement of additional professional development for early care and education practitioners change society's perceived value of an ECEC professional and in turn lead to a dramatic rise in ECEC salaries? What effect would a rise in salaries have on tuition?

Funding

What are the costs of meeting the ECEC needs of Arizona's growing population? Where will the funding come from to meet these growing needs, needs that include improvements in program quality, in staff training, in the number of children being served, and in the number of districts providing full-day kindergarten?

Program Quality

Will implementation of a quality rating system (QRS) increase program quality and school readiness? Will the implementation of full-day kindergarten produce measurable growth in state (AIMS) and federal (NAEP) achievement scores in later grades?

Recommendations

The data in Table 17, showing the high number of children currently on the DES childcare subsidy wait list, are sound. The disparity in wage data across practitioners displayed in Table 11, although somewhat dated, are sufficiently strong and consistent over time. These two findings lead to Recommendations 1-3 that follow. The difficulty experienced in accessing data that would inform the state in the development of critical ECEC policy procedures and initiatives leads to Recommendations 4-8. These recommendations are not meant to address all of the complex issues in ECEC, but merely provide an outline for the collection of data that will be useful for policy analysis.

It is recommended that:

1. The Arizona legislature index the childcare subsidy for eligible families to the most current market rate survey results.
2. The Arizona legislature appropriate additional state general fund dollars to increase childcare subsidies to a level that will reduce and ultimately eliminate the waiting list for eligible families.
3. The Arizona legislature give the School Readiness Board (SRB) the authority and funding to develop and implement a plan to increase wages for all ECEC personnel so that wages are commensurate with the wages of other professionals with similar levels of education and experience.
4. The Arizona legislature give the SRB the authority and funding to develop a comprehensive, coordinated statewide plan for the collection of critical data across the full range of ECEC programs.

5. The Arizona legislature give the SRB the authority to coordinate and implement a Quality Rating System (QRS) to identify and improve the level of education and care for all children from birth to five-years.
6. The Arizona legislature expand and fund the S*CCEEDS program to collect training and wage data on the educational levels of all ECEC teachers and providers of care so that universities, community colleges, school districts, and ECEC practitioners can plan appropriately for ECEC teacher preparation and staff training needs.
7. The Arizona legislature give the SRB the authority and funding to identify and track annually the amount of federal and state dollars invested in ECEC.
8. The SRB develop and implement an evaluation plan that will use the school readiness indicators data to track child readiness outcomes over time and that the Arizona legislature fund the plan.

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The Condition of English Language Learners in Arizona: 2004

Executive Summary

Two noteworthy policy changes in Arizona – the federal court case *Flores v. Arizona* in 2000 and the voter-initiated Proposition 203 in 2002 – have brought significant changes to the ways English Language Learners (ELLs) are educated. Both changes affected laws governing numerous aspects of education, including program options, teacher qualifications, and assessment. Key unanswered questions include how policy changes are being interpreted and implemented in the classroom, whether these policies have been effective, whether ELLs are progressing academically amid these major policy and programmatic changes, and what the best methods are of assessing ELLs' academic progress. Currently available data are inadequate to address these important questions.

Recommendations

It is recommended that:

- The Arizona Department of Education (ADE) improve reliability of state demographic data by collecting and coding each ELL's socioeconomic status, language proficiency measures, program placement, ELL's socioeconomic status, length of time classified as an ELL student, and other relevant information. One way to achieve greater accuracy is to provide pre-coded, computer-generated labels for each student in the state at each administration of a test.
- The ADE create an evaluation system to follow students that includes multiple measures of success over time to support longitudinal studies that can address unanswered policy questions. ADE's new unique identification code for each student will permit more reliable tracking of students across multiple years of schooling.
- The ADE make both its qualitative and quantitative data more accessible so that researchers can design rigorous studies that produce valid and reliable results, and continuously collect and maintain data notwithstanding administration changes.
- The Arizona legislature and ADE foster collaborative ventures between the policy community and research community situated in Arizona public universities.
- The Arizona legislature commission an evaluation study of the impact of Proposition 203.

The Condition of English Language Learners in Arizona: 2004

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Background

Two events – the *Flores v. State of Arizona*[1] *(Flores*) ruling in 2000 and the voter-approved Proposition 203[2] in 2002 – have significantly changed the legal landscape in Arizona for English Language Learners (ELLs).[3] The *Flores* case imposed a number of duties on the State Board of Education and the State Superintendent of Public Instruction related to identifying and providing appropriate services to ELLs. Proposition 203 changed the state law governing the required services and assessments for ELLs, mandating that "all children in Arizona public schools shall be taught English by being taught in English."[4]

Flores v. Arizona

Citing the Equal Educational Opportunities Act (EEOA) of 1974,[5] in 1992 Miriam Flores sued in Federal District Court, accusing the State of Arizona of failing to provide ELLs with a program of instruction designed to make them proficient in English

and enable them to master the standard academic curriculum. Plaintiffs in the class action complained of under qualified teachers, inadequate processes for identifying and monitoring ELLs, and lack of funding for bilingual education programs.

After winding its way through the federal court system since 1992, the *Flores* case resulted in a Consent Order[6] approved July 31, 2000, requiring the Arizona Department of Education (ADE) to provide detailed procedures to address the majority of complaints against the state. The consent order changed the process for monitoring the progress of ELLs. It assigned to the State Board and the Superintendent of Public Instruction new requirements for monitoring districts in addition to standardized achievement testing: classroom observations, curriculum reviews, faculty interviews, student record reviews, and an ELL program review. The order also required an evaluation of students in each of two years following their exit from ELL status, assessing them in reading, writing, math, and academic content area skills to determine if they are performing satisfactorily compared to other students of the same age or grade level in the state. Students who do not perform satisfactorily (subject to parental consent) will be re-enrolled in an ELL program, given compensatory instruction, or both.

The order left issues of teacher qualifications and funding unresolved (Teacher qualifications would be addressed later). A bench trial focused on whether ADE adequately funded programs for ELLs, rather than on the adequacy of the programs themselves. The District Court found the state in violation of the EEOA owing to inadequate funding of ELL programs. The court found numerous problems with a 1987-88 cost study presented in the trial, and further disapproved of the fact that the state was appropriating only an additional $150.00 per ELL student. On October 12, 2000, Judge Marquez ordered the state to conduct a new study to ascertain the true cost of successful ELL programs. In response, the ADE conducted a comparative survey of districts and found that the cost of services for ELL students ranged from $0 to $4,600 per pupil.[7] That study lacked a rationale for any specific funding recommendation, prompting the court to order a new study specifying appropriate services and the cost of providing them. This study is currently underway.

Proposition 203

Passage of the voter initiative Proposition 203 in 2000 significantly changed educational programs available to ELLs. The federal Bilingual Education Act of 1968[8] and the U.S. Supreme Court case *Lau v. Nichols*[9]*(1964)* allowed districts flexibility to choose from a variety of program models for educating ELLs. Proposition 203 ended that flexibility in the state by repealing Article 3.1 of the Arizona Revised Statutes, which sanctioned a variety of program models, and replaced it with a requirement that all ELLs in the state be taught using Structured English Immersion (SEI).[10] Prior to the passage of Proposition 203, only about a third of ELLs were enrolled in any of the bilingual education programs offered in the state, with twice as many placed in English as a Second Language (ESL) programs (a model essentially identical to the SEI approach prescribed by Proposition 203).

An especially controversial aspect of Proposition 203 was its suggestion that children would become proficient in English in a year.[11] The assumption that ELLs can learn English quickly in an all-English instructional setting is a crucial component of the SEI framework. In *Lau v. Nichols*, the Court had found that "students who do not know English are effectively foreclosed from any meaningful education" because they cannot understand classroom instruction. SEI advocates respond to the Court's observation by contending that young children learn English so quickly that they can readily catch up to other students once classroom instruction has become understandable.[12] Proponents of bilingual education, on the other hand, maintain that learning English well enough to get by in an all-English classroom takes years, not months, and that classroom instruction in the native language is necessary to help children keep up academically in the meantime. Thus, opponents of the measure warned that the negative effects of SEI are likely to show up most prominently in later years, when the accumulative effects of incomprehensible classroom instruction would begin to take a toll.[13]

Proposition 203 does permit exemptions to the SEI rule. Waivers allowing students to participate in alternative educational programs such as bilingual education are available for "older children" (at least age 10), children with "special individual needs,"

or children who "already know English." Waivers are granted at the discretion of the school superintendent.[14]

In addition to prescribing a specific language education program for ELLs, Proposition 203 also provided that "a standardized, nationally-normed written test of academic subject matter [be] given in English each year for children in grades two and higher."[15]

Recent Developments

Important recent policy developments affecting ELLs in Arizona have revolved around the implementation of Proposition 203 and continued attention to meeting the requirements of the *Flores Consent Order*.

The Superintendent's Guidelines and the Waiver Controversy

Tom Horne, Arizona State Superintendent of Public Instruction, issued guidelines on February 12, 2003 for implementing Proposition 203, focusing on requirements for waivers for children "who already know English." The initiative defines a child who already knows English as one who "possesses good English language skills, as measured by oral evaluation or standardized tests of English vocabulary, comprehension, reading, and writing, in which the child scores approximately at or above the state average for his grade level or at or above the fifth grade average, whichever is lower."[16]

Rather than use available Arizona district-level data to estimate an average score for ELLs by grade level, the Superintendent requested data from the test publishers based on national and regional samples of native speakers of English. As a result, many of the state's few remaining bilingual education programs were disbanded.[17]

Arizona Native American Languages and Proposition 203

Navajo and other indigenous peoples have developed numerous language revitalization programs in schools on and off the reservation, sanctioned and supported by the federal Native American Languages Act (NALA) of 1990. These programs often use immersion techniques to teach monolingual English speakers of Native American

descent the language of their heritage. Arizona tribes had been led to believe that these efforts could continue. They had received assurances from the Proposition 203 campaign leadership that the measure would not apply to indigenous languages; moreover, following the proposition's passage, the Arizona Attorney General's Office had published an Opinion indicating that Native American language revitalization efforts were protected by federal law,[18] and therefore could not be prohibited under the English-only provisions of Proposition 203.[19]

A recently reported statement from Margaret Dugan, now Associate Superintendent of Public Instruction and formerly part of the pro-Proposition 203 campaign leadership, casts doubt on these assurances. In February 2004, Dugan indicated that only schools run by the federal Bureau of Indian Affairs (BIA) are exempt from Proposition 203. She asserted that "if a public school has a large Native American student population, it must still adhere to the provisions set forth in Proposition 203 regardless of whether or not that school is on a reservation."[20] Additionally, because state-sanctioned oral tests of English measure English language ability concurrently with aspects of academic content, and are not specifically developed to assess language proficiency among Native American children, many monolingual English-speaking Native American children do not score at the prescribed levels to qualify for a waiver.[21] Thus, it appears unlikely at this time that public schools serving Native American communities will be able to implement programs preserving indigenous languages.

Time Needed to Learn English

In May, 2003, the Superintendent of Public Instruction endorsed the view that although ELLs may develop oral fluency in English in one year, "full proficiency" (including reading and writing) may typically take three years[22]—a departure from the assertion of Proposition 203 supporters that children would normally learn English within a year. Because children with limited knowledge of English cannot fully participate in an all-English curriculum, SEI defers aspects of the curriculum until they have mastered English, which critics have argued may harm ELL children, particularly as they progress into the higher grades.[23]

Charter Schools and Proposition 203

In 1994, the Arizona Legislature authorized the establishment of public charter schools as alternatives to traditional public schools.[24] Responding to a request from Superintendent Tom Horne, the Attorney General published an Opinion on July 25, 2003, stating that charter schools are not subject to the requirements of Proposition 203 unless a particular school's charter provides otherwise.[25] Superintendent Horne then declared that charter schools permitting bilingual education are not eligible for the state-allotted $300 per pupil to teach ELL students.[26] Nonetheless, some districts supporting alternatives to SEI have considered creating district-sponsored charter schools.

The Flores Order

Two parts of the 1992 *Flores* case have yet to be resolved. Although the court ordered the state to adequately fund instruction for ELLs by January 31, 2002, the state has taken no action other than the cost study, which is not due until August, 2004. Funding for ELL students is on the agenda for the January 2005 legislative session.

Required qualifications for teachers of ELLs are currently being written. A Stipulated Agreement on November 28, 2000, requires the Arizona Department of Education (ADE) to determine the training, background, and qualifications necessary for such teachers. After Tim Hogan, counsel for the plaintiff in the *Flores* case, identified deficiencies in the department's proposed teacher qualifications, the Board removed the qualifications for teachers of ELLs from proposed rules. Subsequent drafting of ELL teacher qualifications was to have included consideration of criteria for highly qualified teachers specified in the federal No Child Left Behind (NCLB) legislation. Meeting February 23, 2004, however, the State Board of Education reduced the qualifications required for teachers to work with ELLs from 21 academic credit hours to four credit hours. The new provision, drafted by the Department of Education, requires all new K-12 teachers to have a three-credit-hour course in SEI and one credit hour of training in SEI. By 2010, all existing teachers, administrators, and ELL coordinators will be required to complete a three-credit-hour SEI certification program. These developments remain controversial.

Available Data

At the state level, there appears to be no data collected explicitly to aid in evaluating the effectiveness of ELL policy. This section examines reported changes in available ELL program offerings and enrollments in these programs among students in the state's standardized testing program. It also reviews efforts to monitor the implementation of the *Flores Consent Order* and of Proposition 203. Finally, it reports state mean test scores and comments on the reliability of these data for evaluating the impact of policies on ELL student achievement.

Implementation of Policies

Three changes in ELL programs, mandated by Proposition 203, are most notable:

1. SEI programs have been introduced.
2. Bilingual options (transitional bilingual, bilingual/bicultural, and dual language) were available only by special waivers, and are now unavailable to ELL students who are younger than 10 and do not have special needs.
3. ESL programs (including ESL Pull-Out) and Individual Education Plans (IEPs) are no longer valid program options for ELLs.

By specifying our research interests and signing a confidentiality agreement with the ADE, the authors were able to obtain reported program enrollment information only for Arizona students included in the state's standardized testing program; these data were not available for students who were not tested. Student-level language program enrollment was coded during administration of the Stanford 9 standardized testing program for students in grades two through nine and returned in raw data files from the test publisher. Table 1 shows reported language program enrollments for the past three academic years for ELLs included in the state testing program grouped by elementary (2-6) and middle (7-9) grades. Program groupings are shown as named in the codebooks for the data file. Observed trends in reported enrollments for students tested were as expected, with the proportion of students in transitional bilingual and bilingual/bicultural programs dropping dramatically after implementation of Proposition 203 in the fall of

2001. Another drop in the proportion of students enrolled in bilingual programs, including dual language programs, was observed between the 2001-02 and 2002-03 school years, presumably reflecting the ADE's efforts to impose more restrictive procedures for obtaining waivers.

Although the total enrollment of ELLs across all programs appears on the surface to increase substantially across the three years, the raw numbers are misleading because these enrollment data were available only for students included in the standardized assessment program. Furthermore, teacher- and student-level program coding may be inaccurate because program placement and other demographic information is typically self-reported at the student and classroom level, and because of the ADE's pressure on schools and districts to demonstrate compliance with an SEI-only implementation of Proposition 203. Exemptions for ELLs were readily allowed in 2000-01, but not after Proposition 203 was implemented the following year, resulting in larger numbers of students tested and therefore included in these data.

Table 1: Language Program Enrollment for ELL Students in Arizona's Standardized Testing Program by Year and Grade Level

Grades	Program	Number Enrolled	Percent Enrolled
	2000-01		
Grades 2-6	Transitional Bilingual K-6	5,069	10.2
	Secondary Bilingual 7-12	102	0.2
	Bilingual/Bicultural K-12	4,374	8.8
	ESL	34,816	70.3
	IEP	5,149	10.4
	Total:	***49,510***	***100.0***
Grades 7-9	Transitional Bilingual K-6	480	2.6
	Secondary Bilingual 7-12	1,350	7.4
	Bilingual/Bicultural K-12	2,102	11.6
	ESL	12,362	68.1
	IEP	1,850	10.2
	Total:	***18,144***	***100.0***
	2001-02		
Grades 2-6	Structured English Immersion	45,151	66.8
	Mainstream	14,289	21.1
	Transitional Bilingual With Waiver	2,525	3.7
	Bilingual/Bicultural With Waiver	3,059	4.5
	Dual Language With Waiver	2,564	3.8
	Total:	***67,588***	***100.0***
Grades 7-9	Structured English Immersion	14,008	63.2
	Mainstream	6,094	27.5
	Transitional Bilingual With Waiver	1,185	5.3
	Bilingual/Bicultural With Waiver	671	3.0
	Dual Language With Waiver	196	0.9
	Total:	***22,154***	***100.0***

Grades	Program	Number Enrolled	Percent Enrolled
2002-03			
Grades 2-6	Structured English Immersion	69,813	81.7
	Mainstream English (FEP only)	7,694	9.0
	Transitional Bilingual With Waiver	2,276	2.7
	Bilingual/Bicultural With Waiver	2,759	3.2
	Dual Language With Waiver	2,958	3.5
	Total:	***85,500***	***100.0***
Grades 7-9	Structured English Immersion	24,437	79.8
	Mainstream English (FEP only)	4,492	14.7
	Transitional Bilingual With Waiver	961	3.1
	Bilingual/Bicultural With Waiver	539	1.8
	Dual Language With Waiver	182	0.6
	Total:	***30,611***	***100.0***

Source: Computed from Statewide Stanford 9 data file provided by the Arizona Department of Education.

It also is important to understand how program options for ELLs are implemented. For example, how are SEI program requirements being interpreted and implemented in classrooms? The *Flores Consent Order* requires ADE to monitor 32 school districts, including the 10 districts with the highest enrollment of ELLs, 12 districts with medium enrollment, and 10 districts with low enrollment. ADE monitoring teams now evaluate compliance with both the *Flores Consent Order* and Proposition 203[27] by administering a survey (last revised on September 9, 2002) that contains 10 interview questions focusing on program implementation and on the processes of identifying, monitoring, and reclassifying ELLs. These data have been collected from 32 school districts each year since 2000-01, and, according to the *Flores* agreement, are to be publicly available. Although ADE states that these data can be made available to interested researchers who complete a formal request, the authors were unable to obtain them in a timely manner for inclusion and review in this brief.

Several independent researchers have attempted to secure external funding to study extensively the impact of Proposition 203 in Arizona,[28] but the authors are unaware of any studies that have been funded and conducted to date. Lacking available descriptive data, the authors cannot evaluate how the mandates of *Flores* and Proposition 203 have been implemented in Arizona schools beyond noting the proportions of tested students enrolled in the various language programs (excluding those exempted from testing).

Impact on English Language Development and Student Achievement

No data collected to specifically evaluate the effects of recent ELL policy on the English language proficiency of ELL students or their academic achievement could be identified, so the authors again tapped the state standardized testing program data files obtained under a confidentiality contract from the ADE. In addition to test scores, these data files contain limited student demographic information. Although these data have substantial limitations for evaluating true achievement for ELLs and making program or policy evaluations, an attempt was made to examine general trends in Stanford 9 test scores separately for ELLs and non-ELLs.

Tables 2-5 show the Stanford 9 scaled score trends for students tested in reading, language, and mathematics, respectively. Scaled score means, standard deviations, and the size of the tested sample are given separately for ELLs and non-ELLs in grades two through nine across three academic years, designated by the spring testing year. As expected, the number of ELLs tested increases dramatically across the three years, nearly doubling in most grades from 2001 to 2003. This presumably reflects the Proposition 203 requirement that all ELL students be tested.

Table 2: Means (M), Standard Deviations (SD), and Sample Sizes (N) of Stanford 9 Scaled Scores for Reading by Grade, ELL Status, and Year

		ELL			Non-ELL		
Grade		**2001**	**2002**	**2003**	**2001**	**2002**	**2003**
2	***M***	557	553	559	589	592	589
	SD	32	31	36	41	41	41
	N	9,219	14,661	18,753	52,185	53,130	55,573
3	***M***	580	574	583	617	621	619
	SD	32	31	36	43	43	43
	N	9,979	14,114	18,597	55,597	53,573	58,662
4	***M***	607	601	610	646	648	647
	SD	33	31	37	41	41	41
	N	9,246	12,909	15,948	55,591	54,472	55,995
5	***M***	621	616	624	657	660	659
	SD	29	28	33	37	37	36
	N	9,868	11,338	15,309	56,798	56,590	58,320
6	***M***	634	631	639	669	670	670
	SD	27	25	32	34	34	34
	N	7,792	9,850	12,943	55,297	56,916	57,553
7	***M***	645	640	648	685	687	686
	SD	31	30	36	37	37	36
	N	6,546	8,493	11,862	54,812	55,470	57,393
8	***M***	660	654	663	698	698	698
	SD	28	27	33	34	33	33
	N	5,728	7,543	10,573	52,718	53,521	55,262
9	***M***	659	654	663	695	694	694
	SD	27	25	32	33	34	33
	N	4,729	5,204	7,792	51,645	52,528	53,707

Source: Computed from Statewide Stanford 9 data file provided by the Arizona Department of Education.

Table 3: Means (M), Standard Deviations (SD), and Sample Sizes (N) of Stanford 9 Scaled Scores for Language by Grade, ELL Status, and Year

		ELL			Non-ELL		
Grade		**2001**	**2002**	**2003**	**2001**	**2002**	**2003**
2	***M***	540	539	543	565	567	566
	SD	26	26	29	34	34	34
	N	9,909	15,515	19,999	54,663	55,203	58,161
3	***M***	563	560	567	591	594	593
	SD	31	31	33	40	40	40
	N	10,176	14,491	19,031	56,428	54,239	59,602
4	***M***	583	580	586	611	614	613
	SD	28	28	30	34	34	34
	N	9,644	13,634	16,651	56,721	55,384	57,139
5	***M***	592	589	596	621	623	623
	SD	29	29	32	35	35	35
	N	10,228	11,757	15,737	57,658	57,059	59,103
6	***M***	601	598	606	633	635	635
	SD	28	27	32	34	33	34
	N	8,035	10,205	13,279	55,760	57,314	58,087
7	***M***	610	607	615	646	648	649
	SD	31	31	35	39	38	38
	N	6,665	8,696	12,066	55,053	55,846	57,622
8	***M***	617	613	622	653	655	654
	SD	28	27	33	36	36	36
	N	5,827	7,695	10,720	53,105	53,680	55,575
9	***M***	618	615	625	651	652	652
	SD	27	26	33	35	35	34
	N	4,833	5,444	7,982	51,867	53,545	54,572

Source: Computed from Statewide Stanford 9 data file provided by the Arizona Department of Education.

Table 4: Means (M), Standard Deviations (SD), and Sample Sizes (N) of Stanford 9 Scaled Scores for Mathematics by Grade, ELL Status, and Year

		ELL			Non-ELL		
Grade		**2001**	**2002**	**2003**	**2001**	**2002**	**2003**
2	***M***	554	556	561	580	583	583
	SD	37	37	40	41	41	42
	N	9,945	15,779	19,495	54,701	55,265	56,997
3	***M***	576	576	583	604	608	607
	SD	35	36	38	42	42	42
	N	10,128	14,621	18,899	56,170	54,449	58,414
4	***M***	604	603	611	634	636	636
	SD	33	33	36	39	39	40
	N	9,628	13,810	16,884	56,640	55,856	56,994
5	***M***	626	626	633	655	658	658
	SD	31	31	34	39	39	39
	N	10,222	11,921	16,015	57,626	57,598	59,214
6	***M***	639	640	648	673	675	675
	SD	31	31	37	40	40	40
	N	8,041	10,316	13,455	55,767	57,807	58,482
7	***M***	652	652	660	682	684	684
	SD	27	26	34	39	39	39
	N	6,630	8,788	12,222	54,846	56,068	58,055
8	***M***	660	660	668	691	693	693
	SD	26	26	32	38	38	37
	N	5,804	7,734	10,797	52,721	53,910	55,791
9	***M***	671	671	680	699	701	701
	SD	26	25	32	35	36	35
	N	5,027	5,512	8,107	52,569	53,545	55,001

Source: Computed from Statewide Stanford 9 data file provided by the Arizona Department of Education.

For ELL designees, average scores in reading and language dipped in all grade levels from 2001 to 2002, coinciding with the implementation year of Proposition 203, whereas mathematics scores remained approximately constant. Average scores then rose slightly in 2003 in all content areas. For the much larger group of non-ELL students (native English speakers and non-native speakers with Fluent English Proficient status), average scores varied less across the years in all content areas, and no clear trends emerged.

Simultaneous policy changes (Proposition 301 and NCLB) decreased exemptions from testing, changes in program requirements for ELLs, and higher stakes attached to standardized tests—make it difficult to attribute ELLs' score fluctuations to specific policies with any degree of confidence.

Evaluation of Available Data

Available data are insufficient to fairly evaluate the educational policies implemented by the *Flores* Order and Proposition 203. Indeed, these data were not collected with the aim of evaluating ELL policy. First, as noted, the data are incomplete. No studies could be located documenting how SEI is implemented in the classroom. Regarding student outcomes, the program enrollment and achievement data were available only for students included in the standardized assessment program. Given that many ELLs were exempt from testing in 2000-01, comparisons of achievement trends "before and after" Proposition 203 are of little or no value. Further, data are not readily available to address whether SEI programs help ELLs learn English in a timely manner. Although districts are required to report ELLs' scores on language proficiency tests each year, the Arizona Department of Education (ADE) does not release these data on the grounds that they may be misleading because four different tests of language proficiency are used in Arizona. As required by the No Child Left Behind Act of 2001 (NCLB), the ADE has issued a request for proposals to develop a single measure of language proficiency to be used by all school districts, with the goal of implementing this new test in the 2004-05 school year. At the March 2004 Board meeting, the ADE granted approval to award the contract to develop the test to a specific test publisher. The ADE

committee responsible for selecting the test developer regrettably did not include representation from the research community, however.

Second, evaluations of policy implementations are best informed by planned longitudinal collection and analysis of both qualitative and quantitative data. Comparisons of ELL program effectiveness are complicated by changes over time in the type and form of programs offered to ELLs, as well as by the inability to track individual students over multiple years. The data acquired from the state assessment program are collected each year, but student data are not linked across years, making assessment of individual academic growth very difficult. Student growth can only be examined after attempting to match students by an algorithm based on names, birthdates, and other features, a procedure estimated to have an 80 to 90 percent match rate. Beginning in fall 2004, each student will have a unique identification number, which should increase the longitudinal consistency of the data and allow for more thorough analyses of future policy implementations.

Third, it is questionable whether standardized tests administered in English accurately assess what ELLs know. The relationship between language factors and student performance in content areas has been well established.[29] The American Educational Research Association, American Psychological Association, and National Council on Measurement in Education have warned about validity shortcomings of using scores on tests given in English to assess ELLs' academic achievement. The National Research Council[30] (NRC) also has cautioned that testing ELLs in English is likely to underestimate an ELL's knowledge of the subject tested. Despite considerable warning from the measurement community, both state and national education policy has shifted toward mandatory testing of ELLs, regardless of English proficiency level.

Fourth, the accuracy of crucial demographic information (language background, ethnicity, ELL status, grade, number of years in program, and so on) is in question. Although some districts provide pre-coded labels for each student, most rely on students and classroom teachers to provide this information the day the test is administered. As a result, numerous inaccuracies may be expected.

Finally, data to support evaluation of Proposition 203 are not readily accessible to the public. The ADE does help interested researchers and policy analysts access requested data, if available, and there are stated goals to improve the student-level data collection and management systems. Student test scores, aggregated to the school and district levels, are reported for ELL students annually on the ADE website.[31] Open access to other data, such as scores on language proficiency tests and the reports from monitoring teams, would improve the ability to assess the impact of recent policy on ELLs.

Overall Quality of Available Data

Arizona has been working hard to improve the quality and reliability of data, but in their current form they are not suitable to evaluate the effects of specific policies for ELL students. Crucial demographic indicators do not appear to be accurately coded; there is limited confidence in year-to-year tracking of students within the dataset; and serious empirical questions exist as to the validity of the academic achievement measures for ELL students. As a result, it appears that no reliable or meaningful conclusions can be drawn from currently available data regarding policies affecting ELL students in Arizona.

Key Unanswered Policy Questions

How Is Proposition 203 Being Implemented?

In the context of changing legislation, court decisions, and leadership changes at ADE, administrators and teachers are confused about how to interpret laws governing the education of ELL students and how to communicate relevant information to families and communities. As a consequence, Proposition 203 is being implemented in the classrooms in a variety of ways, and there is no major effort to document the transition for classrooms, schools, and districts. An ADE survey to monitor and document compliance with Proposition 203 and the *Flores Consent Order* offers only limited potential for meaningful analysis due to its format and to the pressure on school officials to show compliance.

Questions regarding the implementation of Proposition 203 can be well served by collecting extensive qualitative data to describe the complex relationships among educational theories, Arizona language policies, teacher ideologies, and classroom implementation. Classroom and student ethnographies can help describe the implementation of Proposition 203. Research designs could compare various paths of program placement now available to ELLs in Arizona and qualitatively describe them. Because ADE has restricted or eliminated bilingual education programs for ELLs, however, meaningful comparisons of program effectiveness are not possible.

Is SEI Effective?

Nationally, a considerable number of scholarly studies and reviews of studies have been conducted to examine whether and to what extent native language instructional support helps English language learners; researchers have widely reported that the best designed studies show bilingual education programs to be more effective than alternatives such as ESL and SEI at increasing test scores on English-medium assessments of academic achievement.[32] In Arizona, before the passage of Proposition 203, several studies examining academic achievement among English language learners in bilingual education classes and English-only classes obtained results similar to those reported in the national literature.[33]

A recent study by Joseph Guzman[34] on the long-term benefits of bilingual education has been frequently cited by Superintendent Horne and others as evidence that English-only programs help students more than bilingual programs, contrary to the conclusions of most published research.[35] The study found that students who participated in bilingual education completed about a half-year less of school than students taught in an English-only approach, and further concluded that students taught through bilingual education were less likely to be in a high-skill occupation and earned less than students taught using English-only approaches. Although the advantages Guzman reported for English learners taught through English-only approaches were modest, it is important to point out that a significant flaw in the study's research design produced incorrect conclusions, resulting from inappropriate definition of the study's "bilingual education"

participants.[36] As a result, Guzman's findings, though only modestly critical of alternatives to English-only approaches, were incorrect.

To evaluate the effectiveness of educational policies for ELL students requires rigorous, reliable, and scientific methods of inquiry. A classic effectiveness research design would entail a quasi-experimental control group method comparing ELLs in different program models on several different educational outcomes, and over time. Alternatively, less convenient longitudinal studies with comparison cohorts focusing on long-range educational outcomes can inform this policy question. An aggregated report, using high-stakes standardized test scores of students for whom no reasonable comparison group exists, cannot.[37]

A meaningful effectiveness study hinges on the ability to accurately describe the programs under investigation. Program labels, often oversimplified and misleading, and overlapping educational treatments have complicated conclusions of bilingual education effectiveness studies over the years. Clear program definitions based on sound qualitative evidence can lead to more valid conclusions regarding effectiveness of program models for ELLs.

Are Students Learning English Fast Enough to Progress Academically?

Since students learn far less when they cannot understand the teacher or classroom assignments, an educational deficit may begin to accrue for students taught using SEI approaches. The current administration of the ADE expects a typical ELL to become "orally proficient" in English in one year and "fully proficient" in three years, though no data have been presented to the public to justify this stipulation. A reasonable worry is that children in SEI classes will not be able to take full advantage of the academic content of the school curriculum due to their limited proficiency in English during the first years of schooling, and will begin to develop difficulties that surface in later years.

Studies addressing how long children actually need to become proficient in English have variously reported ranges of two to three years or two to five years; studies additionally addressing how much time ELLs need both to learn English and to reach

parity with monolingual students on measures of academic achievement report ranges of three to five years, two to seven years, and two to eight years.[38] A longitudinal study of ELL students in a bilingual program in Central Arizona, based on data collected before the passage of Proposition 203, showed that students achieved native-like proficiency in English in an average of three years, with a range of one to six years.[39] Furthermore, studies show that younger children require more time than older students to learn English, contrary to popular belief.[40] No scientifically rigorous studies have been conducted on how long it takes children to learn English in an SEI program in Arizona, so their rate of progress is unknown as well as whether progress is sufficiently speedy to deter sustained academic deficiencies over time.

What Is the State Average for ELL Students on Oral Tests of English Language Proficiency?

As mentioned, younger children who do not have special needs are eligible for a waiver from the SEI approach if they score "approximately at or above the state average for [their] grade level or at or above the fifth grade average, whichever is lower,"[41] on an oral language proficiency test of English. Such a "state average" is not currently available. A depository of test data from school districts in the state could provide information needed to answer this important question.

An additional problem is that the Superintendent of Public Instruction interprets "average" in this context to refer to the average for native speakers of English. Scores for native speakers of English in Arizona are not available, however, because such tests are designed for use with English language learners and are only administered to native speakers of English for research purposes (to determine, for instance, whether the prescribed passing scores can be achieved by fluent speakers). Thus, an important policy decision will first be to determine whether "average score" here refers to an average for ELLs or for native speakers of English. The Attorney General's Opinion regarding the Superintendent's Guidelines appears to entrust such policy determinations to the Board of Education: "Any policy determinations that may be necessary regarding the scores required for (B)(1) waivers should be made by the Board; the Department's monitoring guidelines should be consistent with those policies."[42]

How Should Academic Progress be Measured for ELLs?

The Evaluation of Available Data has already noted concerns regarding the validity of achievement tests administered in English to assess ELLs because such tests are not normed on ELL students and are not grounded in a theory of language proficiency.[43] How, then, might academic progress most meaningfully be assessed for ELLs?

State and federal legislation requires the participation of all children in large-scale assessments to provide equal learning opportunity. Mandatory testing of ELLs on academic tests administered in English is integral to Proposition 203 (2000), No Child Left Behind (2001), and Arizona LEARNS (2003). Nevertheless, the federal government has yielded to complaints about the inherent unfairness in testing a student not yet proficient in the language of the test. On February 19, 2004, Education Secretary Rod Paige announced a dramatic change in federal policy regarding the testing of ELLs.[44] In their first year at a U.S. school, ELLs will no longer be required to take content area assessments. In addition, ELL test scores will remain aggregated with the ELL subgroup two years after ELL students have been re-designated as Fluent English Proficient (FEP). Arizona state policy (Proposition 203 and Arizona LEARNS), however, continues to require that all ELLs take standardized achievement tests in English, even those in their first year at a U.S. school. Because of this, there is a need to know if ELLs are able to adequately express what they know on a standardized test administered in English, or whether, for ELLs, standardized achievement tests do not detect differences in academic content knowledge.[45]

Investigating the validity of ELL test scores has been a scientific challenge.[46] Validity studies designed to address policy questions related to test scores must include large samples of ELL test scores, with item-level data and release of the actual test items. Larger samples are needed for reliable results and also to support use of current validity research methods (Item Response Theory, in particular). The required item-level data should include thorough demographic descriptions as well as theoretically sound multiple measures of English language proficiency. Release of test items is necessary to understand test score functioning in relation to an item's content and linguistic components.

Recommendations

Many of the shortcomings of Arizona's efforts to serve ELLs revolve around the absence of information. For instance, as noted earlier, one of the initial complaints in the *Flores* case was that ELLs, because of inadequate evaluation, were being mainstreamed into regular classrooms without the language skills needed to compete with their native English speaking peers. The policy community, research community, and general public are all concerned with the academic success of ELLs. How is Proposition 203 being implemented? Is SEI effective? How should academic progress be measured for ELLs?

In May of 2000, three years after the passage of Proposition 227 – a measure essentially identical to Arizona's Proposition 203 – the California State Legislature commissioned and funded an evaluation study of the effectiveness of the new law at a cost of $500,000 a year for three years. A properly conducted study could tell us whether ELLs are learning English at a rate sufficient to prevent academic deficiencies from accruing later in their school experience. Thus, the following recommendations for ELL policy in Arizona generally entail providing the state better and more complete information about ELL students and their performance.

It is recommended that:

1. The Arizona Department of Education (ADE) improve reliability of state demographic data by collecting and coding each ELL's socioeconomic status, language proficiency measures, program placement, ELL status, length of time classified as an ELL student, and other relevant information. One way to achieve greater accuracy is to provide pre-coded, computer-generated labels for each student in the state at each administration of a test.
2. The ADE create an evaluation system to follow students that includes multiple measures of success over time to support longitudinal studies that can address unanswered policy questions. ADE's new unique identification code for each student will permit more reliable tracking of students across multiple years of schooling.

3. The ADE make both its qualitative and quantitative data more accessible so that researchers can design rigorous studies that produce valid and reliable results, and continuously collect and maintain data notwithstanding administration changes.
4. The Arizona legislature and ADE foster collaborative ventures between the policy community and research community situated in Arizona public universities.
5. The Arizona legislature commission an evaluation study of the impact of Proposition 203.

Notes and References

[1] *Flores v. Arizona*, 48 F. Supp.2d 937 (D. Ariz. 1999).

[2] A.R.S. § 15-751-755.

[3] For additional information regarding ELLs in the state, readers are referred to the brief on "Minority Participation" in this report.

[4] A.R. S. § 15-752.

[5] Equal Educational Opportunities Act (EEOA), 20 United States Code Section 1703.

[6] *Flores Consent Order* (CIV 92-596 TUC ACM).

[7] Sjoberg, E. & The READ Institute (2001, May). English Acquisition Program Cost Study—Phases 1 through IV. Phoenix, AZ: Arizona Department of Education.

[8] Enacted in 1968 as Title VII of the Elementary and Secondary Education Act, the Bilingual Education Act indicated that bilingual education programs were to be seen as part of federal educational policy.

[9] A failure to provide bilingual education was alleged to violate both the equal protection clause of the 14th Amendment and Title VI of the Civil Rights Act of 1964. The verdict outlawed English submersion programs and resulted in nationwide "Lau remedies."

[10] A.R.S. §15-751-755.

[11] According to A.R. S. § 15-752, "Children who are English learners shall be educated through sheltered English immersion during a temporary transition period not normally intended to exceed one year."

[12] Rossell, C. (2000). Different Questions, Different answers: A critique of the Hakuta, Butler and Witt report, "How long does it take English learners to attain proficiency?" Washington, DC: Read Institute.

Rossell, C. (2002*). Dismantling Bilingual Education, Implementing English Immersion: The California Initiative*. Manuscript, Boston University.

[13] Krashen, S. (1996). *Under Attack: The Case Against Bilingual Education*. Culver City, CA: Language Education Associates.

Crawford, J. (1999) *Bilingual Education: History, Politics, Theory and Practice.* 4th edition. Los Angeles: Bilingual Education Services.

[14] A.R.S § 15-753.

[15] A.R.S. § 15-755.

[16] A.R.S. § 15-753.

[17] For example, see: Bilingual Waivers to Be Voided (2003, August 30). *Tucson Daily Sta*r.

[18] 25 U.S.C. §§ 2901-06. The Native American Languages Act (NALA) was enacted in 1990 to protect and promote the rights of Native American to preserve their native languages.

[19] I01-006 (R00-062) Attorney General Opinions Regarding the Application of Proposition 203 to Schools Serving the Navajo Nation.

[20] AG: Public schools not exempt from Prop. 203 (2004, February 19). *Navajo Times.*

[21]Regarding the special characteristics of Native American English, see:

Leap, W. (1993). American Indian English. Salt Lake City, UT: University of Utah Press.

Regarding the use of tests such as the Language Assessment Scales-English with Navajo children, see:

A. Yazzie, A., Rolstad, K., & MacSwan, J. (2002). (Mis)identifying limited English speakers of Navajo heritage: Some problems with the Language Assessment Scales (LAS)-English. Paper presented at the annual meeting of the American Educational Research Association (AERA).

[22] English immersion study shows a clear superiority. (2003, May 10). *Arizona Republic.*

[23]August, D. & Hakuta, K. (Eds.) (1997). *Improving Schooling for Language-minority Children: A Research Agenda*. Washington, DC: National Academy Press.

[24] A.R.S. § 15-181(A).

[25] Arizona Attorney General Opinion I03-002. Retrieved April 29, 2004, from, http://www.ag.state.az.us/opinions/index.html

[26] Charters Bypass English-only Law (2003, July 23). *Arizona Republic.*

[27] ARS 15-752 to 755 and R7-2-306.

[28] For example, see:

Combs, M. C., Moll, L., & Crawford, J. (2001). Assessing school reform by referendum: The impact of Arizona's Proposition 203 on the education of English learners. Submitted to the Spencer Field-Initiated Studies grant program at the U.S. Department of Education.

Garcia, E. E., Wiley, T. G., & Thompson, M. S. (2003). The implementation of educational reforms and the impact on language minority students in Arizona. Proposal submitted to the Spencer Field-Initiated Studies grant program at the U.S. Department of Education.

[29] For example, see:

Abedi, J. (2003, April). Impact of linguistic factors in content-based assessment for ELL students: An overview of research. Paper presented at the American Educational Research Association, Chicago.

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August, D., & Hakuta, K. (Eds.) (1998). *Educating Language Minority Children*. Washington, DC: National Academy Press.

Cocking, R., & Mestre, J. (Eds.) (1988). *Linguistic and Cultural Influences on Learning Mathematics*. Hillsdale, NJ: Lawrence Erlbaum Associates.

[30] National Research Council (1999). High-stakes: Testing for tracking, promotion, and graduation. Washington, DC: National Academy Press.

[31] Arizona Department of Education website: http://www.ade.state.az.us/

[32] Ramirez, D., Pasta, D., Yuen, S., Billings, D., & Ramey, D. (1991). Final report: *Longitudinal Study of Structured English Immersion Strategy, Early-exit and Late-exit Transitional Bilingual Education Programs for Language-minority Children*. (Vols. 1 & 2). San Mateo, CA: Aguirre International.

Willig, A. (1985). A meta-analysis of selected studies on the effectiveness of bilingual education. *Review of Educational Research, 55*.

Greene, J. (1998). *A Meta-analysis of the Effectiveness of Bilingual Education*. Claremont, CA: Thomas Rivera Policy Institute.

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Meyer, M. & Fienberg, S. (1992). *Assessing Evaluation Studies: The Case of Bilingual Education Strategies*. Washington, DC: National Academy Press.

Slavin, R. & Chueng, A. (2003, December). *Effective Reading Programs for English Language Learners: A Best-evidence Synthesis*. Report No. 66, the Center for Research on the Education of Students Placed At Risk (CRESPAR), John Hopkins University. Retrieved April 21, 2004, from http://www.csos.jhu.edu/crespar/techReports/Report66.pdf

[33] For example, see:

de la Garza, J. & Medina, M. (1985). Academic achievement as influenced by bilingual instruction for Spanish-dominant Mexican-American children. *Hispanic Journal of Behavioral Sciences, 7*(3), 247-259.

Medina, M., Saldate, M., & Mishra, S. (1985). The sustaining effects of bilingual education: A Follow-up Study. *Journal of Instructional Psychology*, *12*(3), 132-139.

Krashen, S., Park G., & Seldin, D. (2000). Bilingual education in Arizona: What research says. *NABE News*, September/October *2000*, 12-14.

[34] Guzman, J. (2002). Learning English. *Education Next*. Retrieved May 3, 2004, from http://www.educationnext.org/20023/58.html

[35] Although the report is often referred to as a publication of Stanford and Harvard University, it is actually published by the Hoover Institution, a think-tank endowed by Herbert Hoover in 1919 and housed at Stanford University. The critique is cited in the next note.

[36] For a detailed critique of the Guzman study, see:

Krashen, S. (2002*), Is Bilingual Education Bad for You? Another Bogus Argument Against Bilingual Education*. Language Policy Research Unit, Arizona State University. Available at http://www.asu.edu/educ/epsl/LPRU/features/brief6.htm

[37] For example, see:

Butler, Y. O. E., Gutierrez, M., and Hakuta, K. (2000). Inadequate conclusions from an inadequate assessment: What can Stanford 9 scores tell us about the impact of Proposition 227 in California? *Bilingual Research Journal, 24*, 141-154.

Thompson, M., Dicerbo, K., Mahoney, K., & MacSwan, J. (2002). Exito en California? A validity critique of language program evaluations and analysis of English learner test scores. *Education Policy Analysis Archives, 10*(7), 1-41. Retrieved from http://epaa.asu.edu/epaa/v10n7/

[38] Wright, E. N. & Ramsey, C. (1970). *Students of Non-Canadian origin: Age on Arrival, Academic Achievement and Ability*. Research Report #88. Toronto, Ontario: Toronto Board of Education.

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Klesmer, H. (1993). Development of ESL achievement criteria as a function of age and length of residence in Canada: ESL Achievement Project. Ontario: North York Board of Education.

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[39]Pray, L. C. & MacSwan, J. (2002). Different question, same answer: How long does it take for English learners to attain proficiency? Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

[40] Krashen, S., Long, M., & Scarcella, R. (1979). Age, rate, and eventual attainment in second language acquisition. *TESOL Quarterly*, *13*, 573-582

Pray, L. C., & MacSwan, J. (2002). Different question, same answer: How long does it take for English learners to attain proficiency? Paper presented at the annual meeting of the American Educational Research Association, New Orleans.

[41] A.R.S. 15-753.

[42] Attorney General Opinion 103-001, page 10.

[43] Thompson, M., Dicerbo, K., Mahoney, K., & MacSwan, J. (2002). Exito en California? A validity critique of language program evaluations and analysis of English learner test scores. *Education Policy Analysis Archives*, *10*(7), 1-41. Available at http://epaa.asu.edu/epaa/v10n7/

[44] An announcement by Education Secretary Rod Paige on February 19, 2004 stated two broad changes for some of the 5.5 million public school students learning English as a second language, effective immediately. In their first year at a U.S. school, students with limited English skills will be allowed to take only an English language proficiency test. That means the formerly required test in reading and writing academic ability will become optional. The second change will allow schools to consider students as having limited English skills for as long as two years after these students become proficient and leave the language program.

[45] Construct-irrelevant variance is a major threat to the validity of test scores for ELLs. This occurs when test scores contain excess reliable variance associated with other constructs. In other words, if an ELL struggles with reading the questions on a standardized mathematics test, then that test becomes some type of reading measure (irrelevant construct) more than it is a measure of true mathematics achievement (intended construct). When the test result contains irrelevant constructs, the test becomes easier or harder for some students in a manner unrelated to the intended construct.

[46] Part of this challenge has been defining the construct of academic achievement without considering language proficiency as also important to the construct. Separating the two constructs empirically has proven to be an even more difficult challenge. Although academic achievement and language proficiency function closely together, they are two distinct constructs and should be measured separately. Language proficiency signifies knowing a language, while academic achievement signifies knowing a particular domain of content made available through formal schooling. Academic achievement is the result of cognitive learning, whereas language proficiency is a result of language acquisition or language learning.

The Condition of Special Education Services for Students With Disabilities in Arizona: 2004

Executive Summary

For nearly three decades, services for children and youths with disabilities in the U.S. have been shaped by the Individuals with Disabilities Education Act (IDEA). A more recent federal mandate that is beginning to have a significant impact on special education is the No Child Left Behind Act of 2001 (NCLB). In Arizona, more than 104,000 children and youths ages 3 to 22 are currently in special education programs intended to give them a free and appropriate public education, with curricula and services designed to address their individual learning needs. Although the regular education classroom is a prevalent setting for students with mild to moderate disabilities, research does not support the superiority of this, or any other, placement over another. There currently are no statewide data on the quality of certified and non-certified special education teachers, nor are there data on the factors that lead to the retention of quality teachers.

Recommendations

It is recommended that:

- The Arizona Department of Education (ADE) improve the collection of child count and placement data to enhance the understanding of who children with disabilities are and where they are being served. Reporting data by grade as well as by age would help to distinguish the eligible kindergarten students from the pre-school placements covered by the count of three- to five-year-olds.
- The ADE create a special education database that can be merged with other ADE databases to establish how schools ascertain the use of research- and evidence-based practices; how schools confirm they are hiring quality educators who have knowledge of both content and pedagogy; how teachers apply evidence-based instructional practices and inform researchers and policy makers of advantages and limitations in practice; how schools assess the efficiency and effectiveness of special education programming; and how schools measure and implement the factors that foster retention of quality teachers.
- The ADE implement a tracking system for personnel that reflects an actual count of personnel providing special education services (not just full-time employees) to identify who is serving students with special needs and what their qualifications are. Such a tracking system would facilitate understanding of the predictors and contextual factors that create conducive environments for student learning and for the long-term retention of quality teachers.
- The ADE implement a tracking system capable of tracking students with disabilities who move from one placement or level to another.

The Condition of Special Education Services for Students With Disabilities in Arizona: 2004

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Background

Congress enacted the Education for All Handicapped Children Act (EHA; Public Law 94-142), now referred to as the Individuals with Disabilities Education Act (IDEA), to support states and schools in providing appropriate education for students with disabilities and their families. The underpinnings of this law were several court rulings following *Brown v. Board of Education of Topeka, Kansas,* the landmark U.S. Supreme Court decision that mandated racial integration of schools. Subsequent court rulings led to expanded educational opportunities for individuals with mental and physical disabilities. EHA and IDEA guaranteed access to appropriate education for all children with disabilities; the 1997 Amendments to IDEA articulated a new challenge for improved results and outcomes for these children and their families.[1]

Special education is a continuum of services, the purpose of which is to ensure that every student with special needs has access to effective instruction that results in positive student outcomes. The types of services provided are based on the individual

learning needs of students, and are specified in each student's Individualized Education Program (IEP). Students with special education needs have a right under the law to equal access to appropriate education and effective programming.

The 2001 reauthorization of the Elementary and Secondary Education Act, No Child Left Behind (NCLB), which sets as its stated goal raising the bar of academic achievement for all students, creates a risk of compromising the extent and quality of services for students with special needs.

Recent Developments

The term "child with a disability" means a child having mental retardation, a hearing impairment including deafness, a speech or language impairment, a visual impairment including blindness, emotional disturbance, an orthopedic impairment, autism, traumatic brain injury, other health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, who has been evaluated in accordance with IDEA, and who, by reason thereof, needs special education and related services.

Two federal legislative mandates have had a significant impact on special education services for children and youth with disabilities in Arizona. The first, which originally became law in 1975 as the Education for All Handicapped Children Act (PL 94-142), is now referred to as the Individuals with Disabilities Education Act (IDEA), Part B (34 CFR Parts 300 and 301 and Appendix C), or PL 102-119. This federal law mandates that in order for *all* children with disabilities to receive a free appropriate public education (FAPE), schools *must* provide special education and related services at no cost to the child or the child's parents. The IDEA provides rules and regulations for providing FAPE to all children with disabilities from 3 to 22.

The IDEA was re-authorized in 1997 and is up for re-authorization in early 2004. It charges state departments of education with the responsibility for monitoring the schools' provision of special education and related services. The specific purposes of the law are: to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services

designed to meet their unique needs and prepare them for employment and independent living; to ensure that the rights of children with disabilities and their parents are protected; to assist states, localities, educational service agencies, and federal agencies to provide for the education of all children with disabilities; and to assess and ensure the effectiveness of efforts to educate children with disabilities.[2]

The second relevant federal mandate is the No Child Left Behind Act of 2001 (NCLB), or P.L. 107-110, with which Congress reauthorized the Elementary and Secondary Education Act (ESEA). NCLB represents an overhaul of federal efforts to support elementary and secondary education in the United States. Its stated premises are accountability for results, an emphasis on doing what works based on scientific research, expanded parental options, and expanded local control and flexibility. NCLB requires all school districts to ensure that all students are taught by "highly qualified" teachers in the core academic subjects by the end of the 2005-06 school year.[3]

Some of the NCLB rules and regulations that specifically affect students with disabilities include the following:

- Identification of students with disabilities included in statewide assessments and determination of whether accommodations (either standard or nonstandard) can be made for them.
- Support for rigorous evidenced-based practices in the education and treatment of students with disabilities.
- Parental choice in the forms of vouchers and alternative school settings (private, charter, and virtual) for students with disabilities.
- Criteria for highly qualified special education teachers.

Available Data

Who Are Students With Disabilities in Arizona?

In 2002-03, Arizona provided special education and related services to 92,882 school-age students with disabilities, representing 7.24 percent of the school-age

population. In addition, the state provided special education to 10,606 children aged three to five during the same period of time. Thus, in 2002-03, Arizona served a total of about 104,000 children and youth with disabilities.

Table 1: Number and Percent of Children Ages 6-21 Served Under IDEA, Part B, by Disability, During the 2002-03 School Year

Type of Disability	**Arizona**		**U.S.**	
Specific Learning Disabilities	53,347	4.16%	2,869,779	4.30%
Speech or Language Impairments	15,953	1.24%	1,110,505	1.67%
Mental Retardation	7,413	0.58%	590,410	0.88%
Emotional Disturbance	5,892	0.46%	480,328	0.73%
Multiple Disabilities	2,562	0.20%	131,309	0.20%
Hearing Impairments	1,625	0.13%	71,856	0.13%
Orthopedic Impairments	639	0.05%	74,023	0.11%
Other Health Impairments	2,815	0.22%	392,353	0.59%
Visual Impairments	574	0.04%	26,063	0.04%
Autism	1,689	0.13%	118,602	0.18%
Deaf-Blindness	65	0.01%	1,593	0.00%
Traumatic Brain Injury	308	0.02%	21,456	0.03%
Developmental Delay	0	0.00%	57,925	0.09%
All Disabilities	***92,882***	***7.24%***	***5,946,202***	***8.95%***

Source: U.S. Department of Education, Number of Children Ages 6-21 Served under IDEA, Part B, http://www.ideadata.org/tables26th/ar_aa3.xls

During the 2002-03 school year, special education and related services were provided to 7.24 percent of Arizona's children and youth. This number represents lower identification and service rates than the national prevalence rates for students in all disability categories except for deaf-blindness. The categories with the greatest discrepancies between Arizona and national rates were emotional disturbance (37 percent

lower than the national rate) and mental retardation (34 percent lower rate than the national rate).

Table 2: Percent of Children Ages 6-21 Served Under Idea, Part B, by Disability, During the 2002-03 School Year

Type of Disability	Arizona	U.S.
Specific Learning Disabilities	57.4	48.3
Speech or Language Impairments	17.2	18.7
Mental Retardation	8.0	9.9
Emotional Disturbance	6.3	8.1
Multiple Disabilities	2.8	2.2
Hearing Impairments	1.7	1.2
Orthopedic Impairments	0.7	1.2
Other Health Impairments	3.0	6.6
Visual Impairments	0.6	0.4
Autism	1.8	2.0
Deaf-Blindness	0.1	0.0
Traumatic Brain Injury	0.3	0.4
Developmental Delay	0.0	1.0

Source: (2004) Special education in an era of standards: Count me in. *Education Week, 23*(17), p. 80.

Of all children with disabilities in Arizona, 57.4 percent of students were identified as having learning disabilities, as compared to 48.3 percent at the national level (i.e., a discrepancy of 9.1 percent). The rest of the Arizona disabilities rates were lower than or approximately the same as the national rates.

Table 3: Number of Children Ages 3-5 Served Under IDEA, Part B, by Disability, During the 2002-03 School Year

Type of Disability	Arizona	U.S.
Specific Learning Disabilities	163	14,533
Speech or Language Impairments	2,522	316,069
Mental Retardation	246	22,427
Emotional Disturbance	47	5,962
Multiple Disabilities	62	8,488
Hearing Impairments	139	7,216
Orthopedic Impairments	45	9,629
Other Health Impairment	67	13,277
Visual Impairments	114	3,119
Autism	152	19,017
Deaf-Blindness	4	246
Traumatic Brain Injury	1	996
Developmental Delay	7,044	225,574
All Disabilities	***10,606***	***646,553***

Source: U.S. Department of Education, Number of Children Ages 3-5 Served Under IDEA, Part B, http://www.ideadata.org/tables26th/ar_aa2.xls

The preponderance of children between the ages three to five with disabilities in Arizona were identified as having speech and language impairments (2,522) and developmental delays (7,044). These two categories account for over 90 percent of young children with disabilities in Arizona. Nationally, 23.7 percent of pre-school age children with disabilities are identified as having speech and language impairments; in Arizona, 48.8 percent are similarly classified. Nationally, 8.9 percent are labeled as having development delays, compared to 66.4 percent in Arizona. Children with autism account for 18.3 percent of the national census of young children with disabilities, but only for 1.4 percent of the Arizona count.

Table 4: Ethnic Composition of Students in the 2002-03 School Year

Ethnicity	Number of Students	Percent	Number of Special Education Students	Percent
White	491,558	50%	52,553	50%
African American	46,859	5%	6,235	6%
Hispanic	355,295	36%	36,285	35%
Native American	63,307	6%	8,431	8%
Asian	21,109	2%	1,188	1%
Total	***978,128***	***100%***	***104,692***	***100%***

Source: U.S. Department of Education, District Statistics Reports 2002-2003
http://www.ade.az.gov/ess/DataManagement/Documents/Stats/All.pdf

As indicated in Table 4, the ethnic composition of students with disabilities was very similar to that of the general composition of students in Arizona.

Where Are Students With Disabilities Served in Arizona?

Students with disabilities in Arizona receive services in a variety of settings. These settings represent the continuum of services specified in the IDEA, ranging from less to more restrictive special education placements. On the least restrictive end of the continuum, students with disabilities are served in varying degrees in inclusive general education settings. More restrictive placements range from self-contained classrooms in the schools to separate day and residential facilities.

Table 5: Number of Children in Arizona Ages 6-21 Served in Different Educational Environments under IDEA During the 2002-03 School Year

Educational Environment	Number of Children
Less than 21% in Special Education Classroom	44,223
21% to 60% in Special Education Classroom	29,463
More than 60% in Special Education Classroom	16,636
Public Separate Facility	899
Private Separate Facility	1,068
Public Residential Facility	284
Private Residential Facility	102
Home/Hospital Environment	207
Total	***92,882***

Source: U.S. Department of Education, Number of Children Ages 6-21 Served in Different Educational Environments under IDEA by Disability 2002-2003 school year http://www.ideadata.org/tables26th/ar_ab2.xls

Fully 97 percent of the school-aged special education children in Arizona receive some of their education in the regular class setting, with almost half in the regular classroom for at least 79 percent of the school day.

Almost 98 percent of the 10,606 pre-school aged children with disabilities in Arizona receive special education services in early childhood settings, early childhood special education settings, or part-time early childhood/part time special education settings.

Table 6: Number of Children in Arizona Ages 3-5 Served in Different Educational Environments under IDEA During the 2002-03 School Year

Educational Environment	Number of Children
Early Childhood Setting	3,807
Early Childhood Special Education Setting	4,481
Home	10
Part Time EC/Part Time Special Education	2,104
Residential Facility	34
Separate School	99
Itinerant Services outside Home	30
Reverse Mainstreaming	41
Total	***10,606***

Source: U.S. Department of Education, Number of Children Ages 3-5 Served in Different Educational Environments under IDEA by Disability 2002-2003 school year
http://www.ideadata.org/tables26th/ar_ab1.xls

In Arizona, on the day that Child Find statistics were tabulated in 2002, 479 students were counted in secure care settings (detention centers, jails, the Arizona Department of Juvenile Corrections, and the Arizona Department of Corrections). Nationally, 26,344 students were counted in similar settings on that day.[4] These numbers, although probably representative of any given day, do not accurately represent the numbers of students with disabilities who pass through correctional facilities throughout the course of the year. Because of the high turnover in secure care, a larger number of students with disabilities are found in these settings over the course of a year; also, the identification rate of special needs students in secure care is low.

Who Are the Teachers of Students With Disabilities in Arizona?

Although the number of students with disabilities in Arizona has increased in the past several years, the number of teachers with special education certification has actually

decreased in the same period. Most local educational agencies (LEAs) in Arizona have a significant shortage of certified teachers for special needs children and have resorted to hiring non-certified teachers for special education classrooms. The shortage of certified special education teachers is most apparent in programs for students between the ages of three to five, and there was a 30 percent decrease in certified teachers for this age group. There was a 1.2 percent decrease in certified teachers in programs for students with disabilities ages 6 to 21.

Table 7: FTE of Teachers Employed in Arizona to Provide Special Education and Related Services to Students from Ages 3-5, During the 2001-02 and 2002-03 School Years

Types of Teachers Employed	2001-02	2002-03
Employed/Contracted Fully Certified	1,184	806
Employed/Contracted Non-Certified	252	203
Total Employed/Contracted	1,436	1,009

Sources: U.S. Department of Education, Number of Children Ages 6-21 Served in Different Educational Environments Under IDEA by Disability 2002-2003 school year. Retrieved April 8, 2004 from http://www.ideadata.org/tables26th/ar_ac1.xls; and Arizona Department of Education (submitted for publication). U.S. Department of Education, Individuals with Disabilities Education Act 618.

In Arizona, currently 806 fully certified and 203 non-certified teachers in terms of full-time equivalency (FTE) provide special education and related services for children with disabilities from ages three to five. These numbers reflect a possible decrease of 30 percent in the number of certified and non-certified early childhood special education teachers from 2002 to 2003.

Table 8: Number and Types of Teachers Employed in Arizona to Provide Special Education and Related Services to Students from Ages 6–21, During the 2002–03 School Year

Service Provider	Employed/ Contracted Certified	Employed/ Contracted Non-Certified	Total
Itinerant Teacher	404	51	455
Resource Room Teacher	2,671	468	3,139
Teacher – Self Contained Class	1,571	317	1,888
Home-Hospital Teacher	47	5	52
Consultant Teacher	149	12	161
Total FTE of Special Education Teachers in 2003	4,842	853	5,695
Total FTE of Special Education Teachers in 2002	4,901	747	5,648

Source: Arizona Department of Education (submitted for publication). U.S. Department of Education, Individuals with Disabilities Education Act 618.

To provide services for children with disabilities from age 6 to 21, the total FTE is 4842 certified special education teachers, combining itinerant, resource room, self-contained, home-hospital, and consultant teachers and 853 non-certified teachers. The total FTE certified teachers for year 2003 was lower than for 2002, indicating a reduction of certified special education teachers in Arizona this year. At the same time, the total FTE for all employed special education teachers has gone up in 2003, indicating that more students with disabilities are being taught by teachers without certification.

Table 9: Number and Types of Personnel Employed in Arizona to Provide Special Education and Related Services to Students from Ages 3-21, During the 2002-03 School Year

Types of Personnel Employed	Certified	Non-Certified	Total
Vocational Education Teachers	167.58	25.50	193.08
Physical Education Teachers	216.45	34.81	251.26
Work-Study Coordinators	52.50	6.50	59.00
Psychologists	746.82	11.04	757.86
School Social Workers	161.86	21.13	182.99
Occupational Therapists	409.88	24.88	434.76
Audiologists	47.99	2.50	50.49
Teacher Aides	2,843.71	4,051.75	6,895.46
Recreation/Therapeutic Recreation Specialists	24.05	3.50	27.55
Diagnostic and Evaluative Staff	210.99	9.38	220.37
Physical Therapists	135.83	6.22	142.05
Counselors	469.48	30.75	500.23
Speech Pathologists	962.44	49.95	1,012.37
Supervisors/Administrators (LEA)	622.94	62.73	685.67
Interpreters	143.51	66.99	210.50
Rehabilitation Counselors	6.44	2.00	8.44
Other Professional Staff	580.50	110.00	690.50
Non-Professional Staff	968.17	900.07	1,868.24
Total Other Special Education and Related Services Staff	8,771.12	5,419.70	14,190.82

Source: Arizona Department of Education (submitted for publication). U.S. Department of Education, Individuals with Disabilities Education Act 618.

FTE comparisons of other special education and related services personnel indicate the greatest numbers for teacher aides, followed by non-professional staff, speech pathologists, psychologists, supervisors and administrators who are serving students with special needs. Over 38 percent of these special education and related services personnel were not certified in the 2002-03 school year. When teacher aides are factored out, however, more than 75 percent of the remaining professionals have certification in their respective professions.

Although state data are not available to determine workforce quality of personnel serving students with special needs, the *Study of Personnel Needs in Special Education (SPeNSE),* sponsored by the Office of Special Education Programs of the U. S. Department of Education,[5] provides critical information on the quality of personnel serving students with disabilities and the factors associated with workforce quality. SPeNSE data show that the nation's special education teachers, as a group, had accumulated an average of 14.3 years of teaching experience in 1999-2000; 12.3 of those years were spent teaching special education. SPeNSE data indicate that 59 percent of special education teachers had a master's degree, compared to 49 percent of regular education teachers. The study reported that teacher quality was related to five factors: experience, credentials, self-efficacy, professionalism, and selected classroom practices. Teaching experience was found to be the strongest predictor of teacher quality in the first level of analysis.

What Are the Outcomes For Students With Disabilities in Arizona?

Student Achievement Data. According to the *Arizona 2001 Biennial Performance Report*, 84 percent of students with disabilities participated in the appropriate levels of the Arizona's Instrument to Measure Standards (AIMS) testing in the 2001-02 school year.[6] The non-participation rate for students with special needs was 16 percent. Twenty-five percent of students with disabilities who were tested on grade level met or exceeded the state standards in reading.

School Completion Rates. According to the same report,[7] 25.3 percent of students (ages 14-21) who exited special education in 2001 received a regular high school diploma, indicating that one in four students with special needs apparently responded well to

appropriate options and specialized interventions and demonstrated the capacity to complete the requirements of high school.

Dropout Rates. Sixteen percent of students with disabilities between the ages of 14-21 dropped out of school in the 2000-01 school year.[8] Most dropouts have difficulty finding and keeping meaningful employment that enables them to be self-dependent. Dropout rates for students with special needs may worsen due to lack of adequate support, programming options, or effective transition services.

Suspension Rates. Arizona local education agencies (LEAs) reported a long-term suspension rate of greater than 10 percent of the enrolled special education population in 2001-02.[9] The statewide suspension rate was 8.4 percent, with 39 LEAs maintaining suspension rates over 10 percent.

Evaluation of Available Data

Special education services have produced positive outcomes for many students with special needs. Differences in commitments and resources have created a range of results and outcomes for these students, however. Data from the *Special Education Expenditure Project (SEEP)*[10] suggest that that the total cost of educating a student with a disability amounts to $12,639 a year. Total special education spending alone accounts for 13.9 percent of the $360.6 billion total spent on elementary and secondary education in the United States.

Who Are Students With Disabilities? What Do We Know? What Do We Not Know?

The predominance of children aged three to five with disabilities in Arizona identified as having speech and language impairments and developmental delay suggest a need for early intervention. The NCLB's accountability demands require that early interventions be evidence-based.

Students with disabilities who have mental health problems often fail to receive appropriate educational or mental health services because either they are undiagnosed or

appropriate interventions are not implemented. Without specialized interventions, many of these students are likely to face life-long difficulties that include unemployment, broken marriages, criminality, and imprisonment. Finally, knowledge about biological and neurological underpinnings of disabilities has not been adequate to inform policy makers, mental health professionals, and educators of how best to help students with disabilities.[11]

Where Are Students With Disabilities Served in Arizona? What Do We Know? What Do We Not Know?

Ninety-seven percent of the school-age special education children in Arizona receive some of their education in the regular class setting, with almost half in the regular classroom for at least 79 percent of the school day. Although the regular education classroom is a prevalent setting for students with mild to moderate disabilities, research does not support superiority of this, or any other, placement over another.[12] Data on the types of accommodations and modifications made by regular education teachers who are serving students with special needs would facilitate the evaluation of current placement strategies. Additionally, the quality of information on evidence-based practices and their application in teacher preparation programs for general educators remains unexamined.

The national special education prevalence data indicate that 28.7 percent of youth served in detention centers and 33.4 percent of youth in juvenile correctional facilities have been identified as disabled in the schools prior to incarceration.[13] The number of students with disabilities in Arizona's secure care and correctional facilities is relatively low, but the number represents a count taken on one given day in one year. Because incarceration times are generally relatively short, many more students with disabilities are incarcerated over the course of a school year. Thus, the data on the number of youths with disabilities in Arizona's secure care facilities are not reliable enough to track these youths.

Who Are the Teachers of Students With Disabilities in Arizona? What Do We Know? What Do We Not Know?

More than one-third of personnel serving students with special needs are not certified in the area in which they are providing services. Predictors and contextual factors such as administrative support, class size, and opportunities for professional growth that create environments conducive to student learning and long-term retention of quality, certified teachers remain unexamined.

What Are the Outcomes for Students With Disabilities in Arizona? What Do We Know? What Do We Not Know?

About one-fourth of students with special needs complete high school requirements and receive a diploma. More information is needed on the quality of home, school, work, and community engagement of students with disabilities who do not receive a high school diploma. Data were not accessible and complete to allow for conclusions to be drawn about the long-term success of students with special needs. More data on successful outcomes of students who have received special services can enhance our understanding of the protective factors; longitudinal studies determining the extent of overall success of special education services for students can provide these data.

Key Unanswered Policy Questions

Since the advent of NCLB, political factors are influencing the movement toward inclusive programs in which students are educated to a greater extent within the regular education classroom. Research supporting the validity and efficacy of inclusive programs is limited. More specific questions include the following:

- Has Arizona implemented Child Find to ensure that all children from birth through age 21 with delays or disabilities are identified, located, and evaluated to ensure that they receive the support and services they need?

- Does Arizona guarantee effective treatment options and specialized programming, mental health services, and vocational rehabilitation to students with special needs?
- Do students with special needs have access to a continuum of special education placement options, one-on-one instruction, and individualized approaches to enable them to achieve both academically and socially?
- Does Arizona ensure that students in detention and secure care systems receive the same treatment options as students in the public schools?
- Does Arizona keep teachers qualified over time? Certification requirements for beginning teachers exist, but does the requirement of 180 professional development hours ensure that teachers in the field of special education maintain their quality of instruction over time?
- Is Arizona producing quality teachers to meet the priority of improving the quality of public education for all students, including those with special needs? According to a report published by the Morrison Institute, Arizona actually may have a small overall surplus of teachers each year between now and 2010[14]. The Morrison report recommends that, in order to retain quality teachers, policy changes occur in the areas of teacher preparation, recruitment, compensation, classroom environment, and data tracking.

Recommendations

These gaps in the data available with respect to the students served, their teachers, and the relative degrees of success of different types of placements lead to the following recommendations for Arizona policy makers.

It is recommended that:

1. The Arizona Department of Education (ADE) improve the collection of child count and placement data to enhance the understanding of who children with disabilities are and where they are being served. Reporting data by grade as

well as by age would help to distinguish the eligible kindergarten students from the pre-school placements covered by the count of three- to five-year-olds.

2. The ADE create a special education database that can be merged with other ADE databases to establish how schools ascertain the use of research- and evidence-based practices; how schools confirm they are hiring quality educators who have knowledge of both content and pedagogy; how teachers apply evidence-based instructional practices and inform researchers and policy makers of advantages and limitations in practice; how schools assess the efficiency and effectiveness of special education programming; and how schools measure and implement the factors that foster retention of quality teachers.

3. The ADE implement a tracking system for personnel that reflects an actual count of personnel providing special education services (not just full-time employees) to identify who is serving students with special needs and what their qualifications are. Such a tracking system would facilitate understanding of the predictors and contextual factors that create conducive environments for student learning and for the long-term retention of quality teachers.

4. The ADE implement a tracking system capable of tracking students with disabilities who move from one placement or level to another.

Notes and References

[1] U.S. Department of Education, History of the IDEA. Retrieved April 8, 2004, from http://www.ed.gov/policy/speced/leg/idea/history.html

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[4] U.S. Department of Education, Number of Children Ages 6-21 Served in Different Educational Environments under IDEA by Disability 2002-2003 school year. Retrieved April 8, 2004, from http://www.ideadata.org/tables26th/ar_ab6.xls

[5] U.S. Department of Education, Individual with Disabilities Education Act 618. Retrieved on April 8, 2004, from http://www.ed.gov/about/reports/annual/osep/2002/toc-execsum.pdf

[6] Arizona 2001 Biennial Report to the Office of Special Education Programs, U.S. Department of Education (2002). Phoenix, AZ: Author.

[7] *Ibid*.

[8] *Ibid*.

[9] *Ibid*.

[10] U.S. Department of Education, Individual with Disabilities Education Act 618. Retrieved on April 8, 2004, from http://www.ed.gov/about/reports/annual/osep/2002/toc-execsum.pdf

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[12] Hallahan, D. P., & Kauffman, D. P. (2002). *Exceptional Learners: Introduction to Special Education.* Boston: Allyn and Bacon.

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The Condition of Minority Access and Participation in Arizona: 2004

Executive Summary

Education policies for Arizona language minorities attempt to respond to divergent requirements: Arizona LEARNS (A.R.S. §15-241), 2002, *Flores v. Arizona*, 2000, the No Child Left Behind Act (NCLB), 2001, Proposition 203, 2002, and *Lau v. Nichols*, 1974. Although pertinent data were easily found online, they were never disaggregated by category within minority group and often not longitudinally consistent. Arizona would benefit from a thorough evaluation of its divergent policy and consequent educational practice, both as they exist independently and as they interact with each other in Arizona school programs and practices.

Recommendations

It is recommended that:

- The Arizona Department of Education (ADE) require that school districts keep data on indicators that affect outcomes, such as grade retention, disciplinary measures, and public rewards for high levels of student achievement.
- The ADE monitor and document teaching techniques, such as structured English immersion, to determine if they accomplish the desired aim: engaged students, mastery of rigorous content, high rates of student success, and successful transition into English literacy.
- The ADE make provisions for enrollment of reclassified students in English as a Second Language instruction if needed, and make special efforts to enroll English learners in advanced math and science courses and gifted or talented programs.
- School districts involve parents of English learners in school governance. This would include involving parents in redefining and redesigning gifted or talented programs that embrace unique characteristics that minority students bring, and recognizing the diversity in minority communities as a resource and not a deficiency. It would also include adopting native language communications with families, including sending information home in a language and terms that parents can understand, and using English as a Second Language (ESL) strategies to teach English learners enrolled in advanced courses.
- The ADE implement appropriate accountability procedures to assure student progress and success. These would include documenting procedures for school districts to follow that monitor and uphold prohibitions against tracking, ability grouping, assignment to special education, and other practices that limit minority student progress and success. Accountability procedures would also provide for appropriate classification of minority students who need special education or English language acquisition services, appropriate instruction, and assessment of student achievement with appropriately designed assessments.

The Condition of Minority Access and Participation in Arizona: 2004

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Background

This brief reviews the current status of minority students in the public schools of Arizona. For the purposes of this discussion, *minority* is defined as anyone other than non-Hispanic White native speakers of English. The discussion includes all varieties of minority (i.e., language minority, ethnic minority, racial minority, recent immigrant). This brief attempts to paint a broad-brush picture of how minority students in Arizona achieve in comparison with majority group students.

Federal Laws and Court Rulings

The *Brown v. Board of Education of Topeka, Kansas,*[1] ruling of 1954 determined that racial segregation limited African American student access to a quality education in public schools, and was therefore illegal. This landmark case set the stage for the legal and regulatory framework that developed subsequently and that grew to include other groups experiencing similar educational inequities. *Brown v. Board of Education* paved

the way for The Civil Rights Act of 1964 (especially Title VI),[2] and for The Equal Educational Opportunities Act (EEOA) of 1974.[3]

Other pertinent U.S. Supreme Court rulings include *Lau v. Nichols,*[4] in which the Supreme Court declared that equality of educational opportunity is denied to students who do not understand English if schools do not take affirmative steps to differentiate their instructional program from that provided to native speakers of English. Unlike *Brown v. Board of Education*, which made it necessary for plaintiffs to show a school district's intent to discriminate, *Lau's* focus is on outcomes. If students do not receive instruction in a language that they can understand, they are receiving disparate services from the school district. The school district has denied the students equal educational opportunity, regardless of the district's intent. The state's data suggest that the absence of such opportunity, owing to the absence of affirmative steps to provide access, is common in Arizona. In *Plyler v. Doe,*[5] the Supreme Court ruled that the Fourteenth Amendment prohibits states from denying a free public education to immigrant children regardless of the legal status of their parents' residency in the United States.

The Federal Court of Appeals' ruling on *Castaneda v. Pickard* [6] resulted in the formulation of a test to determine school district compliance with the Equal Educational Opportunities Act (EEOA):

- The school must pursue a program based on an educational theory recognized as sound or, at least, as a legitimate experimental strategy.
- The school must actually implement the program with instructional practices, resources, and personnel necessary to transfer theory into reality.
- The school must not persist with a program that fails to produce results.

In *Gomez v. Illinois,*[7] the requirements to apply these principles were extended to state education agencies to ensure that English Language Learners' needs are met. Again, no evidence was found that Arizona has responded *affirmatively* to this requirement of law.

The Native American Languages Act of 1990 [8] stipulates that the right of Native Americans to express themselves in Native American languages shall not be restricted in any public proceeding, including publicly supported education programs. With the sole exception of an Attorney General opinion that Proposition 203 does not apply to Indian-controlled, Bureau of Indian Affairs (BIA), and reservation schools,[9] no evidence was found that state school leaders have concerned themselves with this legislation or monitored its application uniformly across the state.

Arizona State Laws and Court Rulings

In Arizona, the legal and regulatory landscape with respect to minority participation in education in K-12 schools promised to change remarkably in the 1990s. The process, however, has yet to be completed. *Flores v. State of Arizona*[10] was first filed in the U.S. District Court in 1992. The court agreed with the plaintiffs' claim that the state did not adequately finance educational programs for English Language Learners (ELLs). One outcome of the court case was the *Flores Consent Order* (2000),[11] which required new procedures for reassessment of ELLs and greater monitoring by the state of school districts' compliance with EEOA and other pertinent federal and state laws. This consent order also required that the state conduct the first of two cost studies on the education of ELLs. In response to the Flores Order, Arizona House of Representatives Bill 2011 (HB2011)[12] enacted laws and statutes regulating English Learner (ELL) programs in schools. This bill also established requirements for the State Board of Education and the Arizona Department of Education (ADE) with respect to their supervision of ELL programs in Arizona public and charter schools, established various steps to improve compensatory instruction, and ordered the ADE to monitor such programs, along with the funds expended for them. Also mandated was a regional teacher training program, English as a Second Language instruction for parents of ELLs, and special grants to school districts and charter schools that demonstrate unique needs in language acquisition programs.

The legislature also commissioned a second cost study to determine an equitable funding level for these programs. That report was to be provided to the legislature by August 2004, and is not yet available at this writing.

Proposition 203[13] repealed the state statute that provided for bilingual and English as a Second Language programs in the public schools[14] and replaced it with "English Language Education for Children in Public Schools."[15] The resulting legislation requires that all public school instruction be conducted in English and that ELLs be placed in an intensive one-year English immersion program. Parents may request a waiver for children who already know English, are ten years of age or older, or have special needs best suited to a different educational approach. Traditional foreign language programs are unaffected.

Recent Developments

Since the passage of Proposition 203 in November, 2000, the Arizona legislature, in consultation with the educational and business communities, has been engaged in rule-making that complies with two apparently conflicting mandates. Two additional developments emerging since January 2002 are the reauthorization of the federal Elementary and Secondary Education Act (known as the No Child Left Behind Act of 2001 [NCLB])[16] and Arizona LEARNS (Arizona Revised Statute 15-241),[17] which is Arizona's state plan for participating in NCLB. To continue to receive federal funds under NCLB, public schools must meet academic standards as prescribed by NCLB. The objectives are to implement a single, statewide accountability system that ensures that all districts and schools make Adequate Yearly Progress (AYP), and to hold accountable those that do not. Most notable of the statutory requirements are those included in Title I (Improving the Academic Achievement of the Disadvantaged), which requires that: (1) In order to make adequate yearly progress, schools must test in each of a number of categories at least 95 percent of their students, including low-income students, students from major racial and ethnic groups, and students with limited English proficiency;[18] and (2) Local school districts must notify parents of their right to request information on the professional qualifications of their children's teachers.

Arizona's interpretation of the terms of NCLB through Arizona LEARNS appears to conflict with the *Flores Consent Order*. Arizona LEARNS requires that all students in Arizona's public schools be taught in English and that they "participate effectively" in

the rest of the curriculum, whereas the *Flores Consent Order* acknowledges that English learners are foreclosed from their civil right to participate in the rest of the curriculum when the language of instruction is limited to English. Also underway, in response to the *Flores Consent Orde*r, is a second cost study focused on the education of English Language Learners in Arizona in the civil rights legal context. The study is to be completed no later than August, 2004.

Portions of NCLB focus on subsets of the population, with Title III providing funding to the schools serving ELL students. Formerly known as Title VII, or the Bilingual Education Act, this aspect of the legislation no longer funds bilingual education in Arizona, since it is prohibited by Proposition 203. Accordingly, Title III funds are being used for other purposes, notably for structured English immersion.

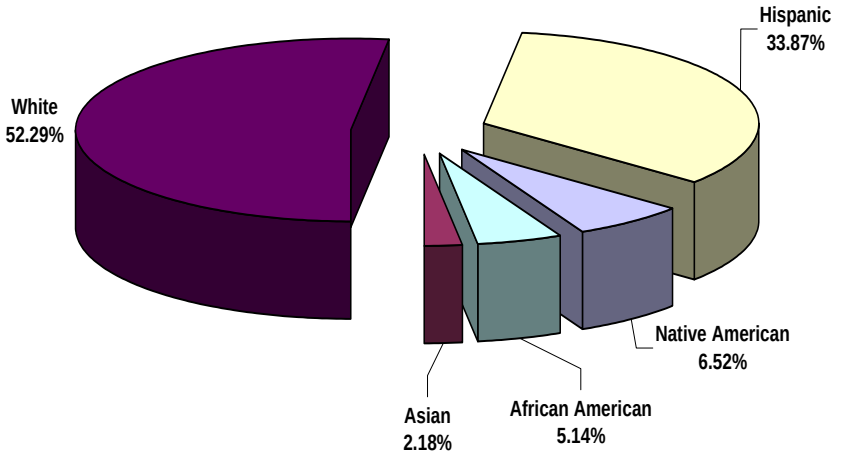
Title IV of NCLB regulations relates to school safety,[19] and is pertinent to minority participation because students who attend school and learn in a safe, orderly environment are more likely to persist in their studies and achieve academically. In addition to addressing substance abuse, hate crimes, weapons in school, and similar concerns about student-to-student violence, Title IV's terms also consider incidents of institutional "violence" — elements of school culture that are potentially dissonant with minority students' and families' experiences and values — by offering minority families alternatives to physically and intellectually hazardous learning environments.

Available Data

According to the U.S. census, between 1990 and 2000, the Hispanic population grew by approximately 88 percent. [20] Hispanics in Arizona are both the largest and fastest growing minority group in the state. Since Hispanic families are younger on average than other racial and ethnic populations in Arizona, the minority school-aged demographic is growing exponentially. According to the Arizona Department of Education,[21] minority students represent almost half of all students in Arizona (Figure 1). A projected 54 percent of students in Arizona schools will be minorities by 2013-14.[22]

Figure 1

Arizona K-12 Enrollment Demographics
Source: Arizona Department of Education, 2003



Positive indicators of minority participation in K-12 education include participation in advanced courses, such as Advanced Placement and gifted or talented programs, and representation among high school graduates; negative indicators are representation among those reported as truant or suspended or otherwise involved in disciplinary proceedings, and representation among high school dropouts.

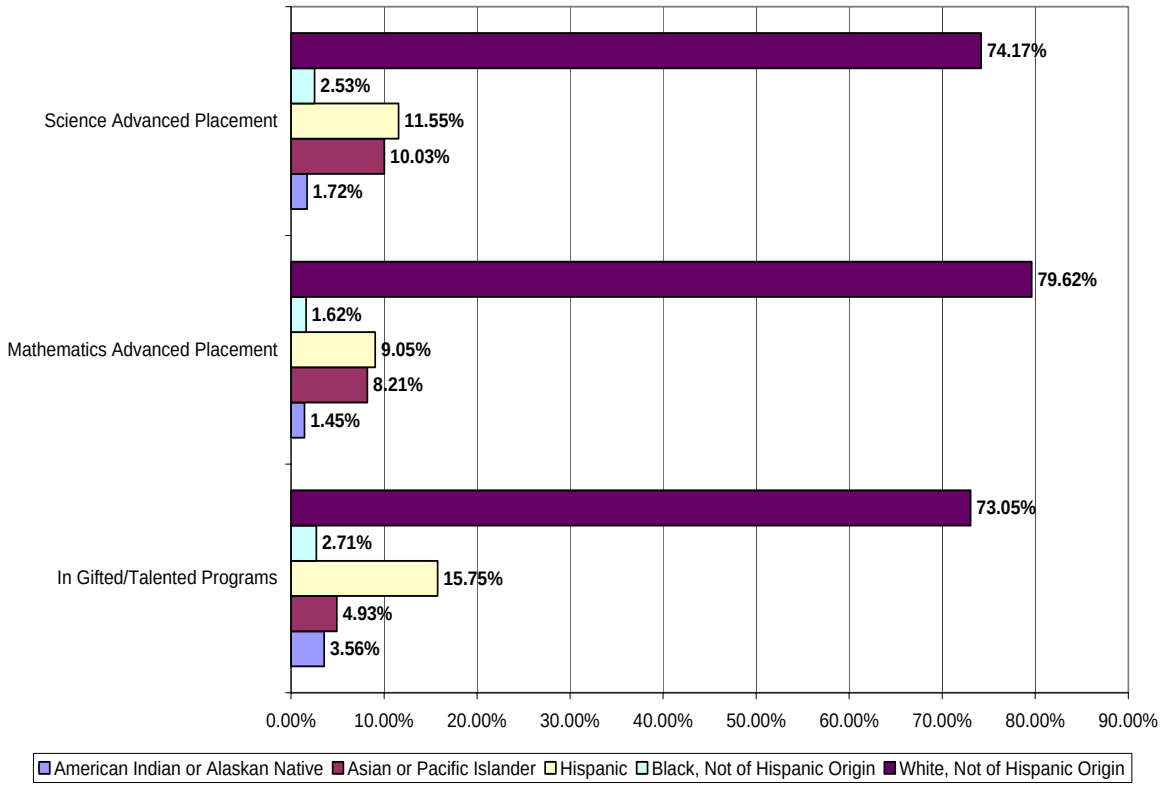
Advanced Placement and Gifted or Talented Programs

One indicator of student achievement and participation is representation in Advanced Placement and Gifted or Talented Programs.[23] According to the Office for Civil Rights data, minority students, who represent nearly half of the school-aged population in Arizona, are underrepresented in Advanced Placement Mathematics and Science classes and in Gifted or Talented programs across the state (Figure 2). Ethnic or racial minorities make up approximately 27 percent of students enrolled in Arizona Gifted or Talented programs. Similarly, they make up 20.4 percent and 25.8 percent of students enrolled in AP Mathematics and AP Science, respectively. These statistics represent a wide gap between minority students' participation in these programs and their presence as 49.72 percent of Arizona's K-12 student enrollment.[24]

Figure 2

Arizona Student Participation in Advanced Placement and Gifted or Talented Programs

Source: Office for Civil Rights Elementary and Secondary School Survey, 2000



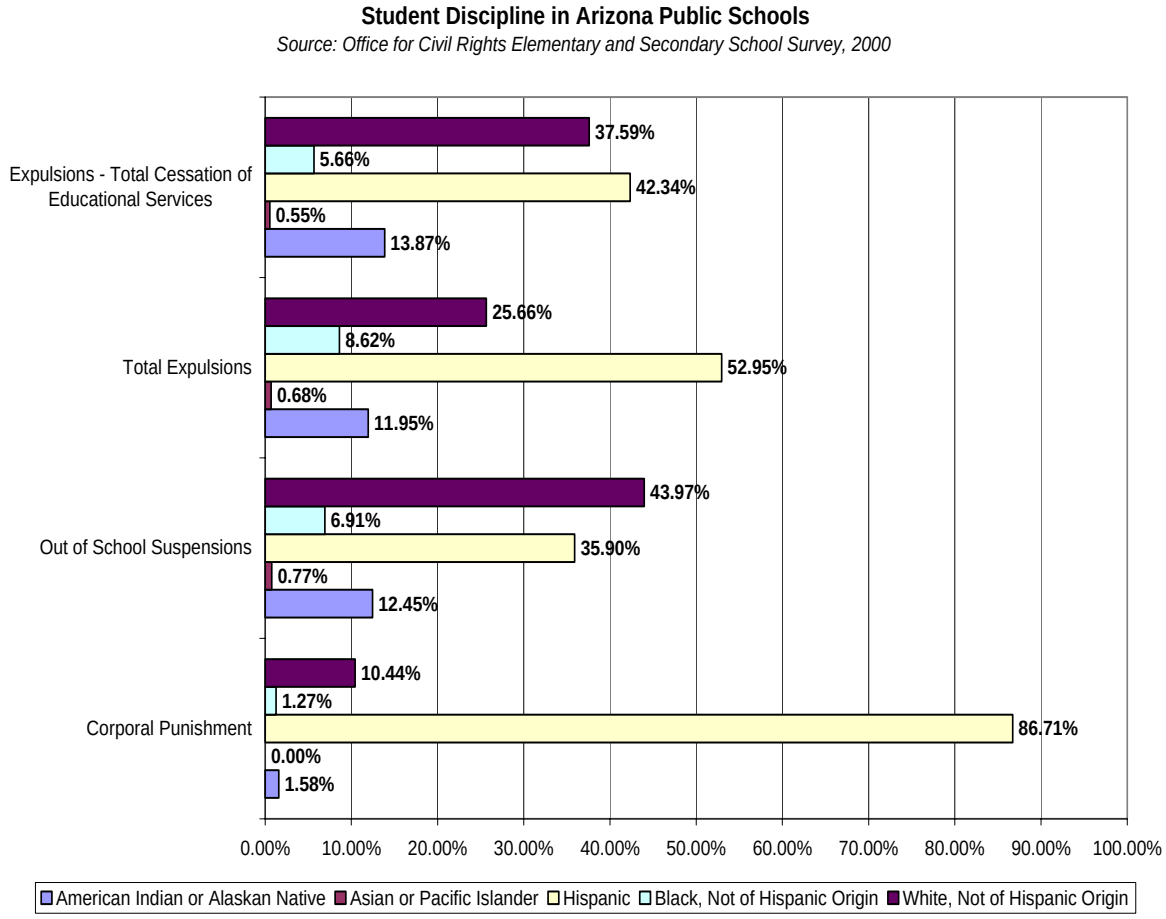
Student Discipline

According to Skiba, Michael, Nardo & Peterson,[25] one of the critical issues in school discipline is the overrepresentation of students of color among those disciplined through suspension, expulsion, or other disciplinary policies, because such actions threaten minority students' access to education more severely than they do other groups'. Nationwide, school discipline regulations that are enforced disproportionately are an education equity issue.[26]

By definition, suspended students are denied access to the school's instructional programs. Suspension, expulsion, retention in grade, chronic failure, alienation, being over-age for one's grade, and social isolation all contribute to high dropout rates.[27, 28] Suspension policies can encourage repeated negative behavior that ultimately results in the student dropping out of school, thwarting the school's mission.[29] Minority students in

Arizona are overrepresented among those disciplined for misbehavior in school, and their access to education is impeded as a result because disciplinary practices remove them from the classroom and interrupt instruction. According to Office for Civil Rights (OCR) data obtained from the schools,[30] in the 2000-01 school year, more than 62 percent of expulsions with total cessation of education services involved minority students. The OCR reports also that in Arizona, more than 76 percent of expulsions, 56 percent of out-of-school suspensions, and 89 percent of violent acts of corporal punishment involved minority students. Nearly all of Arizona's minority students who received corporal punishment were Hispanic (86.71 percent of 89.56 percent). In the 2000-01 school year, Arizona schools reported 548 instances of corporal punishment on Hispanic students.

Figure 3



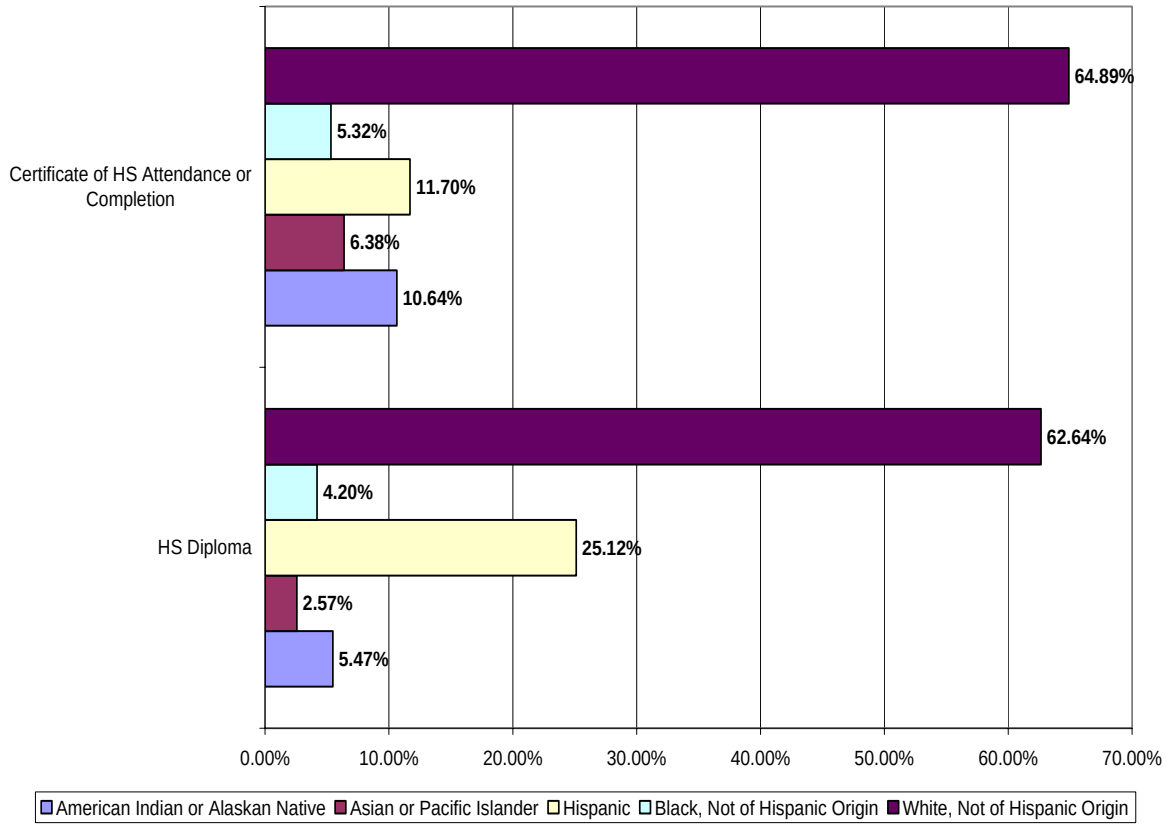
Dropout and Graduation Rates

This section examines the condition of minority participation in Arizona's schools as reflected in high school graduation and dropout patterns. [31] According to OCR,[32] 35.11 percent of all high school graduates with certificates of high school attendance or completion were minority students in 2000 (Figure 4). By comparison, 37.36 percent of all high school graduates are minority students (Figure 4). These statistics represent an approximately 10 percent gap between minority students' 47.71% representation among Arizona's student enrollment (See Figure 1) and their representation among diploma-carrying high school graduates prepared to continue their education in a postsecondary educational institution.

Figure 4

High School Graduation and Completion in Arizona

Source: Office for Civil Rights Elementary and Secondary School Survey, 2000

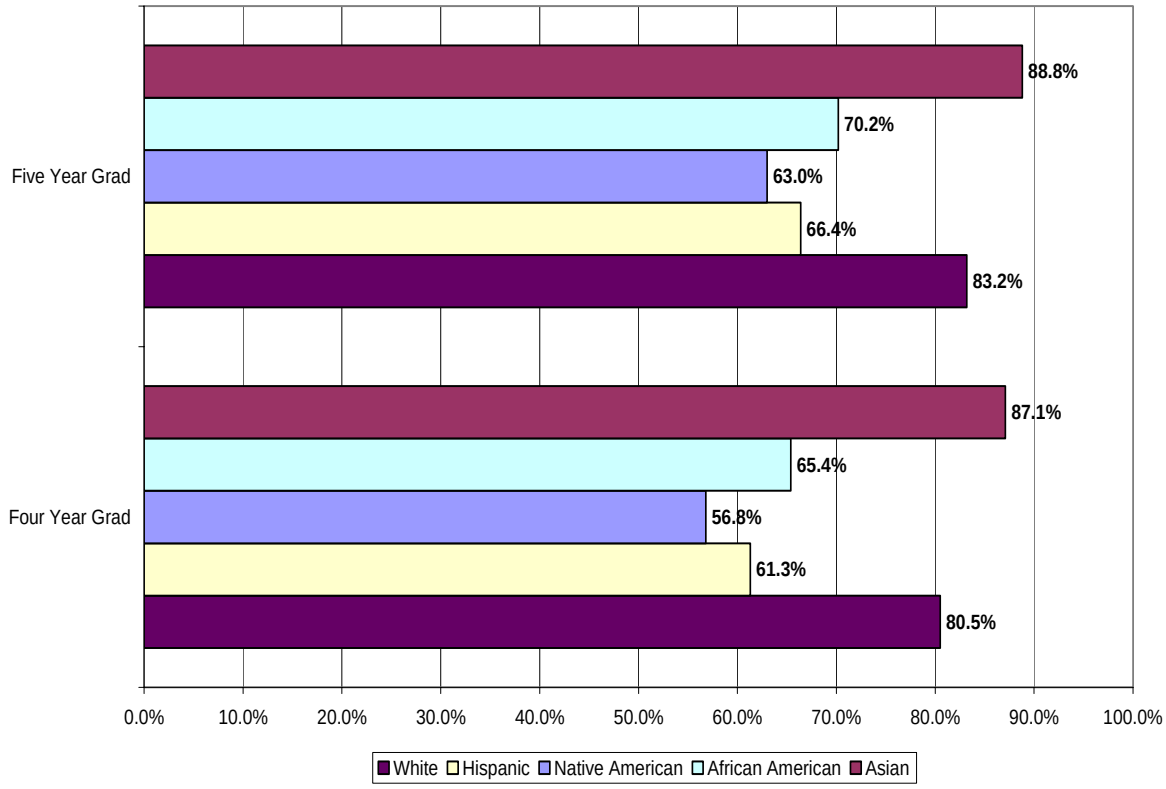


The Arizona Department of Education also tracks graduation rate data and distinguishes among those who graduate at the end of four years of high school, those who graduate after five years, and those who complete a G.E.D. Native American, Hispanic, and African American students graduate in four or five years at lower rates than their Asian or non-Hispanic White peers (Figure 5).

Figure 5

Statewide Four Year Grad and Five Year Grad Rates by Race/Ethnicity for the Cohort Class of 2002

Source: Arizona Department of Education



Assuming that high school dropout rates represent low levels of minority participation in school, the picture of minority participation in education in Arizona is discouraging. The data show that 3.6 percent of minority students in seventh and eighth grade dropped out of school during the 2002-03 school year (Table 1).[33] Of particular concern is the 5.5 percent dropout rate among Native American eighth graders (Table 1). This rate is nearly three times the norm for non-Hispanic White students. Also

troublesome is the 11.7 percent dropout rate among minority ninth through twelfth graders in 2002-03. This rate was more than double that of non-Hispanic White students (5.6 percent; Table 1). The highest dropout rates are found in ungraded secondary schools, where no group appears to fare well: 25.3 percent of White students and 35.7 percent of minority students dropped out of this type of Arizona secondary school in 2002-03 (Table 1). The most poorly performing minority sub-group in ungraded secondary schools was the African American population (40.5 percent dropped out in 2002-03). Approximately 35 percent of Hispanic and Native American students in ungraded secondary schools dropped out, and 14.7 percent of Asian students did.

Table 1: School Dropout Rates, Grades 7-12, 2002-03

	Non-Hispanic White			**Minority**		
Grade/Category	**Enrolled**	**Drops**	**Rate**	**Enrolled**	**Drops**	**Rate**
7	43,800	909	2.1%	43,640	1,575	3.6%
8	42,198	760	1.8%	39,731	1,449	3.6%
Total Elementary	*85,998*	*1,669*	*1.9%*	*83,371*	*3,024*	*3.6%*
9	44,930	1,703	3.8%	44,887	4,627	10.3%
10	41,782	2,005	4.8%	37,263	3,832	10.3%
11	39,329	2,284	5.8%	31,060	3,353	10.8%
12	37,063	2,620	7.1%	29,603	3,986	13.5%
Ungraded Secondary	2,956	748	25.3%	3,802	1,358	35.7%
Total High School	*166,060*	*9,360*	*5.6%*	*146,615*	*17,156*	*11.7%*
Total All Grades	***252,058***	***11,029***	***4.4%***	***229,986***	***20,180***	***8.8%***

	African American			Hispanic		
Grade/Category	**Enrolled**	**Drops**	**Rate**	**Enrolled**	**Drops**	**Rate**
7	4,627	187	4.0%	31,578	107	3.4%
8	4,094	138	3.4%	28,369	980	3.5%
Total Elementary	*8,721*	*325*	*3.7%*	*59,947*	*1087*	*3.4%*
9	4,420	321	7.3%	32,102	3,253	10.1%
10	4,017	324	8.1%	26,358	2,737	10.4%
11	3,617	325	9.0%	21,683	2,369	10.9%
12	3,442	478	13.9%	20,508	2,858	13.9%
Ungraded Secondary	536	217	40.5%	2,660	945	35.5%
Total High School	*16,032*	*1,665*	*10.4%*	*103,311*	*12,162*	*11.8%*
Total All Grades	***24,753***	***1,990***	***8.0%***	***163,258***	***13,249***	***8.7%***

	Native American			Asian		
Grade/Category	**Enrolled**	**Drops**	**Rate**	**Enrolled**	**Drops**	**Rate**
7	5,661	280	4.9%	1,774	38	2.1%
8	5,551	305	5.5%	1,717	26	1.5%
Total Elementary	*11,212*	*585*	*5.2%*	*3,491*	*64*	*1.8%*
9	6,487	1,020	15.7%	1,878	33	1.8%
10	5,148	729	14.2%	1,740	42	2.4%
11	4,117	605	14.7%	1,643	54	3.3%
12	3,948	552	14.0%	1,705	98	5.7%
Ungraded Secondary	538	186	34.6%	68	10	14.7%
Total High School	*20,238*	*3,092*	*15.3%*	*7,034*	*237*	*3.4%*
Total All Grades	***31,450***	***3,677***	***11.7%***	***10,525***	***301***	***2.9%***

Source: Arizona Department of Education, Dropout Rate Study. Retrieved May 6, 2004, from http://ade.az.gov/researchpolicy/DropoutInfo

According to Arizona Department of Education data,[34] there has been some improvement in the high school graduation rate, and the proportion of minority students who drop out of Arizona's high schools is declining. When actual numbers of students are counted, however, rather than percentages, the opposite is the case.[35] In 2002-03, 9,360 non-Hispanic White seventh through twelfth graders dropped out of school, yet three years earlier 10,531 dropped out of school. For minority students, the trend went in the opposite direction. A total of 12,162 Hispanic seventh through twelfth grade students dropped out of school in 2002-03, whereas three years earlier 10,969 did. Among Native American seventh through twelfth graders, 3,092 dropped out in 2002-03, and 2,919 dropped out in 1999-2000. Among African American seventh through twelfth graders, 1,665 dropped out in 2002-03, and 1,446 dropped out in 1999-2000. Finally, among Asian American seventh through twelfth graders, 237 dropped out in 2002-03, and 232 dropped out in 1999-2000. Altogether, 1,590 *more* minority teenagers dropped out of school in 2003 than in 2000, and 1,171 *fewer* non-Hispanic White teenagers dropped out of school in 2003 than in 2000. During this period, 75 percent of the minority dropouts (1,193 students) were Hispanic. In other words, proportionally, the rate has improved for everyone. In terms of actual counts, the situation has become worse for minority students while it has improved for non-Hispanic White students. Larger numbers of minority students than ever before are not participating, and Hispanic students represent 75 percent of this increase.

Evaluation of Available Data

The data referred to in this study are valid, accurate, and consistent, but they are of limited value because they focus solely on instructional results and on participation. They are not linked directly to school policies, procedures, culture, or other organizational and political characteristics that affect students' decisions to leave or stay in school, and they do not measure the relationship between student behavior and these contextual variables *over time*. Further, with respect especially to schools with large concentrations of minority students who also are English Language Learners, the NCLB requirement for adequate yearly progress faces several challenges. First, it fails to take

into account the instability of the English Language Learner category in data disaggregation by generation for immigrant populations: once English Language Learners achieve English language proficiency, they leave the category and are no longer tracked, and their progress is not monitored in connection with the English Language Learner category they left. Because of the growth rate of the Hispanic group, an exiting student in a school located in an immigrant community with a large concentration of English Language Learners may be replaced by two others. Because the data do not disaggregate by generation within the Hispanic group, it is statistically impossible for schools with large concentrations of English Language Learners ever to show improvement. Second, it assumes that assessment instruments normed for native English speakers are also appropriate for English Language Learners. Third, it does not take into account different instructional requirements for this population.[36] Student performance data that are not disaggregated by generation within the minority group frustrate educators' efforts to assess the effectiveness of particular instructional practices and match them appropriately with particular minority students. Consequently, failure to connect policy, practice, culture, organization, and the politics of education with student outcomes risks perpetuating inequity rather than resolving it. This is especially true for immigrant families in which educational needs change from one generation to the next.

Although graduation rates have improved slightly for minority students in recent years, there has not been a comparable increase in the rates at which minority students enroll in and graduate from four-year university programs.[37] The same is true of dropout rates: these have improved slightly for minority students in recent years, although more Hispanic students dropped out of school in 2002-03 than did in 1999-2000.

Data from other states strongly suggest that implementing high-stakes testing for high school graduation will make matters worse, not better. High-stakes testing by itself places a greater share of the burden on students without making deep changes to the programs of the schools, yet NCLB does not challenge states to bring greater support to their instructional programs. The current plan to use the AIMS test for graduation is on a collision course with NCLB's requirement that all subgroups of students participate effectively and equitably in the benefits of schools. The authors searched widely for indicators to the contrary and found none. The institution of high-stakes testing without a

parallel improvement in teaching is almost certain to worsen graduation rates for immigrant, Mexican American, Native American, and African American students in Arizona.

The U.S. Department of Education has not updated its test for school-based programs for ELLs, which dates back to 1981, and does not appear to have actively enforced even its relaxed rules. With the possible exception of the NCLB, the federal government appears to use neither carrots nor sticks to support efforts aimed at improving the education of minority students, and it remains unclear that the NCLB sanctions and rewards will improve educational programs and minority students' achievement in them.[38]

The schools of Arizona are not actively promoting the study of Spanish and other native languages as a content area in the curriculum, despite evidence that favors their use to develop English language literacy among English Language Learners.[39] The reduced emphasis on the study of second languages is occurring despite a state law that encourages their study.[40]

Neither the Arizona Department of Education (ADE) nor school districts disaggregate data on Hispanic youngsters. Hence, neither the ADE, school districts, nor outside investigators are able to answer the question of what works best, with what generation of students, and under what kinds of social and cultural environments. It is difficult, if not impossible, for analysts and researchers to query the data. It is difficult to determine effects on achievement of students' and their families' length of residence in the U.S. (e.g., are they recent immigrants, first generation, or second generation U.S. residents?), education of the parents, or English language ability of the youngsters.[41,42]

Key Unanswered Policy Questions

The intent of the *Flores v. Arizona* case was to improve the level of funding made available by the state for the education of English Language Learners. That litigation, initiated in 1992, has yet to yield the intended results 12 years later. As the proportion of minority children increases, the prospect for Arizona's continued economic and social

growth is reduced because minority children participate less in educational activities that will prepare them to take their place as productive adults in Arizona's local economy. As the non-Hispanic White population comes here to age and retire, members of that group argue that they paid taxes to educate their own children and do not feel they need to educate those of other families. The risk is that, as both of these groups grow, the public will to support public education will diminish. Little is understood about the impact of the changing demographic environment in Arizona on public policy and on financial support of Arizona's schools.

Education policies associated with language minority participation tend to frame the issue in terms of deficiencies in the students' command of English. The research literature, however, indicates that the problem is more complex than a question of sociolinguistic differences.[43] As much as language differences, socioeconomic (or class) differences may impede students' ability to benefit from an instructional program that was not designed with their particular needs in mind.

Despite the existence of ample data, there has been little productive discussion that will lead to clear insights into questions such as: (1) What policies, practices, and procedures ensure that minority students feel safe and welcome in school? (2) What education policy and curricular and instructional practices fit with interaction norms in minority families and are relevant to students' and their families' experiences? (3) What policies, practices, and initiatives in educational institutions encourage minority parents to feel welcome as advocates for their own children's education? (4) What specific policies and practices increase or decrease the capacity of parents, students, and education professionals to interact reciprocally and communicate effectively in support of students' persistence in K-12 education? (5) To what extent do data gathering and analysis disaggregate educational achievement, participation, and attainment data within minority subgroups (for example, distinguishing between recently arrived immigrants or refugees and first- or second-generation minority students)?

Consideration of existing data, conducted in tandem with reflection on what has been found to be exemplary educational practice to encourage minority participation—for example, the evidence in favor of bilingual education[44]— will begin to help determine

more precisely what needs to be done to remedy the situation for minority students and their families.

The primary question is this: How do existing education policies, program administration, curriculum and instructional practices, and education accountability and evaluation structures contribute to inequitable education for minority students? Considering datasets in conjunction with information obtained directly from minority families about the reasons for minority students' performance, and developing sound statistical methodologies that take into account the myriad differences between minority and mainstream students and among minority students, are two approaches to find answers to this question.

Recommendations

Minority students are regularly overrepresented in negative measures of student outcome and regularly underrepresented in positive measures of student outcome. This pattern plays out in dropout and graduation rates, school discipline, and enrollment in gifted, talented, or Advanced Placement courses. It also plays out in other areas across Arizona's educational landscape that are not included in this brief.[45] This pattern points to a conclusion that the most critical questions to be addressed in this area do not concern the data *per se*.

With the possible exception of poverty data, which are readily available at state and school district levels but not at the school building level,[46] data are readily available that show, at the state, district, and school level, how well students are performing with respect to a number of indicators of educational equity. For instance, the Arizona Department of Education makes dropout and graduation rate statistics available at all three levels. Because of space limitations, these data are not included in this brief. One can also examine data at the U.S. Office for Civil Rights website to see in greater detail how Arizona schools are performing with respect to the measures described in this brief. Other data on related topics (e.g., student performance on AIMS assessments) are also available in units as small as the district level. There are ample data available, and they are often reported in local and regional newspapers. Data, with the exception of the

problem of disaggregation, may not be Arizona's biggest challenge. Rather, the task is to engage the attention of Arizona taxpayers in general, and policy makers in particular, to confront the disparities in education in Arizona.

Arizona would benefit from thorough evaluation of its divergent policy and consequent educational practice, both as they exist independently and as they interact with each other in Arizona school programs and practices. To this end, it is recommended that the ADE lead efforts to improve the quality of data collected and the methods used to analyze them. To achieve the goal of policy-practice alignment, it is recommended that the ADE lead an effort to synthesize principles of effective teaching and learning that have been supported by research,[47, 48, 49, 50, 51] and have schools apply them in a concerted way to the education of minority students. The following recommendations specify how the ADE can address these goals.

It is recommended that:

1. The Arizona Department of Education (ADE) require that school districts keep data on indicators that affect outcomes, such as grade retention, disciplinary measures, and public rewards for high levels of student achievement.
2. The ADE monitor and document teaching techniques, such as structured English immersion, to determine if they accomplish the desired aim: engaged students, mastery of rigorous content, high rates of student success, and successful transition into English literacy.
3. The ADE make provisions for enrollment of reclassified students in English as a Second Language instruction if needed, and make special efforts to enroll English learners in advanced math and science courses and gifted or talented programs.
4. School districts involve parents of English learners in school governance. This would include involving parents in redefining and redesigning gifted or talented programs that embrace unique characteristics that minority students

bring, and recognizing the diversity in minority communities as a resource and not a deficiency. It would also include adopting native language communications with families, including sending information home in a language and terms that parents can understand, and using ESL strategies to teach English learners enrolled in advanced courses.

5. The ADE implement appropriate accountability procedures to assure student progress and success. These would include documenting procedures for school districts to follow that monitor and uphold prohibitions against tracking, ability grouping, assignment to special education, and other practices that limit minority student progress and success. Accountability procedures would also provide for appropriate classification of minority students who need special education or English language acquisition services, appropriate instruction, and assessment of student achievement with appropriately designed assessments.

Notes and References

[1] *Brown v. Board of Education*, 347 U.S. 483 (1954) (USSC+). Retrieved January 28, 2004, from http://supct.law.cornell.edu/supct/cases/349us294.htm

[2] Title VI, Civil Rights Act of 1964 stipulates that *No person in the United States shall, on the grounds of race, color or national origin…be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance*. Retrieved January 29, 2004, from http://www.ed.gov/about/offices/list/ocr/docs/hq43e4.html

[3] The Equal Opportunities Act of 1974 stipulates that *No state shall deny an equal educational opportunity to an individual on account of his or her race, color, sex, or national origin, by…the failure of an educational agency to take appropriate action to overcome language barriers that impede equal participation by its students in its instructional programs*. The complete U.S. Code reference is available at http://www4.law.cornell.edu/uscode/20/ch39schI.html

[4] *Lau v. Nichols*, 414 U.S. 56 (1974) Retrieved January 28, 2004, from http://www.ncela.gwu.edu/miscpubs/lau/

[5] *Plyler v. Doe*, 457 U.S. 202, 102 S. Ct. 2382 (1982) Retrieved January 28, 2004, from http://caselaw.lp.findlaw.com/scripts/getcase.pl?court=US&navby=case&vol=457&invol=202

[6] *Castaneda v. Pickard*, 648 F.2d 989 (5th Circuit 1981). Retrieved January 28, 2004, from http://www.stanford.edu/%7Ehakuta/Docs/castaneda.doc

[7] *Gomez v. Illinois*, United States Court of Appeals for the Seventh Circuit 811 F.2d 1030 (1987).

[8] Native American Languages Act of 1990 (P.L. 101-477, October 30, 1990). The Native American Languages Act (NALA) articulates policy of the United States to *encourage and support the use of Native American languages for Native American language survival, equal educational opportunity, increased student success and performance, increased student awareness of their culture and history, and increased student and community pride*. Complete text retrieved January 28, 2004, from http://www.ncela.gwu.edu/miscpubs/stabilize/ii-policy/nala1990.htm

[9] I01-006 (R00-062) Attorney General Opinions Regarding the Application of Proposition 203 to Schools Serving the Navajo Nation.

[10] *Flores v. State of Arizona*, United States District Court for the District Of Arizona 160 F. Supp. 2d 1043 (2000).

[11] See: Arizona Department of Education (2001, September). Guidance Regarding the Implementation of A.R.S. §15-751 -755 and Flores Consent Order (CIV 92-596 TUC ACM). Retrieved January 28, 2004, from http://www.ade.az.gov/asd/downloads/EASQAfinal9-9-02.pdf

[12] House of Representatives HB 2001: English learners; increase group B. Sponsors: Representatives Gray, Hanson, Marsh, Voss, et al. Retrieved February 9, 2004, from http://www.azleg.state.az.us/legtext/45leg/2s/summary/h.hb2011_11-29-01_judiciary.doc.htm

[13] Proposition 203, English Language Education for Children in Public Schools, 2000. Retrieved January 28, 2004, from http://www.sosaz.com/election/2000/info/pubpamphlet/english/prop203.htm#pgfId-1

[14] Explained in Arizona Administrative Code, Article 3, Section R7-2-306. Retrieved January 28, 2004, from http://www.sos.state.az.us/public_services/Title_07/7-02.htm

[15] Arizona Revised Statutes (A.R.S.) Title 15, Chapter 7, Article 3.1, A.R.S. §15-751 through 755 (English Language Education for Children in Public Schools) enacted in 2003. Retrieved January 28, 2004, from http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=15

[16] U.S. Department of Education. No Child Left Behind Act of 2001. Retrieved January 28, 2004, from http://www.ed.gov/policy/elsec/leg/esea02/index.html /

[17] Arizona Department of Education. Arizona LEARNS. Retrieved January 28, 2004, from http://www.ade.az.gov/azlearns/

[18] Though recent developments with respect to the NCLB requirements have begun to ease the AYP requirements for limited English proficient students by excusing them from taking the test. This strategy relieves both students and schools from accountability. The unfortunate consequence for the affected students is that they fall through the cracks of the accountability system because they are omitted from the enrollment for the purposes of AYP.

[19] U.S. Department of Education. No Child Left Behind Act of 2001, Title IV, 21st Century Schools. Retrieved January 28, 2004, from http://www.ed.gov/policy/elsec/leg/esea02/pg51.html

[20] U.S. Census (n.d.). State and County QuickFacts: Arizona Quick Links. Retrieved April 29, 2004, from http://quickfacts.census.gov/qfd/states/04000lk.html

[21] U.S. Department of Education Office for Civil Rights (2000, May 22). Elementary and Secondary School Survey 2000. Washington, DC: Author. Retrieved May 3, 2004, from http://205.207.175.84/ocr2000

[22] Western Interstate Commission for Higher Education (WICHE) (2003). Knocking at the College Door: Projections of High School Graduates by State, Income, and Race/Ethnicity. Retrieved March 4, 2004, from http://wiche.edu/policy/Knocking/1988-2018/profiles/az.pdf

[23] According to the Office for Civil Rights (OCR), Gifted or talented programs are "special programs during regular school hours for students who possess unusually high academic ability or a specialized talent or aptitude such as in literature or the arts." Advanced Placement courses are college-level courses, offered in high school, and taught by high school teachers and monitored by the Educational Testing Service (College Board). Students can earn college credit, based on their performance on the Advanced Placement Exam, which is administered at the end of the course.

[24] Arizona Department of Education, Research & Policy Division, January, 2004.

[25] Skiba, R., Michael, R., Nardo, A., & Peterson, R. (2000). The Color of Discipline: Sources of Racial and Gender Disproportionality in School Punishment. Bloomington, IN: Indiana Education Policy Center. Retrieved January 28, 2004, from http://www.indiana.edu/~safeschl/cod.pdf

[26] The Office for Civil Rights tracks various types of disciplinary practices in schools: expulsion/total cessation of educational services, expulsion, suspension, and corporal punishment. Expulsion/total cessation of educational services means that the student, after expulsion from school, was not offered other educational services by either the school or the district. Expulsion means the exclusion of a student from school for disciplinary reasons that results in the student's removal from school attendance rolls or that meets the criteria for expulsion as defined by the appropriate state or local school authority. Out-of-School Suspension means excluding a student from school for disciplinary reasons for one school day or longer. Suspension does not include students suspended from the classroom who, however, served the suspension in school. Corporal Punishment means paddling, spanking, or other forms of physical punishment imposed on a student.

[27] Gregg, S. (1998). Schools for Disruptive Students: A Questionable Alternative? Policy Briefs. Charleston, WV: Appalachia Educational Laboratory, Inc.

[28] Strategies and Successes in School Dropout Prevention: A Forum Brief (1995, October 6). American Youth Policy Forum. Retrieved March 2, 2004, from http://www.aypf.org/forumbriefs/1995/fb100695.htm

[29] Block, S., Tapscott, K., & Savner, J. (1998). Suspension and Expulsion: Effective Management for Students? *Intervention in School and Clinic*, *34*, 1. Austin, TX: Pro-Ed, Inc.

[30] See: Office for Civil Rights Elementary and Secondary School Survey 2000 (http://205.207.175.84/ocr2000r).

[31] The Arizona Department of Education defines dropouts as "students who are enrolled in school at any time during the school year, but are not enrolled at the end of the school year and did not transfer, graduate, or die." There are other definitions that distinguish between those students who announce their intention to leave school and those who simply do not return to school the following year. It is not our purpose here to engage in discussion of the relative merits of one definition or counting method—a topic that has already been treated elsewhere (See T. Huerta, (2003, September) Assessing Arizona's Dropout Problem: Why Current Measurement Methods are Flawed, and How to Fix Them, *Education Policy Research Unit* (EPSL-0309-112-EPRU). Tempe, AZ. Retrieved January 27, 2004, from http://www.asu.edu/educ/epsl/EPRU/documents/EPSL-0309-112-EPRU.doc). Regardless of the method used to count them, many of Arizona's students opt out of the educational system before the twelfth grade, and minority students are overrepresented in this group. Of Arizona's seventh through twelfth graders in 2002-2003, 48% were minority students.

[32] See: Office for Civil Rights Elementary and Secondary School Survey 2000, available at http://205.207.175.84/ocr2000r

[33] Arizona Department of Education (2003). Dropout Rate Study: 2002-2003 Annual Dropout Rates (Arizona Public Schools, Grades Seven through Twelve). Retrieved January 28, 2004, from http://www.ade.az.gov/researchpolicy/DropoutInfo/2002-2003DORreport.pdf

[34] Arizona Department of Education. Graduation Rate Study: four and Five Year Graduation Rates for the Cohort Class of 2002 (Arizona Public High Schools). Retrieved January 28, 2004, from http://www.ade.az.gov/researchpolicy/grad/20025yearGradReport.pdf

[35] Compare data in: (1) Arizona Department of Education (2000). 1999-2000 Dropout Rate Study. Retrieved January 15, 2004, from http://ade.az.gov/researchpolicy/DropoutInfo/99-00DropOutRate.asp and (2) Arizona Department of Education (2003). Dropout Rate Study: 2002-2003 Annual Dropout Rates (Arizona Public Schools, Grades Seven through Twelve. Retrieved January 28, 2004, from http://www.ade.az.gov/researchpolicy/DropoutInfo/2002-2003DOReport.pdf

[36] See Abedi, J. (2004, January/February). The No Child Left Behind Act of 2001 and English Language Learners: Assessment and Accountability Issues. *Educational Researcher*, *33* (1), 4-14. Abedi discusses six assessment issues as they relate to adequate yearly progress (AYP) reporting for schools serving English Language Learners: (1) Inconsistency in Limited English Proficient (LEP) classification across and within states; (2) Sparse LEP population (small sample sizes make meaningful analysis difficult to achieve); (3) Lack of LEP subgroup stability (LEP status is not stable over time, and a school's LEP population is a moving target. Students who achieve exit this status.); (4) Measurement quality of AYP instruments for LEP students (Instruments are generally normed for English speakers and have lower reliability and validity for LEP students); (5) LEP baseline scores are lower, which imply higher progress goals that are also unrealistic for this population; and (6) LEP cutoff points are based on a conjunctive model that requires students score at "proficient" level in all content areas required for AYP. All of these issues result in inequitable educational opportunities for minority students who are also English Language Learners.

[37] Arizona State University and Northern Arizona University Office of Planning and Institutional Research, and the University of Arizona Decision and Planning Support Department data indicate minority underrepresentation as undergraduate students. See ASU Minority Review (http://www.asu.edu/uoia/minority.html); NAU Factbook (http://www4.nau.edu/pair/mainpage/home.htm); and UA Factbook (http://daps.arizona.edu/daps/factbook/students.html).

[38] Voke, H. (2002). High-Stakes Accountability Strategies: What Do We Know About Sanctions and Rewards? Infobrief 31, Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved April 22, 2004, from http://www.ascd.org/publications/infobrief/issue31.html

[39] Slavin, R. and Cheung, A. (2003). Effective Reading Programs for English Language Learners. Baltimore, MD: Center for Research on the Education of Students Placed At Risk (CRESPAR), Johns Hopkins University.

[40] Arizona Administrative Code (Title VII, Article 3, R7-2-301, Section A: *Students shall demonstrate competency as defined by the State Board-adopted Essential Skills, at the grade levels specified, in the following required subject areas. District instructional programs shall include an ongoing assessment of student progress toward meeting the competency requirements [in 1. Language arts, Literature, Mathematics, Science, Social Studies, Music, Visual Arts, Health/Physical Education, Foreign or native American Language {includes modern and classical}]).*Retrieved January 28, 2004, from http://www.sos.state.az.us/public_services/Title_07/7-02.htm

[41] Slavin, R. and Cheung, A. (2003). Effective Reading Programs for English Language Learners. Baltimore, MD: Center for Research on the Education of Students Placed At Risk (CRESPAR), Johns Hopkins University.

[42] Horne, T. (2004). First Annual State of Education Speech. Phoenix, AZ. Retrieved January 28, 2004, from http://www.ade.az.gov/administration/superintendent/articles/2004StateofEducation.doc

[43] Horvat, E., Weininger, E. & Lareau, A. (2003). From Social Ties to Social Capital: Class Differences in the Relations between Schools and Parent Networks. *American Educational Research Journal, 40* (2), 319-351.

[44] Slavin, R. and Cheung, A. (2003). Effective Reading Programs for English Language Learners. Baltimore, MD: Center for Research on the Education of Students Placed At Risk (CRESPAR), Johns Hopkins University.

[45] See: The Condition of Hispanic Education in Arizona 2002, (http://www.asu.edu/educ/sceed/hera/) where we outline the performance of all minority groups in a number of educationally-related indicators.

[46] National Center for Education Statistics (2003). Census 2000 School District Profiles. Retrieved January 20, 2004, from http://nces.ed.gov/surveys/sdds/main1.asp

[47] Commonly accepted standards of effective teaching include: (1) Facilitating learning through joint productive activity among teacher and students; (2) Developing competence in the language and literacy of instruction across the curriculum; (3) Contextualizing teaching and curriculum in the experiences and skills of students' home and community; (4) Challenging students toward cognitive complexity; and (5) Engaging students through dialogue. See the Center for Research on Education, Diversity, and Excellence, available at http://crede.ucsc.edu/standards/standards.html

[48] Commonly accepted standards of effective schools and classrooms include provision of the following: (1) A safe and orderly learning environment; (2) A climate of high expections for student success; (3) Instructional leadership; (4) Clear and focused school institutional mission; (5) Opportunity to learn and student time on task; (6) Frequent monitoring of student progress; and (7) Home-school relations. See:

Lezotte, L. (1991). Correlates of Effective Schools: The First and Second Generation. Effective Schools Products, Ltd., Okemos, MI. Retrieved February 21, 2004, from http://www.effectiveschools.com/Correlates.pdf

[49] Reyes, P., Scribner, J., & Scribner, A. (1999). *Lessons from High-Performing Hispanic Schools.* New York, NY: Teachers College Press.

[50] Walqui, A. (2000). *Access and Engagement: Program Design and Instructional Approaches for Immigrant Students in Secondary School.* Washington, DC: Center for Applied Linguistics.

[51] Valenzuela, A. (1999). *Subtractive Schooling: U.S.-Mexican Youth and Politics of Caring.* Albany, NY: State University of New York Press.

The Condition of Teacher Quality in Arizona: 2004

Executive Summary

Despite widespread concern about teacher quality, its definition varies widely. The No Child Left Behind Act of 2001 (NCLB) equates quality almost exclusively with subject matter knowledge rather than pedagogical skills. Recent examinations of data suggest that although there is an adequate supply of teachers in total to fill anticipated vacancies, shortages are increasingly likely in specific subjects and geographic areas. A growing body of research finds that better-prepared teachers are less likely to leave the field. Teaching programs are most effective when they provide early exposure to real world teaching conditions, instruction on pedagogy, instruction on how to make curricular and teaching decisions informed by theory and research, and instruction on how to motivate students and manage a classroom.

Recommendations

It is recommended that:

- The Arizona Department of Education (ADE) organize collaborations with colleges of education to develop a comprehensive database to track employment patterns of graduates from the state's teacher education programs.
- The ADE organize collaborations and partnerships with colleges of education and school districts to strengthen mentoring and coaching of beginning teachers to reduce attrition rates.
- The Arizona legislature explore incentives such as loan forgiveness, reduced housing costs, and salary bonuses to recruit teachers who have left the field back into teaching, particularly favoring highly qualified teachers who choose to work in the state's rural and inner-city classrooms and in under-staffed subject areas.
- The Arizona legislature align state education and education-finance policy with findings that better pay and working conditions can help retain highly qualified teachers.
- Arizona colleges of education and school districts develop and implement policies that encourage and support prospective teachers by balancing training in theory and in practice with exposure to real-world teaching conditions.

The Condition of Teacher Quality in Arizona: 2004

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Background

From the time of Arizona's early days as a territory, public schools have been, and continue to be, responsible for producing good citizens and for acculturating the population into the socioeconomic structure of the state and the nation.[1] The first program of education open to all who resided in the Territory of Arizona was instituted in 1866 with the Catholic School for Indians at San Xavier del Bac near Tucson. Nine years later, on February 9, 1875, a law regarding compulsory education was passed by the legislature, and an Act to Establish Public Schools in the Territory of Arizona, to be paid for by property taxes and subject to popular vote, was approved on February 12, 1875. [2, 3] In effect, the Act established the superiority of the state over the inclinations of the parents, and a bureaucracy was created to control and distribute funds to these first public schools.[4] The certification of teachers was to be accomplished by means of a comprehensive examination, and administered by a board of examiners appointed by the governor.

In the decades that followed, the territorial legislature strengthened its control over public education, determining, among other things, who would teach, what textbooks would be used, and how public education would be funded.[5] The law then enumerated which subjects teachers would be tested on and carefully articulated the

certification process, which was competency based and oriented toward excellence in the English language.[6]

When Arizona gained statehood in 1912, the office of State Superintendent became an elected position. Then, in 1913, the legislature set up a retirement fund for teachers and mandated that any teacher who was not certified by the state could not be paid for services. Over the next ten years, the state board of education steadily gained more power. The provisions for certification of teachers were removed from the statutes and were placed under the control of the school board, and certification requirements were immediately made more stringent, with graduation from accredited institutions a main focus. Teacher training became at once more regimented and aligned with state requirements.[7]

Then, in 1925, a bill that mandated the state standards for Arizona schools included a provision requiring that all candidates who sought to acquire teaching and administrative certificates pass an examination on the Arizona Constitution.[8] In addition, the legislature increasingly exercised control over the content of the curriculum at all grade levels. This created a more closely controlled yet restrictive environment for teachers, limiting their capacity to address local, individual needs in the classroom. Teachers were no longer viewed by the school board or the public as curricular decision makers, but as agents of the developing public school bureaucracy.

After the Great Depression, which severely reduced resources for education, World War II brought on a teacher shortage. The state of Arizona engaged in active teacher recruitment, both within the state and out-of-state, and adjusted certification requirements to pre-war standards in order to produce more teaching personnel.[9] The state issued substitute and emergency certificates, and by 1945, 19.7 percent of the teachers in Arizona held "substandard" teaching certificates. In fact, in 1946, 71.4 percent of the 920 teaching certificates awarded were to out-of-state teachers.[10]

From 1950 to 1960, the state's population grew 73.7 percent, while the nation's grew only 18.5 percent. In 1950, 55.5 percent of the state's population lived in urban centers; by 1960, 74.5 percent did, leaving only 25.5 percent in rural areas.[11] In 1951, the business research and accounting firm Griffenhagen & Associates, in conjunction with a

Special Legislative Committee on State Operations in the State of Arizona, published an extensive report that recommended a more centralized government with more administrative and financial control over local school districts. At this point, most of the curricula were controlled by local boards and textbook selection committees; Griffenhagen and Associates recommended that curricular revision be made by local teachers to meet the specific and individual needs of communities and classrooms, loosely based on state guidelines. This constituted a view of teachers as professionals who were both curriculum developers and decision makers. Yet the report also blamed instructional problems and curricular inadequacies on poor supervision of teachers.[12] The state again expanded its bureaucracy and teacher supervision in an attempt to improve the efficiency of the public education system.

The level of education the teachers possessed was by this time considered high, with 2.7 percent of the elementary teachers having no degree, 79.4 percent holding a bachelor's degree, and 17.8 percent holding a master's degree. Among high school teachers, 1.7 percent held no degree, 31.6 percent held bachelor's degrees, 65.7 percent held master's degrees or the equivalent, and 0.8 percent held doctoral degrees. From 1960 to 1970, school enrollments rose 49 percent, to a total of 481,653 students by 1970.[13] The Town Hall report of 1963 revealed a teacher turnover rate for Arizona of about 13 percent.[14] The districts that spent more per pupil, however, demonstrated a significantly lower rate of teacher turnover than did poorer districts. Turnover rates were also higher in rural districts than in urban ones, a national trend that continues today. The 1960s saw rising district consolidation and larger schools, diminishing schools' role as a social force in the community. In the 1970s, public school enrollments grew at a rate of 14 percent, a dramatic slowdown from the previous decade's 48 percent. Federal and state laws and court rulings required education for all students with disabilities at public expense, and mandated the assignment of qualified non-English-speaking students to bilingual programs based on their proficiency level. This mandate required more teachers or aides who would speak the students' native languages while teaching English skills for full participation in the curriculum in English.

Defining Teacher Quality

In 2004, teacher *quality* is the primary focus of politicians, policy analysts, state education departments, teacher preparation programs, and school budgets. The federal No Child Left Behind Act of 2001 (NCLB) requires states to ensure that Title I schools provide instruction by highly qualified instructional staff and that all students have access to a high-quality education. "States must develop plans with annual measurable objectives that will ensure that all teachers of core academic subjects are highly qualified" (NCLB, 2001) means that teachers must be state certified (this may mean alternative state certification), must hold a bachelor's degree, and must demonstrate subject-area competency. Core academic subjects include English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography. All new hires in Title I programs after the start of the 2002-03 school year must meet these requirements; all existing teachers must meet these requirements by the end of the 2005-06 school year. School districts must use at least five percent of their Title I funds for professional development to help teachers become "highly qualified."[15] Drawing upon the language of NCLB, a pamphlet has been developed by the U.S. Department of Education and sent to every school district in the state of Arizona by the Arizona Department of Education; the pamphlet reiterates the requirements noted above and further explains that states must report annually on their progress in certifying that teachers are "highly qualified." [16]

The serious and far-reaching implications of NCLB require a careful consideration of the definition of *highly qualified*. This definition will drive the recruitment, preparation, and induction of individuals in the profession; it also will determine the means through which support and professional development are provided, how teachers are evaluated, and how they are held accountable. Cochran-Smith points out that it has been a political commonplace to presume that teaching quality is a key to the ultimate improvement of education.[17] One of the few points on which there is consensus among all stakeholders is that quality teaching makes an important difference

in student learning, but Cochran-Smith illustrates some of the difficulties with the definition of highly qualified teachers.[18] A recent public opinion poll on teacher quality found that the public at large believes that knowing how to teach and how to relate to students are the most important attributes for highly qualified teachers, and that the hardest skill to develop is making material interesting and accessible for students. Only nineteen percent of the respondents mentioned having a thorough understanding of the subject as an important component of quality.[19] In contrast, NCLB defines high-quality professional development as that which improves subject matter knowledge, drawing on "scientifically based research." In some states, this is manifested as a technical approach, where the highly qualified teacher is one who must implement highly structured and sequenced instruction, outlined step-by-step in government-approved texts and materials based on the results of "scientific research" about what works for all school children.[20]

In Rod Paige's Secretary of Education report to Congress, "Meeting the Highly Qualified Teachers Challenge," teacher education and certification requirements are labeled a broken system; the option for getting teachers into classrooms is a "fast-track" model that redefines certification requirements to stress content knowledge and verbal ability and to de-emphasize knowledge of how to instruct, assess, motivate, or manage students. The report presents a paradox: demanding highly qualified teachers while it lowers the standards for certification in order to meet the need for more teachers.[21]

Current research raises questions about the emphasis on content as the core preparation for teachers. For example, based on national survey data (1994) from 2,829 students, David Monk concluded that teachers' content preparation was positively related to student achievement in math and science, but that method courses in those content areas had *more* powerful effects on achievement than did additional courses in the content area.[22] In sum, a good grasp of the content area is necessary, but not sufficient, for effective teaching.

Wenglinsky examined the math and science achievement levels of 7,000 eighth graders on the 1996 National Assessment of Educational Progress (NAEP) and concluded that student achievement was influenced by teacher content preparation, teacher education, and professional development coursework. Teaching practices that had the

strongest effects on achievement were related to teachers' preparation and included hands-on learning opportunities and a focus on higher-order thinking skills. These classroom practices related to the preparation teachers received in developing thinking skills, developing laboratory skills, and having students work with real-world problems. The effect of the combined teacher quality measures outweighed the effect of socioeconomic background on student achievement.[23] Research by Wilson, Floden, and Ferrini-Mundy has shown that in addition to subject matter knowledge and verbal skills, teachers' professional knowledge and experience—along with enthusiasm, flexibility, perseverance, concern for and rapport with children—are strong indicators of teacher effectiveness.[24] It is this combination that most state licensure processes, including Arizona's, encourage through requirements for courses, tests, student teaching, and the demonstration of specific proficiencies.

Cochran-Smith proposes the following definition:

> [T]he highly qualified teacher knows subject matter (what to teach) and pedagogy (how to teach), but also knows how to learn and how to make decisions informed by theory and research from many bodies of knowledge and also as informed by feedback from school and classroom evidence in particular contexts.[25]

The model professional routinely selects and uses teaching strategies and approaches as tools to meet the needs of learners in each particular classroom. Teaching, in this view, is a complex, contextualized experience with knowledge constructed through interactions between teachers and students, and through a variety of materials and prior knowledge and experience, rather than through a predetermined sequence of instruction. Cochran makes a compelling point:

> Finally, we need to ask what it means when a relentless focus on teachers' abilities to boost test scores easily overpowers concern about teachers' ability to exercise professional judgment, or to critique common practices that disadvantage certain groups of students and work for social justice. We need to be sure these latter abilities are included in our definitions of highly qualified teachers.[26]

Intimately intertwined with the concept of highly qualified teachers, in lockstep with student achievement, are the issues of teacher preparation, recruitment, and retention. Are we preparing professionals or technicians? Do we have a teacher shortage—or, in fact, an attrition problem?

Arizona's Highly Qualified Evaluation and Rubric

Pursuant to requirements mandated by NCLB, the State of Arizona has developed the Arizona Highly Qualified Teachers evaluation reporting form and the Arizona Highly Qualified Rubric, adopted August, 2003 (see http://ade.state.az.us/). The evaluation reporting form contains three main evaluation criteria: whether the teacher holds a bachelor's degree; whether he or she holds a valid state certification and for what levels; and teaching assignment with evidence of competency for this placement. The third criterion requires that the teacher meet at least one of the four following conditions: passing the AEPA Professional Knowledge and Subject Knowledge Test in the content area of teaching assignment; holding an advanced degree in the content area; holding National Board Certification in the area of current teaching assignment; or, for middle and high school only, having at least twenty-four semester credits in the content area. Teachers who are able to fulfill one of these four conditions are considered, under federal guidelines, highly qualified. Teachers who cannot meet one of these conditions must complete the *Arizona Highly Qualified Rubric* every year until they qualify by the end of the 2005-06 school year.

A teacher must earn 100 points on the rubric to receive a rating of "highly qualified." Teachers score ten points for every year they have taught their subject, up to a maximum fifty points. College course work counts as four points per credit hour, but the allowable course work is clearly delineated. Professional development and activities related to the content area can earn five points per documented activity within the past ten years; sample activities include committee work on standards, curriculum development, and assessment development or evaluation. In addition, teachers can participate in district-approved professional development activities in their content area or complete all assessments for National Board Certification. Teachers can earn up to thirty points for service or awards, presentations, and publications. This rubric is then attached to the

Arizona Highly Qualified Teachers evaluation reporting form and signed by the teacher and the building administrator (most often the principal).

The evaluation reporting form and rubric offer a clearly articulated route for Arizona's teachers to be designated highly qualified by the end of the 2005-06 school year. Will every classroom have such a teacher? What are the implications for preparation, recruitment, and support for in-service teachers?

Available Data

Teacher Supply

Teaching, as an occupation, represents four percent of the entire civilian work force. There are more than twice as many K-12 teachers as registered nurses, and five times as many teachers as there are lawyers or professors.[27] Teaching is an occupation that suffers from chronic and relatively high annual turnover as compared with many other occupations. The Bureau of National Affairs has shown that the nationwide level of total departures from all careers has stabilized over the past decade at around eleven percent per year.[28] A Teacher Follow-Up Survey conducted by the National Center for Education Statistics (NCES) has shown that through the 1990s, the turnover rate in teaching was around 14 percent, and that in 2000-01, the rate climbed to seventeen percent. Further, it is apparent that "in recent years, well over ninety percent of new hires are simply replacements for recent departures and moreover, most of these departures have little to do with a graying workforce."[29] The entry into the teaching profession appears to be a revolving door.

Total teacher turnover is split between two components: attrition and migration. Teachers who leave the classroom altogether make up the attrition numbers, and it is especially troubling to many that "data suggest that after five years, 40 to 50 percent of all beginning teachers have left the profession."[30] Turnover declines through the mid-career period and rises again in the retirement years. Attrition and migration will be examined in further detail later in this brief as they affect the performance and effectiveness of schools as well as the shortage of qualified teachers.

In January, 2003, the Morrison Institute for Public Policy published a comprehensive analysis of supply and demand for certified teachers in Arizona, which addressed the question, "What is the nature and extent of the teacher shortage in Arizona?"[31] The researchers projected the output of Arizona's teacher preparation institutions, analyzed the prospects for certified teachers migrating into the state, and interviewed a random sample of 804 currently certified teachers who are not teaching at the present time. The researchers further created projections as to Arizona's student population through the year 2010. The resulting analysis found specific areas of teacher shortages within Arizona, but not shortages everywhere. Fast growing and rural areas of the state, as well as teaching specializations such as special education and Limited English Proficiency, represent the most critical areas where there is a teacher shortage. Thus, it can be argued that in Arizona, the discussion about the shortage of teachers must include when and where as well as what.

The Morrison report projected that Arizona can expect about 7,130 new K-12 teachers to be trained each year through 2005, and 6,930 in the years from 2006 to 2010. Of these, 2,670 will be from the colleges and universities approved by the Arizona Department of Education (ADE). The remaining 4,260 will either be teachers migrating from out of state or inactive certified teachers returning to the profession. As of the spring 2002, Arizona had twelve accredited colleges approved to prepare potential K-12 teachers.[32] Since that time, a number of other institutions and alternative teacher training and certification programs have applied for accreditation by the ADE's Certification Division. Graduates of the accredited institutions are eligible to take the Arizona teacher exam and upon passing receive a provisional teaching certification. In the year 2002, 2,970 prospective teachers graduated from these institutions. Of this number, 1,630 were eligible for certification in elementary education, 1,080 in secondary education, and 260 in special education. The Morrison report indicated that approximately ten percent of the graduates (i.e., 300) chose not to go into teaching.[33] Thus, Arizona can anticipate only about 2,670 new teachers each year from state sources. It should be noted, however, that not all of the students graduating from Arizona institutions stay and work in Arizona. Nevada, Colorado, and California have successful recruitment programs for Arizona's new teacher graduates.

The Morrison report noted that, based on student population growth, over the next eight years the state will need about 1,420 new teachers each year. Arizona's providers exceed this by 1,240 graduates each year. Attrition further affects these numbers, however.[34]

Teacher Attrition

Ingersoll and Smith compare the teacher attrition dilemma to a bucket rapidly losing water because of holes in the bottom: pouring more water into the bucket doesn't fix the problem.[35] Teachers leave the profession to retire, to change careers, and to migrate to different schools. This migration creates a problem in accurately calculating and reporting the number of teachers in the state: as teachers migrate to other districts, they represent an attrition figure in one district, and an increase in another. From an organizational perspective, teacher attrition merits careful study because it influences the performance and effectiveness of the entire organization. This has special consequences in work sites like schools that have "production processes"[36] requiring extensive collaboration and interaction among co-workers. Such organizations are unusually dependent on commitment, continuity, and cohesion among staff; thus, high rates of turnover are especially detrimental.

Migration out of state by teachers has not been tracked in Arizona, and the teacher who migrates out of state is lost to the system. A reasonable projection of three percent (ASU's Center for Business Research estimates that three percent of Arizona residents leave the state each year[37]) yields a figure of about 1,720 teachers leaving the state each year. An estimated 2,880 teachers move to Arizona each year, but these teachers do not automatically qualify for a standard or provisional Arizona teaching certificate. They can, however, apply for a reciprocal provisional certificate, which allows them to teach for two years while they complete the certification requirements for Arizona. Some of these immigrating teachers use an Arizona emergency certificate to teach while completing certification requirements for Arizona.[38]

Teachers leave the classroom for a number of reasons. Some leave for personal/life choices. A number may "stop out" from their teaching career in response to changes in family needs. Many of these teachers in fact return within 10 years to resume

their careers. A 2002 survey conducted by O'Neil Associates, Inc. found that close to half of the 804 inactive certified teachers who responded indicated that they had left the profession—or never entered it to begin with—because of personal reasons or retirement. Others reported that they left because of "disillusionment and stress (16 percent), low salary (10 percent), frustration with administration and bureaucracy (6 percent) and lack of respect or support (3 percent)."[39] Surveys have continually shown that working conditions play a large role in teacher decisions to migrate or leave the profession.

Reasons for remaining in teaching or leaving are strongly associated with how teachers view administrative support, available education resources, teacher input regarding decision-making, and school climate. Socioeconomic factors are important here as well: teachers in more affluent communities typically enjoy smaller classes and class loads; these teachers also have access to more materials and greater influence over school decisions. According to the NCES survey, in the mid 1990s, more than twenty-five percent of all teacher attrition numbers listed dissatisfaction with teaching as a reason for leaving, with teachers in high-poverty schools more than twice as likely to leave the profession than those in advantaged schools.[40] Arizona's high turnover rate and teacher shortages reflect this socioeconomic impact with schools in rural areas and low-income urban areas experiencing the most difficulties in attracting qualified teachers. These areas have the greatest incidence of both teachers working with emergency certificates and of positions that simply are not filled.

Teachers also leave the profession for retirement. The Morrison Report used data from the Arizona State Retirement System (ASRS) to make projections about numbers of teachers in the Arizona workforce who might retire at age 64 and at age 55. With 64 as a maximum average retirement age, approximately 470 teachers per year are expected to leave the classroom by 2009-10; using 55 as the minimum age, the number climbs to 3,030 per year through 2005, and to 1,220 thereafter.[41] An average of these two extremes puts a middle estimate at 1,750 retirees per year through 2005, with an additional 850 per year from 2006 to 2010. Given the combination of teacher demand through student growth and teacher attrition, it is easy to see why the Morrison Report concluded that there is a delicate balance between supply and demand, and that the surplus is so slim as to warrant concern.

Ingersoll, using data from the U.S. Department of Education's National Center for Education Statistics surveys (Schools and Staffing Survey and Teacher Follow-up Survey), found that nationally, retirements account for only about 25 percent of teacher attrition. Two reasons, directly related to the working and organizational conditions of teaching, offer the most likely explanation of turnover. About half of all teachers leaving their jobs report they are leaving due to job dissatisfaction or to improve career opportunities.[42] Included under the broad category of job dissatisfaction are issues of low salaries, lack of support from the school administration, lack of student motivation, student discipline problems, and lack of teacher influence over decision-making. A number of studies support the claim that teacher attrition seems to be related to student demographics, with teachers transferring out of high-minority and low-income schools or out of low-performing schools into better-performing ones. Poorer facilities, fewer textbooks and supplies, less administrative support, and larger class sizes have a significant effect on teacher attrition.[43]

Arizona schools that fail to meet the performance standards on state assessments deserve special attention. Yet these schools are labeled as "Underperforming schools," and if they fail to improve, they are subject to sanctions and interventions. This form of targeting can be valuable in identifying schools most in need of help, but it can also damage staff morale and lead to a teacher exodus. A North Carolina study found that "Failing" schools lagged behind others in their ability to attract more highly qualified teachers.[44] Another dilemma may be that as schools and teachers are held more accountable for student achievement, qualified teachers' stress and dissatisfaction with working conditions are exacerbated, thus increasing teacher attrition rates. On the Arizona LEARNS Summary prepared for the State Board of Education in November, 2003, 136 schools (12.39 percent of the schools in the state) were identified as "Underperforming."[45] The majority of Arizona's schools, 663 (60.38 percent), are designated as "Performing", with another 299 (27.23 percent) in the "Highly Performing" or "Excelling" categories.

The Link Between Teacher Preparation and Retention

If teacher attrition is the key issue in the teacher shortage, then teacher retention is an important solution. There is a growing body of research on the effect of teacher preparation on teacher retention. Attrition is unusually high for those with little initial preparation. A recent National Center for Education Statistics study looked into attrition numbers for the first five years and discovered that 49 percent of uncertified entrants left the profession, whereas certified entrants left at a 14 percent rate. These differences are significant and in keeping with findings of another study that showed that attrition rates for new teachers who lacked student teaching were double those of teachers who had the opportunity to complete a semester of student teaching: national data from the Recent College Graduates Survey reveal that approximately two-thirds of teachers who enter the field without teacher education leave within their first year.[46] Schools and Staffing Survey (SSASS) data for 1999-2000 show big differences in plans to stay in teaching between first-year teachers who felt well prepared and those who felt poorly prepared. Items such as preparation in planning lessons, using a range of instructional methods, and assessing students revealed a correlation: two-thirds of those reporting strong preparation intended to stay in teaching, compared with only one-third of those reporting weak preparation. New teachers who had practice teaching experience, who received feedback on their teaching, and who had training in such aspects of teaching as selecting instructional materials, child psychology, and learning theory, left the profession at rates half as great as those who did not have such training.[47]

A longitudinal study of eleven institutions by Andrew and Schwab in 1995 found that teachers who complete five-year teacher education programs enter and stay in teaching at much higher rates than four-year teacher education graduates from the same campuses.[48] The reported differences are so large that when considering the costs to states, universities, and school districts of preparing, recruiting, inducting, and replacing teachers due to attrition, the costs of the fifth year may be less than the costs of preparing larger numbers through short-term routes and subsequently seeing them leave the teaching profession. This study documents another dilemma, in a time when highly

qualified teachers are in demand: alternative routes are promoted in Arizona and the nation to get teacher candidates into the classroom faster to meet the demand.

Similarly, researchers Justice, Greiner, and Anderson compared the attrition rates of teachers in Texas who had completed a traditional teacher education program with those who had gone through an alternative/emergency certification program.[49] Fully 88 percent of the traditional-program students would choose the same program again, whereas 12 percent would not choose the same route. Among alternative/emergency certification graduates, only 40 percent would choose the same program again, whereas 60 percent would choose a different route. Alternative/emergency certification program students estimated their preparedness to be weak in comparison to that of traditional program graduates, particularly in the absence of student teaching. They expressed frustration around adequate knowledge of subject matter, classroom management, implementation of effective teaching techniques, and ability to diagnose and meet student needs.[50] The researchers concluded that teachers who felt ill-prepared to teach after their first year in teaching expressed the strongest doubts about remaining in the profession.

Reviewing literature on alternative routes to teaching, Laczko-Kerr and Berliner found some distinct advantages. Such programs generally attract teachers who are more willing than traditionally trained teachers to work in rural or urban low-income districts, attract individuals with degrees in mathematics and science, attract a more diverse group of candidates (specifically men, older adults, minorities, and retired military personnel), and are cost-effective.[51]

On the negative side, they found research that suggests recruits in mathematics and science tend to have lower grade-point-averages than traditional program recruits. In addition teachers prepared through alternative routes have high dropout rates in the programs and in subsequent teaching positions, report many more problems with their preparation than do candidates from traditional programs, lack understanding of student ability and motivation, and tend to have a limited view of curriculum. Emergency certified teachers, however, also experience difficulty translating content knowledge into meaningful information for students, are less effective lesson planners, and are less likely to improve as a result of their teaching experience. The conclusion is that short

alternative certification programs that do not provide much classroom experience and supervision may not have any advantages over emergency-certification programs for teachers with no teacher education experience.

Laczko-Kerr and Berliner used the Teach for America program to illustrate their case. Graduates from top universities are given minimal training to teach in rural or poor urban public school classrooms. Four separate evaluations have concluded that the program did not prepare candidates to succeed with students, raising particular concerns about classroom management and insufficient knowledge of the fundamentals of teaching and learning.[52] Cooperating teachers' perceptions note the limitations of the program in providing corps members with adequate practice or theory to ensure success. Further, this program continues the national trend of placing poorly prepared teachers with the neediest students. Indeed, such practices may harm students by placing unqualified teachers in the classroom. Lackzo-Kerr and Berliner evaluated the Stanford Achievement Test scores of students taught by "undercertified" teachers (a term the authors coined to describe teachers who had undergone only brief training, generally for purposes of emergency certification) and certified teachers, and found that students of certified teachers achieved higher scores on standardized tests. They concluded that having a certified teacher is worth about two months on the grade-equivalent scale (equal to 20 percent of an academic year). This advantage becomes more significant in light of the placement of Arizona's emergency certified teachers primarily in rural schools and inner city schools with low socioeconomic profiles.

Research indicates that, to be effective, alternative certification programs must include supervised classroom experiences with specific feedback to teacher candidates. They also require instruction on pedagogy, on how to learn and how to make curricular and teaching decisions informed by theory and research, and on how to motivate students and manage a classroom. Programs that integrate these crucial experiences and knowledge can avoid the pitfalls noted in the alternative certification programs.

Quality of Available Data

The State Superintendents' reports and the Town Hall reports provided important windows on the state of Arizona's public education when each was written.[53] In 1952, Griffenhagen & Associates published a report on the Arizona public school system in conjunction with a Special Legislative Committee on State Operations in the State of Arizona. This three-volume set is the single most comprehensive listing of available data on such subjects as populations served, teacher personnel and personnel administration, curriculum and instruction, school physical plants, and the finance and management of schools. One of the benefits of this report was the aggregation of data within one source so that policy decisions that usually affect more than one area of public education could be framed against the complex backdrop of existing conditions.

The Morrison Institute's 2003 report drew upon a multitude of sources. These ranged from teacher and student counts from the Arizona Department of Education's Research and Policy Division and School Finance Office, as well as from the U.S. Census Bureau and the Arizona Department of Economic Security. More data were reported via surveys and interviews.

Each Town Hall report accurately reflects some of the concerns of education stakeholders at the time of publication. These are valuable sources of information but reflect a limited voice within limited space.

Unanswered Policy Questions

Policy decisions are only as good as the data they are based upon. One example of the ambiguity of today's data is noted in the Morrison Institute Report. The report refers to a survey conducted by O'Neil Associates, Inc. (2002) that reported that out of 804 inactive certified teachers interviewed, only 10 percent reported that they left because of low salaries. The Morrison Institute Report noted, however, that 72 percent of inactive certified teachers indicated through surveys that increased pay would very likely make them reconsider teaching. Compensation is a complicated issue, and more data

need to be collected to get an accurate picture of the relationship between teacher compensation and teacher quality and quantity.

The research done by Laczko-Kerr and Berliner regarding the alternative teacher preparation programs raises important questions about "fast-track" models for increasing the number of certified teachers within the state. More research must be undertaken in order to examine the effectiveness of these programs to train highly qualified teachers for our classrooms and to examine whether these programs produce graduates who leave the teaching profession at higher rates than the graduates of other preparation programs. Simply providing greater numbers of teacher education program graduates may not be the answer to the teacher shortage problem. Further research may address the implications of studies that suggest faster may not be better when it comes to teacher preparation, and may help identify what kinds of experiences make for an effective teacher education program.

A comprehensive database does not exist concerning employment patterns for graduates from the state's teacher education programs. It is not known what percentage actually go into teaching, what percentage leave to teach in other states, or what percentage leave a teaching position for another teaching position with another district. These are critical pieces of data that would illuminate important professional trends and demographic information. Further, data are lacking concerning retention rates as mapped back to teacher preparation programs and the impact of first-year induction programs.

Recommendations

This brief on teacher quality raises many questions and concerns. What can Arizona do about educating, recruiting, and keeping highly qualified teachers in the state's classrooms? Are there other strategies or programs that have been effective? Induction and mentoring in the early teaching years can have a significant impact on the high one to five year attrition rate. School districts such as those in Cincinnati, Columbus, and Toledo, Ohio and in Rochester, New York have reduced beginning-teacher attrition rates by more than two-thirds by means of providing expert mentors with release time to coach beginning teachers in their first year.[54]

Strategic and on-going professional development programs coordinated by school districts and universities provide support for beginning and mid-career teachers. Targeting specific district and school needs would bring down some of the stress and frustration levels that teachers report as job dissatisfaction. Such actions require stronger collaborations and partnerships between universities and school districts, with college professors listening to and advising district administrators and teachers. Participants at a February 2003 forum on teacher education in Arizona urged the following:[55]

- Reject the claim that content knowledge itself was an adequate measure of teacher quality.
- Expose prospective teachers sooner to the environments in which they will teach.
- Collaborate among all levels of the education system to improve teacher preparation.
- Create policies that encourage teachers to be lifelong learners of their profession.

Compensation as a factor in retention or attrition is a complicated issue. Educators prefer to believe that teaching isn't done for the money; at the same time, it is evident that salary does make a considerable difference. Although most research on the subject of teacher attrition notes that teachers do not list low salaries as the most important reason for leaving, this also tends to be the number one factor teachers list that would entice them back into the classroom. The Morrison Report noted that 72 percent of inactive certified teachers indicated through surveys that an increase in pay would very likely make them reconsider teaching.[56] The American Federation of Teachers affirms that higher pay helps keep experienced teachers in the classroom and better pay for new teachers helps school districts compete for new college graduates.[57] According to the AFT, the average teacher salary (2001-02) in Arizona ranked 33rd, at $38,510. Average salaries range from $54,348 (California) to $31,383 (South Dakota). Moreover, the compensation gap between teachers and non-teachers with a bachelor's degree rose to $18,006 in 1998 from $12,068 in 1994.[58]

Additionally, the struggles new teachers face when they enter the profession and find themselves in the most difficult teaching environments suggest that teachers need better exposure to real-world teaching conditions *while* they are students in the university systems. This provides potential teachers with opportunities to clarify their desire and capacity to teach. Early field experiences encourage students unsuited to the profession to opt out of the profession, and improve the quality of students who remain in teacher education programs. Attrition at the front end likely results in less attrition during the first years of teaching.

It is recommended that:

1. The Arizona Department of Education (ADE) organize collaborations with colleges of education to develop a comprehensive database to track employment patterns of graduates from the state's teacher education programs.
2. The ADE organize collaborations and partnerships with colleges of education and school districts to strengthen mentoring and coaching of beginning teachers to reduce attrition rates.
3. The Arizona legislature explore incentives such as loan forgiveness, reduced housing costs, and salary bonuses to recruit teachers who have left the field back into teaching, particularly favoring highly qualified teachers who choose to work in the state's rural and inner-city classrooms and in under-staffed subject areas.
4. The Arizona legislature align state education and education-finance policy with findings that better pay and working conditions can help retain highly qualified teachers.
5. Arizona colleges of education and school districts develop and implement policies that encourage and support prospective teachers by balancing training in theory and in practice with exposure to real-world teaching conditions.

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The Condition of School Administration in Arizona: 2004

Executive Summary

Four major issues are addressed in this brief on Arizona school administration: supply and demand, preparation and licensure of school administrators, administrative costs, and incentives for school administrators. Although the data suggest an oversupply of certified administrators, data related to administrator supply and demand are not particularly reliable and not easily available. Moreover, there is a possible mismatch between supply and demand, particularly in the urban and rural areas serving large numbers of Hispanic students. No available data compare the performances of graduates from approved administrator certification programs and candidates who apply directly to the state. A system that identifies the best candidates for administrator preparation would encourage more talented educators to pursue training for administrative leadership positions and help school districts effectively balance the needs and demographics of communities with who leads their schools.

Recommendations

It is recommended that:

- The Arizona Department of Education (ADE) create opportunities for school districts and colleges of education to collaborate on recruitment, selection, and training of school administrators. Colleges of education and school districts would select the best candidates for leadership preparation and training by jointly examining each candidate's record of accomplishments and demonstrated leadership skills.
- Colleges of education strengthen the teaching and learning focus of educational administration programs.
- The Arizona legislature provide new incentives to attract and keep high-quality administrators. These incentives may include remuneration to attract candidates to less desirable districts and schools, and multi-year contracts to ensure greater stability.
- The ADE develop an up-to-date database to track staff and administrator salaries by school district, and to track information on the supply and demand for administrators.
- The ADE track the performance of graduates of administrator preparation programs and of individuals applying directly to the state for licensure to assess and compare the overall effectiveness of the different routes to certification.

The Condition of School Administration in Arizona: 2004

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Background

In the past few years, there has been a renewed interest in school administration. Several research centers, policy centers, and professional organizations, with the support of foundations, have issued reports related to the following:

- School administrator supply and demand.[1]
- Career paths of school administrators.[2]
- Perceptions and attitudes of school principals and superintendents.[3]
- Reculturing of school administration around a reform agenda.[4]
- Principal as learner-centered leader.[5]
- Principal preparation and professional development.[6]

The extended discussions presented in this brief on school administration indicate the increasing interest and scrutiny recently accorded educational administration and school leadership.

At the same time, federal and state legislation places new demands on school administrators, particularly school principals, for school performance and accountability. Both the No Child Left Behind legislation and state legislation represented in Arizona LEARNS raise the stakes for school administrators by making them increasingly responsible for student performance.

Licensure Standards for School Administrators in Arizona

Title VII of the Arizona Administrative Code (Section R7-2-603) lists five professional administrative standards, with multiple subsections for each standard. Applicants are required to meet these standards in order to qualify for administrative certification:

- Standard 1: The administrator facilitates the development, articulation, implementation, and management of an organization's mission.
- Standard 2: The administrator facilitates the success of all students by understanding, responding to, and influencing the social, cultural, and legal aspects of the community.
- Standard 3: The administrator implements positive and proactive communication strategies for effective parent and community involvement to improve the learning environment for all students.
- Standard 4: The administrator effectively manages services, programs, operations, and resources.
- Standard 5: The administrator advocates and supports curricular and instructional programs which promote the success of students.[7]

To achieve administrative certification requires, in part, successful "*completion of a program in educational administration*"[8] (Section R7-2-614) and successful completion of the Arizona Administrator Proficiency Assessment. According to Section R7-2-604, "*the administrative preparation program shall include training in the standards described in Section R7-2-603 and a practicum which provides students in the program*

opportunities to observe and practice the standards under the supervision of certified administrators." (part C).[9]

Section R7-2-614 describes three different administrative certificates that are available: A *Supervisor Certificate* is required for all personnel whose primary responsibility is administering instructional programs, supervising certified personnel, or similar administrative duties. A *Principal Certificate* is required for all personnel who hold the title of principal or assistant principal, or others with similar administrative duties. A *Superintendent Certificate* is required for superintendents, assistant or associate superintendents, district chief executive officers regardless of title, and others with similar district-level administrative duties.

All three administrator certificates require three years of teaching experience, a Master's degree or an advanced degree, and specific requirements for graduate coursework in educational administration (18 hours for *Supervisor*, 30 hours for *Principal*, and 36 hours for *Superintendent*). All three certificates require a practicum in educational administration at the appropriate level. A valid administrative certificate from another state may be substituted for the program in educational administration, teaching experience, and practicum described earlier.

Recent Developments

In Latin, the word principal means "first teacher." Appropriately, one view gaining increasing popularity holds that administration is directly related to instructional improvement. Consistent with this idea, Elmore argues that school administration is best understood as it relates to instructional leadership. In other words, he claims that the purpose of leadership, regardless of role, is the improvement of instructional practice and performance; and that the roles and activities of leadership flow from the expertise required for learning and improvement, not from the formal dictates of the institution.[10]

Arizona has passed legislation to assess administrators' success in leading their schools. According to the Arizona Revised Statutes (A.R.S.) §15-241, an achievement

profile must be prepared for every Arizona school and used "to determine a school classification that designates each school as one of the following:

- An excelling school.
- A highly performing school.
- A performing school.
- An underperforming school.
- A school failing to meet academic standards.[11]

Underperforming schools that fail to meet academic standards must also prepare and submit improvement plans. According to the statute, "if a school remains classified as an underperforming school for a third consecutive year, the department of education shall visit the school site to confirm the classification data and to review the implementation of the school's improvement plan."[12] Pursuant to subsection M of this section (A.R.S. §15-241), the school shall be classified as failing to meet academic standards unless an alternate classification is made.

These statutes require administrators at the school and district levels to engage constituents and prepare district consolidation plans and site improvement plans to raise student achievement across grade levels and across demographic groups, including ethnic minorities and special education populations.

Administrative Costs

The Arizona Laws 2002, Chapter 330 §50, required the Joint Legislative Budget Committee and the Office of the Auditor General to analyze administrative costs.[13] Administrative costs are those associated with directing and managing a school district's responsibilities. These include salaries, benefits, purchased services, and supplies associated with the governing board, superintendent, principal, and business offices. In addition, there are categories of expenditures that the U.S. Department of Education's National Center for Education Statistics (NCES) uses in its reports, which allow identification of any significant administrative costs associated with the implementation of other programs and funds. A.R.S. §41-1279.03 required the Office of the Auditor

General to monitor the percentage of every dollar Arizona school districts spend in the classroom and to conduct performance audits of school districts.[14]

Term of Appointment for School Administrators

According to A.R.S. §15-1325, a superintendent shall be granted a one-, two- or three-year contract. In A.R.S. §15-503, there is also permissive authority for multiple-year contracts for principals: "The term of employment of superintendents or principals may be for any period not exceeding three years…"[15] Multiple-year contracts, although the rule for superintendents, are the exception for school principals. The potential consequence of one-year contracts is discussed later.

School District Unification and Consolidation

A.R.S. §15-458 and §15-459 set out the conditions for elections to approve the unification or consolidation of school districts. Unification typically refers to a new unified school district formed from a common (elementary) school district and a high school district.[16] Consolidation (as distinct from unification) is defined as the merging of separate unified K-12 school districts to form a single school district in their place. Arizona statutes require that each affected community hold an election to approve the changes. Although this is not a new development, there has been recent interest in and momentum for school district unification and consolidation. Legislators have proposed a commission to study the 236 school districts in the state and have proposed that some of these school districts be combined by mandate. That plan would go to the Legislature by the end of 2005. The legislature could approve it as proposed or amend it and mandate the consolidation.[17] Incentives for unification and consolidation are listed in A.R.S. §15-912 and A.R.S. §15-912.01, and allow school districts assistance with consolidation and unification. In the newly formed school district's maintenance and operations (M & O) budget, the form of assistance is increased revenue control limit—a recommended increase of 21 percent over three years (10 percent in the first year, 7 percent in the second year, and 4 percent in the third year).

Administrative Positions in Arizona

Table 1 reports the full-time equivalents (FTE) and Employee Count for Arizona school administrators. According to the Arizona Department of Education's School District Employee Report for the 2002-03 school year, there were 2,892 administrative positions in Arizona. Of this number, 304 positions are listed as superintendents and assistant superintendents, and another 1,933 listed as principal or assistant principal positions. Some of the other administrative categories include curriculum and personnel directors, supervisors, business managers, vocational educational administrators, and head teachers.

Table 1: FTE and Employee Count by Main and Second Position

Position Number	Position Name	Position 1 FTEs	Position 2 FTEs	Total FTEs	Position 1 Em-ployees	Position 2 Em-ployees	Total Positions
100	Superintendent	179.79	0.40	180.19	188	2	190
101	Administrative Assistant	21.00	1.85	22.85	22	6	28
102	Assistant Superintendent	113.39	0	113.39	114	0	114
103	Principal	1,152.89	5.40	1,158.29	1,176	13	1,189
104	Assistant Principal	726.36	1.60	727.96	739	5	744
105	Curriculum Coordinator	88.15	1.46	89.61	92	5	97
106	Personnel Director	22.00	0.50	22.50	23	1	24
107	Supervisor	97.61	0.37	97.98	102	2	104
108	Head Teacher	24.50	2.54	27.04	26	8	34
109	Other	290.75	6.80	297.55	307	18	325
110	Vocational Ed. Admin	22.99	0.50	23.49	26	2	28
111	Business Manager	13.5	0.50	14.00	14	1	15

Source: Arizona Department of Education, *School District Employee Report, School Year 2002-2003*. Phoenix, AZ: Author.

According to data made available by the Arizona Department of Education, there are currently 9,451 valid administrative certificates that have been issued to a total of 7,173 individual educators in the state of Arizona.[18] Of the 7,173 educators with valid administrative certificates, 2,784 are working in the capacity of administrator. There are no data, however, concerning how many of the 7,173 individuals still reside in the state. Regarding the ethnicity of the certified administrator pool, ADE reports that of the 7,173 educators with administrative certificates, 4,289 are Anglo, 185 are African American, 635 are Hispanic, and 28 are Native American.[19] Approximately 30 percent of the people holding certificates did not indicate their ethnicity.

Administrative Costs

In 2002, the Office of the Auditor General was directed by the legislature to identify why some school districts had particularly high or low administrative costs. In the most recent findings by the Auditor General, on a statewide basis, spending on administration in Arizona school districts was 9.9 percent statewide.[20] This is in line with the national average of approximately 10.9 percent of school districts' day-to-day operating monies spent on administration.[21] According to the 2003 Report, "administrative costs equate to approximately $560 per pupil for the 206 districts state-wide for which data were available."[22]

Table 2: Arizona and U.S. School Spending Comparison

Area	Arizona (2003) Percentage	U.S. (2000) Percentage
Classroom Dollars	58.6	61.7
Plant Operation and Maintenance	11.7	9.6
Administration	9.9	10.9
Student Services	6.8	5.0
Instruction Staff Support	4.3	4.5
Food	4.6	4.0
Transportation	3.9	4.0
Other	0.2	0.3

Source: State of Arizona, Office of the Auditor General (February 2004). *Arizona Public School Districts' Dollars Spent in the Classroom Fiscal Year 2003*. Phoenix, AZ: Author. Also cited in the *Arizona Republic*, March 2, 2004, p. A2.

The Office of the Auditor General also identified why districts had particularly high or low administrative costs. According to the 2003 report, several key factors were identified which affected administrative costs in districts, some of which are more subject to district control than others. The primary factor affecting per-pupil administrative costs in any one district is the number of students. Most districts with particularly high costs had fewer than 600 students, while most districts with particularly low costs had more than 5,000 students. Size is an important factor because larger districts can spread costs across more students. The 2003 Report also suggests that "smaller schools, rural or isolated locations, and/or significant amounts of federal impact aid are associated with higher administrative costs. In addition, districts with higher per-pupil administrative costs have two other conditions in common. These districts typically spend a lower percentage of each dollar they receive on instruction, and . . . are more likely to have a large fund balance."[23] Fund balance is the cash on hand in a district during and at the end of the fiscal year. No explanation for this last factor was given in the Report.

Table 3: Administrative Costs by Function Area – Fiscal Year 2001

Functional Area	Percentage
Governing Board and Superintendents' Office	15
School Administration; Primarily Principal's Offices	52
Business Activities and Central Support Services	33

Source: State of Arizona, Office of the Auditor General (2002, November). *Factors Affecting School Districts' Administrative Costs.* Phoenix, AZ: Author.

Table 3 indicates that a little over half of administrative costs reside in salary and other costs associated with the office of the school principal, with business activities and central office support accounting for about one-third of total administrative costs and the superintendent and governing board accounting for the final 15 percent.

Licensing of School Administrators – Administrator Testing

Table 4 looks at the results of administrator testing in Arizona, which began in 2000. Since 2002, when the score required for passing the principal certificate exam was raised, 857 out of 1,051 applicants passed the principal exam, although this probably includes re-takes. No routinely reported information compares in-state and out-of-state applicants, or compares test results for applicants who have gone through approved certification programs with those from applicants who apply directly to the state Department of Education.

Table 4: Administrator Certification Tests Results (2000 to 2004)

	2000	2001	2002	2003	2004
Superintendent Pass	119	115	46	44	21
Superintendent Fail	0	3	5	3	1
Principal Pass	675	613	347	411	99
Principal Fail	0	12	77	99	18
Supervisor Pass	30	33	26	21	2
Supervisor Fail	0	1	1	3	0

Supply and Demand of School Administrators

At first glance, the data suggest an oversupply of some 4,389 certified administrators, but only 2,784 out of 7,173 currently certified individuals are employed in administrative positions in the state. This would indicate an oversupply in the number of educators qualified to be school administrators. Part of the excess is accounted for by former and retired school administrators who maintain current certificates yet have no plans to practice again (as is the case with one of the authors of this chapter). There are no data, however, to determine how many of these excess certified administrators have never held an administrative appointment, and for those who have left administration, what would attract them back into practice. There are also no data concerning when these certificates expire, or whether they will be renewed.

The data related to administrator supply and demand are not particularly reliable and not easily available. There is no annual report that the authors know of that focuses on district-level demand, or supply data that are disaggregated by ethnicity, gender, age, and so forth. Nor are there data that connects the qualified administrator pool and the requirements of the communities that these administrators serve. In the Arizona Department of Education (ADE) database, 635 of the administrators listed their ethnicity as Hispanic (8.7 percent), whereas around 30 percent of the pool did not identify ethnicity at all. This brief does not argue that school districts require a match between their student population and the ethnicity of their administrators. Nevertheless, an absence of qualified administrators suggests a possible gap in the required knowledge, understandings, and sensitivities that ensure student success in school. Given the growing number of Hispanic students in Arizona, there is a possible mismatch between supply and demand, particularly in the urban and rural areas serving large numbers of Hispanic students. Given the small number of Native American certified administrators, it is also likely that there is an undersupply of Native American applicants available to schools in the communities serving large numbers of Native American students. There may also be a shortage of qualified applicants in the more rural areas of the state. No

available data addressing supply and demand for school administrators are disaggregated by ethnicity or gender, or provide information by district or region of the state.

Administrative Costs

Unlike the supply and demand data, administrative and classroom costs are detailed in multiple reports prepared by the Office of the Auditor General. These reports are highly reliable and easily accessible from the Auditor General's website.[24] They explain administrative and classroom (i.e., instructional) costs of Arizona schools, with comparisons between states, with the nation, and within school districts in Arizona. A common misconception has been to overstate administrative costs by including support services, counseling services, food services, and transportation services. These reports prevent this type of misinterpretation. Although the data separate these other costs from administrative costs, they may fail to take into account the number of "teachers on assignment," stipends paid for additional administrative work, and other ways in which educators not listed as administrators are still asked to accomplish administrative duties. In the review of the data in Table 1, a specific category for special education administrators in the total number of administrators listed could not be found. A more valid accounting of administrative costs and energies would include these additional considerations in determining the FTE and employee counts and total administrative costs.

School District Consolidation and Financial Incentives

There is renewed interest in the financial incentives associated with school district unification and consolidation. As the pressure from the public mounts to fund schools adequately and limit increases in administrative costs, consolidation is one potential response. Consolidation offers the promise of additional resources to maximize public expenditures on local schools and to increase administrative efficiency. There are also potential costs for consolidation: loss of district autonomy and loss of local control.

One example of current interest in school district consolidation is represented by the joint public forum held by the Gilbert Public Schools Governing Board and the Higley School District Governing Board to explore the benefits and issues related to the

consolidation between the Higley and Gilbert school districts[25] (February 23, 2004). According to information prepared for the forum, which is based on a combined 2003-04 Revenue Control Limit of $128,135,501, the newly consolidated district may increase the Revenue Control Limit by $12,813,550 in Year One, $8,969,485 in Year Two, and $5,125,420 in Year Three.[26] The sentiment in the Arizona legislature, as of this writing, is more towards unification of school districts than towards consolidation, however.[27]

Key Unanswered Policy Questions

In order to anticipate the future needs of schools and communities, policy makers need to understand what it means to be a highly qualified school administrator. A deep understanding of the issues and concerns of culture, community, and families (Arizona Administrative Standard 3) and a deep understanding of teaching and learning (Arizona Administrative Standard 2) are the starting points for dialogue on identifying, recruiting, selecting, and training school administrators.

Only the three state universities and two private universities in Arizona have approved administrator certification programs. All other administrative licensure applicants apply directly to the state Department of Education for certification, based on the requirements described earlier. In effect, there is a two-tiered system: one that requires applicants to go through approved programs, and the other that allows applicants to take courses in more of an *a la carte* manner while applying directly to the state for certification.[28]

There are no data available comparing differences between the performances of graduates from approved administrator certification programs and of those who apply directly to the state. The routes of those applying directly to the state may also be quite different, with some applicants completing rigorous out-of-state programs, and others completing the minimum number of required courses. As a result, there is no way to determine if one access route is better than the other, and if it is, why.

According to the Arizona Department of Education (ADE), the average age of the certificated administrators in Arizona is 51. There are little or no data reporting administrator salary, job satisfaction, and career migration. Collecting and analyzing

these data would help district and state policy makers anticipate areas of shortage and act accordingly. Why do administrators leave? Are there differences across ethnic groups and communities in the state? Supply and demand also are affected by recent state legislation, which allows educators (including administrators) to return to practice part-time without a retirement penalty. What is the impact of this legislation on supply and demand in urban and rural communities across the state? Finally, why do some people certified as school administrators choose to not pursue those jobs? What are the costs of training for certification people who never pursue jobs? A recent report by the Morrison Institute (2003) addresses these questions for teachers,[29] but there is no parallel report on school administrators.

Recommendations

Where will the next generation of school administrators come from? What will be the requisite experiences and training that they will need in order to be successful? Who will determine quality and on what basis?

The role of school administrators is changing; increasingly, administrators are charged with setting the teaching and learning priorities of schools. Improvements in the selection and training of administrators can accompany these changing roles. Administrators tend to be self-selected. A more rigorous system that chooses the best candidates for administrator preparation would encourage more talented educators to pursue training for administrative leadership positions and help school districts effectively balance the needs and demographics of communities with who leads their schools.

University-based certification programs will produce better administrators if they make teaching and learning top priorities in their educational administration curricula and programs. This effort requires school leaders to have a basic understanding of the core values and norms of learning, to build professional communities that value learning, and to engage external environments that support a learning agenda. Embracing standards that focus on teaching and learning would help universities re-think course content,

expand delivery strategies, brainstorm new ways to assess participants' performances, and establish an outcome-based measure of overall program effectiveness.

In Arizona, with urban, suburban, and rural districts, and with rapid growth in certain areas of the state, financial incentives will probably be necessary to attract candidates to less desirable and more remote districts and schools, and to regions in the state where there are shortages of qualified administrative applicants. Although salary data for public school administrators are a matter of public record, the state lacks an up-to-date report of salaries by school district. It also lacks accurate information regarding the supply and demand of administrators. If such information were available, it would allow for the alignment of the needs of local districts with criteria used by human resource directors and district selection committees in determining qualified applicants.

With regard to terms of appointment, few principals have multiple-year contracts. Multiple-year and longer-term contracts are options that would assist principals in dealing with the conflicting political and special interest groups and multiple constituents of schools. Multiple-year contracts would also provide greater stability to a position at a time of particular vulnerability, with the goal of attracting and keeping new talent in the profession.

Based on the analysis of the available data, five recommendations are offered here: Recommendations 1 through 3 reflect actions that can be taken based on available data, and Recommendations 4 and 5 reflect the need for additional data.

It is recommended that:

1. The Arizona Department of Education (ADE) create opportunities for school districts and colleges of education to collaborate on recruitment, selection, and training of school administrators. Colleges of education and school districts would select the best candidates for leadership preparation and training by jointly examining each candidate's record of accomplishments and demonstrated leadership skills.

2. Colleges of education strengthen the teaching and learning focus of educational administration programs.

3. The Arizona legislature provide new incentives to attract and keep high-quality administrators. These incentives may include remuneration to attract candidates to less desirable districts and schools, and multi-year contracts to ensure greater stability.
4. The ADE develop an up-to-date database to track staff and administrator salaries by school district, and to track information on the supply and demand for administrators.
5. The ADE track the performance of graduates of administrator preparation programs and of individuals applying directly to the state for licensure to assess and compare the overall effectiveness of the different routes to certification.

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The Condition of School Accountability in Arizona: 2004

Executive Summary

In November, 2000, Arizona voters passed Proposition 301, thereby instituting both school accountability provisions and a six-tenths of a cent sales tax increase dedicated to public education. These accountability policies are intended to improve public schools through calculation of achievement profiles, public dissemination of the achievement profiles, implementation of school improvement plans, and state intervention in low-performing schools. The achievement profile data have been released in the fall of 2002 and 2003, and to date 82 Arizona public schools have been designated as "Underperforming" for two consecutive years. The state board has modified the achievement formula dramatically, making it virtually impossible to draw valid conclusions about school improvement over time. As a result, the impact of the Arizona LEARNS accountability system cannot be determined. Potential threats to developing sound data in the future include the impact of policy decisions, the accuracy of the underlying academic indicators, and school/district responses to school accountability policies. The need to examine the impact of the Arizona LEARNS, including both the intended and unintended outcomes, remains a high priority.

Recommendations

It is recommended that:

- The Arizona legislature expand the scope of school accountability policies to include evaluating the role and impact of local school boards, teacher organizations, colleges of education, and district, county, and state agencies that affect student learning and therefore should be held accountable for improving public education.
- The Arizona legislature authorize and fund the Arizona Department of Education (ADE) to create an independent evaluation team, composed of personnel who are not responsible for directing and managing the accountability program, to review the accountability system.
- The Arizona legislature authorize and fund the ADE to develop a comprehensive, systemic, and external evaluation of school accountability policies that includes, but is not limited to, the academic indicators already included in the school accountability system.

The Condition of School Accountability in Arizona: 2004

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Background

Proposition 301, also referred to as Education 2000, was the genesis of school accountability in Arizona. Proposition 301, initiated by Governor Jane D. Hull, instituted a six-tenths of a cent sales tax increase dedicated to public education and school accountability provisions. In November, 2000, voters approved Proposition 301 by a margin of 53 percent, with 47 percent opposed. The school accountability provisions in Proposition 301 are intended to improve public education through the development of achievement profiles for all schools, the public dissemination of achievement profiles, the implementation of school improvement plans and escalating levels of state intervention in persistently low-performing schools.

In the original legislation, the state legislature prescribed the specific academic indicators and performance targets to derive the achievement profiles, commonly referred to in the media as "school labels." The narrow set of academic indicators included Arizona Instrument to Measure Standards (AIMS) results, the Measure of Academic Progress (MAP) results, and dropout rate data.[1]

The performance targets were prescriptive, and despite the state legislature's intent to establish rigorous targets, the original performance targets set minimal academic

expectations. Schools had to meet *all* of the following criteria in order to avoid being designated as "Underperforming":

- 90 percent of students, or a higher percentage than the year before, must meet or exceed the standards in all three AIMS subject areas.
- 90 percent of students, or a higher percentage than the year before, must make a year's worth of gain on MAP, an indicator of academic gain calculated from students' scores on the Stanford Achievement Test Ninth Edition (Stanford 9).
- A dropout rate of 6 percent or less, or lower than the previous year.

In practice, the performance targets meant that any improvement, regardless of the school's baseline achievement level, was sufficient to meet the requirements. In addition, the state legislature included only pupils "continuously enrolled" in the achievement profiles, leaving out a large percentage of the student population.

"Failing" was the only other school classification in the original legislation. A school was classified as "Failing" if it remained "Underperforming" on the same academic indicator for two consecutive years. The legislature revised the original achievement profile criteria in 2002 and it was never implemented.

The consequences for Underperforming and Failing schools in the original legislation require extensive public notification as well as the implementation of a School Improvement Plan (SIP). If a school is designated as Underperforming or Failing, the local school board must provide written notification to each residence within its attendance area that includes a detailed description of the academic indicator on which the school failed to demonstrate acceptable progress. The local school board is also responsible for developing and supervising the implementation of the SIP and for holding a public meeting to present the plan. If a minimum number of schools in a district are designated as Failing for more than two consecutive years, local school board members must insert language to that effect on the next election ballot.[2]

The Arizona Department of Education (ADE) is required to include each school's Achievement Profile in the Arizona School Report Card and to publish a list of "Failing" schools in a newspaper twice a year.

State intervention in school improvement consists of Instructional Solutions Teams assigned by the Superintendent of Public Instruction (State Superintendent), based on need, to Failing schools. The Solutions Teams are composed of master teachers, fiscal analysts, and curriculum assessment experts. The Solutions Teams are charged with working with school staff to assist in curriculum alignment and to instruct teachers on how to increase the pupils' academic progress.

Charter schools are held accountable in the original legislation, but neither the process nor the consequences are parallel to those for traditional public schools. If a charter school is designated as "Failing," the ADE is required to notify the charter school's sponsor immediately. The charter sponsor is required to take action to restore the charter school to acceptable performance—or to revoke the school's charter.[3]

Recent Developments

The Arizona state legislature and the Arizona State Board of Education (state board) shape school accountability policies. This section will track separately both the state legislature's modifications to the school accountability statutes and the state board's policies in order to distinguish the decisions of each policy making body.

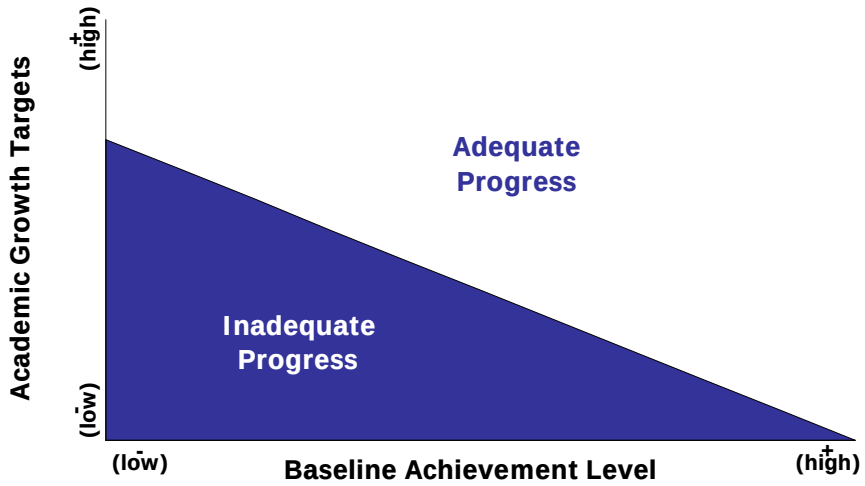
In 2002, the state legislature began relinquishing control of the mechanics of the achievement profiles to the state board.[4] The state legislature eliminated the statutorily defined performance targets and gave the state board the authority to adopt the formula for the achievement profiles according to a "research based methodology" with some specific parameters. The law requires that the accountability methodology account for the performance of pupils at all achievement levels, pupil mobility, and the distribution of pupil achievement at each school, and also requires that it include longitudinal indicators of academic performance.

The state legislature added three achievement profile classifications—Excelling, Maintaining, and Improving—to supplement the Underperforming and Failing classifications in the original legislation. Also, the legislature maintained the statutory formula for Excelling, the highest achievement profile. The formula maintained the 90

percent threshold for student performance on AIMS and MAP (for elementary schools only). Excelling high schools were required to achieve a Graduation Rate of 90 percent or higher and an Annual Dropout Rate of 6 percent or less.[5]

In accordance with state statute, the state board adopted Arizona LEARNS in September, 2002, as the formula for the achievement profiles. Under Arizona LEARNS, the achievement profiles are determined according to a compensatory model, and the AIMS performance targets are set according to a sliding scale. The AIMS performance targets can vary by school according to the percentage of students meeting or exceeding the standards in the baseline year. The performance targets for schools with a lower percentage of students meeting the standards in the baseline year are higher than the targets for schools with higher baseline percentages (see Figure 1).

Figure 1: Conceptual Relationship Between Academic Growth Targets and Baseline Achievement Levels in Arizona LEARNS



The Measure of Academic Progress (MAP) was a marginal additional indicator to assist those elementary schools scoring just below a threshold to reaching the next highest school classification.

Both mobile and stable students were included in the achievement profile formula, with the scores for stable students weighted twice as much as scores for mobile students.[6] At the high school level, graduation and annual dropout rate are included, and the performance targets are based on the state averages of both indicators.[7]

The state legislature also increased the degree of state intervention in local public schools to an unprecedented level. Upon ADE's evaluation and recommendation, Failing schools could be subject to a public hearing before the state board if the school failed to implement its SIP properly. At the public hearing, the state board has the authority to allow another governmental, nonprofit, or private organization to manage the school. In addition, the authority to develop the SIP template was shifted from the local to the state level. The state board now has the responsibility to determine the components of the SIP.

Also in 2002, the charter school accountability process was brought in line with that of traditional public schools. The legislature modified state statutes to require charter schools to notify parents of a school's classification and to develop and implement a SIP. If the state board determines that a charter school failed to implement its SIP, the sponsor is required to revoke the school's charter.[8]

In 2003, the state legislature eliminated the last statutorily defined component of the achievement profile formula and gave the state board the authority to determine the criteria for Excelling schools. Further modifications were as follows: schools were provided an appeal process to dispute the data used in the formula, and the outcome of the appeal can affect a school's classification; and the achievement profiles were modified to the current classifications of Excelling, Highly Performing, Performing, Underperforming, and Failing to Meet Academic Standards (Failing). The Failing classification is delayed until a school receives three consecutive years of Underperforming classifications, instead of two consecutive years, and until the ADE has confirmed the classification with a site visit.[9]

The state board modified the achievement profile formula for 2003 according to legislative mandates and made more sweeping revisions. The state board:

- Increased the emphasis on the MAP beyond its previous marginal status.
- Introduced thresholds that require schools to meet a minimum percentage of students in the "Exceeds the Standard" category on AIMS to achieve the two highest classifications.
- Weighted test results in favor of a school's strongest performance trend (either baseline achievement level or amount of progress).

- Removed mobile students from the formula.
- Modified the formula to conform to the NCLB school accountability provisions.[10, 11]

The passage of the federal No Child Left Behind Act (NCLB) in January, 2002 is another critical development. Although NCLB is not state policy, the sweeping legislation had an impact on school accountability systems in every state beginning in 2003. The NCLB provisions include a federal school accountability system that is substantively different than the state's accountability system. The NCLB accountability system is based on a conjunctive model (see Table 1).

Table 1: Comparison of the Underlying Models Used in the State and Federal Accountability Systems

State: Arizona LEARNS	Federal: NCLB
Compensatory model	**Conjunctive model**
The academic indicators counterbalance each other. Higher performance on one academic indicator can make up for lower performance on another indicator.	**The performance targets for every academic indicator must be met independently. Failure to meet one performance target results in failure of the school to meet AYP requirements.**

In contrast to the requirements set forth by Arizona LEARNS, under NCLB, schools must meet *all* of the following criteria in order to make the federal designation of acceptable performance, Adequate Yearly Progress (AYP):

- Test a minimum of 95 percent of enrolled students.
- Meet targeted achievement goals on AIMS for all student subgroups (major racial/ethnic groups, special education, Limited English Proficient, low-income).
- Meet benchmarks on an additional indicator (graduation rate for high schools and attendance rate for elementary schools).[12]

The targeted achievement goals on AIMS ensure that all students are proficient by 2014.

Under NCLB both schools *and* districts that do not make AYP are subject to corrective actions. The AYP determinations for schools and districts are published on the Arizona School Report Card. Schools and districts receiving Title I funds that do not meet AYP requirements for two consecutive years are placed in School Improvement status, and schools that remain in this status for two more consecutive years are subject to corrective actions according to a menu of options. The corrective actions become more extensive and intrusive as schools fail to make AYP for multiple consecutive years. For example, the corrective actions range from implementing a new curriculum to replacing school staff.[13]

Available Data

The ADE released the first achievement profiles in the fall of 2002.[14] The most striking statewide result is the extremely low number of Excelling schools according to the formula defined by state law. These results sparked the 2003 legislative changes that allow the state board to determine the formula for Excelling schools (see Table 2).

Table 2: Achievement Profile Results, All Schools, 2002

Achievement Profile	Count	Percent of Total
Excelling	3	0.2%
Improving	446	35.1%
Maintaining Performance	548	43.1%
Underperforming	275	21.6%
Total Schools Receiving Profile	1272	100.0%

Source: Arizona Department of Education, available online at http://www.ade.az.gov/azlearns/2002-2003/APSummary.pdf

The sweeping revisions to the Arizona LEARNS formula adopted by the state board resulted in a dramatic shift in the distribution of the 2003 achievement profiles. In

comparison to the previous year, a notably higher percentage of schools qualified as Excelling and a considerably lower percentage of schools were classified as Underperforming (see Table 3). Overall, 174 fewer schools received an achievement profile than in 2002.[15] The decline is primarily due to State Board policies that raised the minimum number of students required in the achievement profile calculations, resulting in fewer school calculations.

Table 3: Achievement Profile Results, All Schools, 2003

Achievement Profile	Count	Percent of Total
Excelling	132	12.0%
Highly Performing	167	15.2%
Performing	663	60.4%
Underperforming	136	12.4%
Total Schools Receiving Profile	1098	100.0%

Source: Arizona Department of Education, available online at http://www.ade.az.gov/azlearns/AZ_LEARNS_Summary_111903.pdf

Arizona traditional public and charter schools submitted 88 appeals in the first year of the process and 11 were granted.[16]

Presently, there are 82 Arizona public schools that have been designated as Underperforming for two consecutive years. Alternative schools, extremely small schools, new schools, and schools providing instruction for only grades K-2 have not been given an Achievement Profile, but the State board has adopted policies to include most of these schools in the near future.[17]

According to the NCLB accountability results, 24 percent (404) of Arizona schools and 37 percent (190) of school districts did not make AYP in 2003. Schools had the most difficulty meeting the criterion of testing 95 percent of enrolled students (see Table 4).[18]

Table 4: Total Number of Schools Not Making AYP by Criteria

Criteria	Total Schools Not Meeting Criteria*	Total Schools Not Meeting This Criterion
Percent Tested	241	139
AIMS Academic Targets	146	52
Additional Indicator	131	70

* Schools are counted multiple times if they failed to make AYP on multiple criteria.
Source: Arizona Department of Education, personal communication, February, 11, 2004.

Currently, there are 20 Arizona Title I schools subject to corrective actions under NCLB. An additional 100 schools are in their first year of school improvement and 99 schools are in their second year.[19]

The underlying data for the achievement profiles and AYP determinations are available. AIMS and Stanford 9 test results, as well as annual dropout rate and graduation rate data, are all published on the ADE's website. The test data are reported at the state level and disaggregated by subject, school, and grade level. The state level graduation and annual dropout rate data also are disaggregated to the school level. The public files, however, are insufficient to recreate the achievement profiles. The formula uses student level data; for confidentiality reasons, these are not released to the public.

The School Report Cards are available online at the ADE's website, and the achievement profiles are incorporated in national websites targeted toward parents. There also are data available to gauge parental knowledge of the achievement profiles. In a recent statewide survey commissioned by the state board, 57 percent of Arizona parents were knowledgeable about the achievement profile for their oldest child's school. The report of the survey concludes that the publicity of the achievement profiles is not reaching all parental audiences.[20]

Evaluation of Available Data

As school accountability evolves and the consequences escalate, sound data become an increasingly important means by which to assess the impact of policies. At

this point, school accountability policies and the data are new. This first annual report will introduce the qualities of sound school accountability data, evaluate the state of the data according to these qualities, and introduce three long-term threats to developing sound data. This section will focus on the Arizona LEARNS achievement profiles because the NCLB data are in their first year of implementation.

Data that are "sound" are accurate, valid, and consistent. The accuracy of the achievement profiles' school classification data depends on the accuracy of the underlying data. The accuracy of state test results can be verified through technical reports and verification procedures conducted by the ADE and outside sources. Recently, however, highly publicized events have led to widespread national criticism of the accuracy of self-reported dropout and graduation statistics.[21, 22] There is no research that documents the full extent of inaccuracies in Arizona public school data; there are, however, anecdotal examples of such inaccuracies. As a result, education researchers have issued recommendations to improve the accuracy of school-generated statistics, such as random audits of local data.[23]

The validity of the achievement profiles presents an important but unanswered question. In this case, validity refers to whether the achievement profiles measure what they intend to represent, namely the academic performance of a school. The implications of data validity are extensive, because schools are publicly identified and subject to corrective actions based on the results. Therefore, it is important that a school identified via the achievement profiles as having poor academic performance is in fact academically deficient. Also, valid data are necessary to identify schools with academic deficiencies in order to target resources for improvement. One strategy to determine if the achievement profile results are valid is to evaluate whether or to what extent they are corroborated by other measures of school quality.

Data must be consistent over time in order to measure change and evaluate the impact of public policies. The achievement profiles have undergone fundamental changes in the first two years of implementation and these changes disrupt the longitudinal consistency of the data. As a result, it may be impossible to interpret changes in the achievement profiles. If a school improves or declines according to the

achievement profiles, the change can be attributed to several equally plausible explanations: improvements at the school level, changes in state testing policies, or revisions in the formula. The inability to narrow the possible explanations limits the extent to which stakeholders can evaluate the impact of Arizona LEARNS. At the school level, data inconsistencies confound the ability of educators to use achievement profile results to make data-driven decisions about curriculum and instruction.

Over time, there are three specific threats to the development of sound data. The first is inaccuracies in the underlying data. Inaccurate test score results, such as the miscues that hampered the early implementation of AIMS, can diminish the quality of the school classification data. Additionally, much of the data is collected at the school level, which requires the ADE to conduct training continually to communicate policy changes and keep pace with staff turnover at the local level.

Second, changes in state laws, policies, or both can introduce further inconsistencies. Any legislative or administrative decisions involving any of the academic indicators can affect the quality of the data. The most obvious example is the state board revisions to the Achievement Profile formula in 2003 that disrupted the longitudinal consistency of the data. Most recently, the state board has approved other changes to testing policies, such as combining the Stanford 9 and AIMS into a dual-purpose test and lowering the AIMS eighth grade cut score. As policy makers consider changes to Arizona's academic indicators, they must remain mindful of how their decisions affect the achievement profile data. If the alterations are substantial, the data will effectively "start over again" and hinder the ability to evaluate the impact of state policies.

Third, school and district responses to the school accountability provisions can affect the interpretation of the data, and in some cases may invalidate the data. In any accountability environment, the stakes must be high enough to prompt local reaction, and schools and districts will pursue actions to maximize their results on the academic indicators. The ideal response is bolstered curriculum and instructional practices that yield improvements in student achievement.

Local school boards, school districts, or charter operators also make other decisions that on the surface may not appear to affect school accountability data but do have a substantial impact. For example, changes in school boundaries or the re-configuration of a school can disrupt the longitudinal consistency of the data. Schools may shift how they implement state testing policies, which can alter the composition of the student population tested and confound inferences made from the data, either within a school or between schools. In the extreme, as consequences increase, so does the likelihood of unethical behavior, such as gaming and cheating, to maximize results.[24] These types of unprofessional responses will likely invalidate the data.

Key Unanswered Policy Questions

Proposition 301 and NCLB are intended to improve public education. In light of this stated purpose, the key unanswered policy questions are, "In what ways, for whom, and to what extent is public education actually improving in Arizona?"

Proposition 301 lacks a comprehensive evaluation of the accountability policies that could address some of the unanswered questions.[25] Currently, the available data, such as student test scores and graduation rates, are part of the accountability system itself. These are indispensable indices of educational improvement. The use of the same indicators as the sole criteria to measure educational improvement, however, can lead to a narrowing of school priorities and a limited perception of Arizona's public schools. The three unanswered policy questions are intended to broaden the collective focus to consider issues outside a strict application of school accountability policies.

To What Extent Does Learning as Evidenced Within the Accountability System Transfer or Generalize to Other Indicators of Learning?

The generalization of outcomes is important because students should learn a broader set of skills than what is ultimately on state tests, and students should be able to apply their knowledge in settings other than paper and pencil tests. The Arizona academic standards are comprehensive but do not include all of the possible learning outcomes that the public hopes schools teach and students learn. Learning outcomes are

further narrowed because the AIMS and the Stanford 9 tests represent a sample of the academic standards. Therefore, AIMS scores reflect student achievement on a subset of the academic standards, which are themselves a subset of the possible learning outcomes schools might address. For example, the ability to apply mathematics principles and procedures in real-life settings is currently not assessed directly with paper-and-pencil tests in Arizona and some other states. In addition, the state tests use specific types of item formats, mainly multiple-choice, which do not allow students the opportunity to demonstrate the full range of their abilities, such as oral communication skills.

An important policy question involves determining the extent to which the academic achievement indicators included in the accountability system are corroborated by independent measures of student learning not included in the accountability system. This confirmation is critical to assessing the extent to which academic achievement outcomes can be considered learning. One cannot assume that test scores are necessarily synonymous with student learning. The goal of learning is the ability to apply knowledge that is learned in one setting to a different setting. If students have learned, the improvement in AIMS and Stanford 9 scores should be reflected in other measures of students' learning. Evaluating for broader learning outcomes as measured by other instruments would protect against teachers' training students to take specific tests rather than teaching to the more general learning objectives.

Evidence of improved student learning beyond the evidence provided by AIMS and Stanford 9 would be reassuring and convincing evidence that education is improving in some broader and more generalized sense. This point of discussion does not challenge the validity of the current assessments or accountability system. More broadly based evidence, some of which might corroborate the gains in AIMS and Stanford 9, would contribute to claims about improvements in public education

This type of study has been conducted to evaluate state-level, high-stakes graduation test policies using national tests such as ACT and AP scores.[26] Other assessments, such as the National Assessment of Educational Progress (NAEP), could be used to evaluate the extent to which students' learning is improving beyond the more narrow evidence provided by AIMS and Stanford 9 data. In addition, the independent

measures can expand beyond other tests to include desirable outcomes, such as completing a rigorous high school curriculum, readiness for postsecondary education, and workforce preparation.

What Are the Unintended Outcomes of School Accountability Policies?

A comprehensive evaluation of school accountability policies assesses the extent to which the stated goals of the policy have been achieved, and also examine unintended outcomes. The stated goals of accountability policies could be evaluated by analyzing changes in AIMS and Stanford 9 scores, as well as attendance and graduation rates, all of which are highly desirable outcomes. Examining only these desired outcomes and ignoring the systematic study of possible unintended outcomes, however, presents an inadequate picture of the program's impact and a narrow vision of what "improving public education" might mean.

The evaluation of unintended outcomes is not a "witch hunt" or an attempt to demean a state policy. Rather, it is a routine component of serious scientific program evaluation. An objective evaluation identifies both negative and positive unintended outcomes, assuming they both exist. School accountability policies could have numerous potential unintended outcomes including, but not limited to, an impact on these important aspects of education:

- Student retention and dropout rates.
- Student placement decisions or tracking.
- The depth and breadth of school curricula and course offerings.
- The type of instructional practices used by classroom teachers.
- Teacher morale and behavior.
- Teacher retention and recruitment.

What Other Public Institutions and Agencies Can Be Held Accountable for Improving Public Education?

The current accountability program places almost exclusive responsibility for student achievement on the K-12 educational system, specifically schools and educators.

This focus seems obvious and appropriate. Schools, however, are not the sole agent in the education of Arizona's public school students. The final unanswered policy question leads to a broader consideration of which other public institutions and agencies should be held responsible in a comprehensive educational accountability program.

Local school boards, teacher organizations, district, county, and state agencies are major contributors. Their actions, and inactions, have a meaningful, although not always directly obvious, influence on student learning and the improvement of public education. Lastly, colleges of education, the institutions that prepare new teachers for our schools, have to some extent been exempt from the evaluation of their role in the improvement of K-12 education.

Local school boards are included in school accountability policies through the ballot language requirement. This requirement does not take effect for several years, however, and local school boards continue to interpret and shape policies in the interim. During this time, state and national governing board associations can play an active role in training their members on school accountability requirements.

Teacher organizations can influence their members to support state programs and facilitate the delivery of valuable professional development activities that would help teachers assist their students in meeting the academic standards. Various governmental agencies can likewise look for opportunities, both in terms of financial resources and professional development efforts, to support teachers' instruction and thereby students' learning. State requirements for teacher certification, for example, can be reviewed to evaluate the extent to which they are likely to identify teachers highly qualified to assist K-12 students in their efforts to reach state academic standards. Likewise, public colleges are a major source to replenish the existing workforce. In 2002, the public colleges of education graduated a combined total of approximately 2,000 beginning educators to a state teacher workforce of approximately 46,000.[27, 28] The alignment of these colleges' academic program with the state academic standards and accountability requirements can be examined.

Recommendations

It is recommended that:

1. The Arizona legislature expand the scope of school accountability policies to include evaluating the role and impact of local school boards, teacher organizations, colleges of education, and district, county, and state agencies that affect student learning and therefore should be held accountable for improving public education.
2. The Arizona legislature authorize and fund the Arizona Department of Education (ADE) to create an independent evaluation team, composed of personnel who are not responsible for directing and managing the accountability program, to review the accountability system.
3. The Arizona legislature authorize and fund the ADE to develop a comprehensive, systemic, and external evaluation of school accountability policies that includes, but is not limited to, the academic indicators already included in the school accountability system.

Notes and References

[1] Arizona Legislature (2000). Chapter 1, 44th Legislature, 5th Special Session. Retrieved February 2, 2004, from http://www.azleg.state.az.us/legtext/44leg/5s/laws/0001.htm

[2] According to ARS §15-241, the minimum number of schools required to trigger the ballot language is defined as more than two schools in a district and more than one-half of, or in any case more than five, schools in a district.

[3] Arizona Legislature (2000). Chapter 1, 44th Legislature, 5th Special Session. Retrieved February 2, 2004, from http://www.azleg.state.az.us/legtext/44leg/5s/laws/0001.htm

[4] Arizona Legislature (2002). Chapter 284, 45th Legislature, 2nd Regular Session. Retrieved February 2, 2004, from http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/legtext/45leg/2r/bills/hb2658h%2Ehtm&DocType=B

[5] *Ibid*.

[6] Mobile students are defined as students who have attended a school for less than one academic year. Stable students are those who have attended a school for *at least* one academic year.

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[14] A list of the 2002 classifications for all schools is available online at http://www.ade.az.gov

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[16] Arizona Department of Education (2003, November). AZ LEARNS Summary. Retrieved March 15, 2004, from http://www.ade.state.az.us/azlearns/AZ_LEARNS_Summary_111903.pdf

[17] Technical manuals that detail the formula for each version of Arizona LEARNS and documents from the state board and legislative proceedings are available at the ADE website, (www.ade.az.gov).

[18] The statewide school district totals are inflated because charter schools may be reported as both a school and a district.

[19] Laczko-Kerr, I. (2004, February 11). Personal communication (e-mail).

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The Condition of Assessment of Student Learning in Arizona: 2004

Executive Summary

Reports of student achievement help policy makers in Arizona make effective decisions about resources and programs. Two commonly cited data sources for measuring achievement – the National Assessment of Educational Progress (NAEP) and the Stanford Achievement Test (Stanford 9) – contradict each other. The NAEP shows that Arizona students overall, and at-risk students especially, lag behind most other states, whereas the Stanford 9 shows that Arizona students perform slightly above the national average. A third source of achievement data, Arizona's Instrument to Measure Standards (AIMS), offers the potential of having the greatest validity, but it is not completely developed, has not been in place long enough to provide valid longitudinal data, and does not allow for comparison to other states.

Recommendations

It is recommended that:

- The Arizona Department of Education (ADE) develop a comprehensive database that includes valid indicators of student learning as well as in-school and out-of-school indicators reasonably believed to influence student achievement.
- The ADE concentrate state assessment resources on the AIMS, using it to provide the achievement information sought by a wide range of constituencies and agencies.
- The ADE resolve the contradiction between the NAEP and Stanford 9 results if Arizona continues to use both these tests.
- The ADE validate the large gains over time reported by the Stanford 9, and if the gains are shown to be valid, investigate the factors associated with them: whether teaching and student learning are improving, and whether schools or districts have successful programs that are producing unusually high gains in student learning.

The Condition of Assessment of Student Learning in Arizona: 2004

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Background

Arizona has many reasons to be concerned about current assessments of student learning. Teachers and parents need valid information to help children learn and to guide them in their careers and life aspirations. State and local policy makers need valid information in order to build strategies to improve student learning. Businesses seek assurance that they will acquire a work force that is well-educated and capable of helping the economy grow. Finally, in accordance with the well-accepted notion of education as a primary means of advancing and benefiting our nation, recent federal legislation, the No Child Left Behind Act of 2001 (NCLB), requires accurate monitoring of student learning in order to measure yearly progress of students, schools, and school districts.

Validity of Interpretations of Student Learning

Any tool used to assess student learning must be validated. In educational testing, "validity" refers to the degree to which an interpretation of a measure of student learning

is trustworthy. The *Standards for Educational and Psychological Testing*[1] provides guidelines for establishing and improving the validity of test scores and of their interpretation and use in order to draw conclusions about student learning. The American Education Research Association (AERA) has published guidelines to be used when a test has high stakes—that is, when it becomes the primary or sole determinant of whether a student advances a grade or earns a diploma, or whether a teacher, school, or school district is to be rewarded or punished in some way.[2]

Which Tests Offer the Most Valid Information About Student Learning?

The above-mentioned test guidelines consistently state that to assess student learning in a valid manner requires the use of several indicators. Such indicators may include course grades; district, state, or national test scores; and teacher evaluations. An assessment tool is considered more likely to be valid when its conclusions are confirmed by other sources of information about student learning. Additionally, to be valid, an assessment also needs the following:

1. A set of content standards that identifies the content that guides instruction.
2. Evidence that all students have had one or more opportunities to learn the content standards.
3. Tests aligned to the content standards.
4. Information about in-school and out-of-school factors believed or known to influence learning, so as to create a context for interpreting student learning.
5. Evidence that the test information is accurate and not corrupted by threats to validity, such as cheating, scoring errors, inappropriate test preparation, lack of motivation, inappropriate test administration, inability of students to read the items on the test, and other conditions that impede valid testing.[3]

Arizona has three achievement measures of student learning: Arizona's Instrument to Measure Standards (AIMS), the Stanford Achievement Test (Stanford 9), and the National Assessment of Educational Progress (NAEP).

Of these three tests, only the AIMS is directly aligned to the state's content standards. For that reason, if the AIMS is administered without threats to validity, it is more likely than the Stanford 9 or the NAEP to be an accurate measure of student learning in Arizona. Unlike the other two tests, however, AIMS offers no normative information by which to make comparisons with students from other states. Also, AIMS is a relatively new test and lacks longitudinal data by which to assess student learning over time. As AIMS is further developed and administered, and as school districts and their teachers adopt and use the content standards, the data from these tests offer the most promise of accurately measuring student achievement in Arizona.

The Stanford 9 is based on a generic, national curriculum that relies on content standards commonly espoused by national societies such as the National Council of Teachers of Mathematics. It is not known to what extent the Stanford 9 is aligned to Arizona's content standards; therefore, claims that it measures what is being taught in Arizona schools are not valid. In order to make such claims, research would be needed on the alignment of the Stanford 9 to Arizona's content standards for all grade levels and subjects. The Stanford 9 provides nationally representative norms by which Arizona students can be compared to other students across the country. There is some disagreement about the validity of these norms, however, as discussed later in this brief.

The NAEP is the United States' only long-term, scientifically-based system for tracking student achievement. The NAEP's interpretations of state and national trends are supported by a wealth of validity studies, and wield an increasing influence on federal and state policies.[4]

Like that of the Stanford 9, the curriculum framework of the NAEP is national in scope and not necessarily aligned to Arizona's content standards; and, as is true for the Stanford 9, an alignment study is needed to see how well the NAEP aligns to Arizona's content standards.

The NAEP is not a conventional test. It consists of blocks of items randomly assigned to blocks of students. These blocks of item responses are used to make estimates of achievement for different groups of students. This strategy economically provides valid interpretations of student achievement based on national standards.

Individual student scores are not obtained, however. Valid state-to-state comparisons can be made only if the national curriculum frameworks are common to all states being compared and if the sampling plan for the NAEP thus provides truly representative estimates of student achievement.

Each of these tests offers some benefits but also has some limitations for assessing student learning. The use of multiple indicators of student achievement provides a stronger, more valid assessment of student learning. Obtaining more measures of student learning is costly, however, making this strategy unlikely when resources are limited.

Recent Developments

Most states have used standardized achievement tests to measure student learning. In recent years, educational reform has motivated a more systematic approach to measure and assess student learning: content standards are created, instruction is based on these content standards, and state-level tests are designed to sample these content standards accurately. The precision involved in aligning curriculum, instruction, and testing has long been a principle of effective teaching.

In 1996, Arizona participated in this reform effort by creating a set of highly regarded content standards and creating Arizona's Instrument to Measure Students (AIMS).[5] In the first four years, AIMS testing became a very controversial matter with the public, particularly because it was intended to influence high school graduation, and field testing indicated a high rate of failure. Currently, the AIMS is undergoing considerable revision, aimed at improving its validity for the purposes explained at the beginning of this brief.

The No Child Left Behind Act of 2001 (NCLB) was intended to improve student achievement. One of its primary goals is to improve the learning of chronically low achievers. With NCLB Act, Congress reauthorized the Elementary and Secondary Education Act (ESEA) as it affects education from kindergarten through high school. Four key principles governing NCLB are (1) accountability for results; (2) an emphasis

on using research to drive innovations; (3) expanded options for parents; and (4) expanded local control and flexibility.

Arizona has recently received and evaluated bids for new testing services, and has selected the TerraNova CTBS test created by the California Test Bureau/McGraw-Hill (http://www.ctb.com/). Consequently, the current state-mandated test that provides norm-referenced interpretations, the Stanford 9, will be replaced by the TerraNova CTBS, which also produces nationally normed test scores.

Although the next section presents results that include the Stanford 9, Arizona will be using a new test in the future for its norm-referenced interpretations. However, the discussion of the Stanford 9 and the findings reported is relevant to the adoption of the TerraNova and its use in Arizona in the future.

Available Data

This section presents information about the achievement of Arizona students in comparison with student achievement in other states, and about changes in the achievement of Arizona students in reading, writing, and mathematics over the past decade. An inquiry about the status of student learning can be framed in two questions:

1. How do Arizona students compare with students in other states in reading, writing, and mathematics?
2. How has the performance of Arizona students in reading, writing, and mathematics changed over the past decade?

Both NAEP and Stanford 9 test results have been used to answer these two questions.

Results and Discussion for NAEP

Table 1 shows the NAEP report of reading achievement for grades four and eight compared to achievement throughout the nation, and for Arizona from 1992 to the present. The results suggest that Arizona students are below the nation's average in

achievement. In fact, Arizona is one of the lowest achieving states in the United States, based on mean performance in all years where reading was assessed in grades four and eight. Of 53 states and jurisdictions tested, scores were lower in three states, higher in 42, and about equal to Arizona's in seven states. Furthermore, the NAEP results show a flat trend in reading achievement both in Arizona and in the nation. The fluctuations in scores are very small and may be due to random error and sampling bias. Thus, reading achievement does not seem to have changed very much, either in Arizona or in the nation at large.

Table 1: Reading Achievement in Arizona and in the Nation for Grades 4 and 8

Grade 4	**1992**	**1994**	**1998**	**2002**	**2003**
Arizona	209	206	206	205	209
U.S.	215	212	213	217	216
Grade 8	**1992**	**1994**	**1998**	**2002**	**2003**
Arizona	*	*	250	257	255
U.S.	*	*	261	263	261

Source: Nation's Report Card, http://nces.ed.gov/nationsreportcard/
*Not Assessed

Table 2 shows writing achievement for just two assessment years. Arizona is well below the nation's average in both grades assessed, grades four and eight.

Table 2: Writing Achievement in Arizona and in the Nation for Grades 4 and 8

Grade 4	1998	2002
Arizona	*	140
U.S.	*	153
Grade 8	**1998**	**2002**
Arizona	143	141
U.S.	148	152

Source: Nation's Report Card, http://nces.ed.gov/nationsreportcard/
* Not Assessed

Table 3 shows results for mathematics achievement. As Table 3 indicates, Arizona is four to five points below the nation's average in all years assessed for grade four. There is a two- to three-point discrepancy for the eighth-graders for a comparable assessment period. Unlike achievement in reading, mathematics achievement shows small gains both in Arizona and in the nation.

Table 3: Mathematics Achievement in Arizona and in the Nation for Grades 4 and 8

Grade 4	1990	1992	1996	2000	2003
Arizona	*	215	218	219	229
U.S.	*	219	222	224	234
Grade 8	**1990**	**1992**	**1996**	**2000**	**2003**
Arizona	260	265	268	269	271
U.S.	262	267	271	272	276

Source: Nation's Report Card, http://nces.ed.gov/nationsreportcard/
*Not Assessed

In the absence of context, any test result reported can lead to faulty causal reasoning or an incorrect conclusion. Context variables should include in-school and out-of-school information that may influence learning. Two examples of out-of-school factors are social capital and intelligence. Students and classes of students with high

social capital and above-average intelligence tend to score very high on achievement tests, and students and classes with low social capital and below-average intelligence tend to score very low on these tests (Nation's Report Card, available at http://nces.ed.gov/nationsreportcard/).

Tables 1, 2, and 3 show that Arizona student achievement scores are substantially below the nation's average. An examination follows regarding conditions that may have accounted for these results, and considers two themes: threats to valid interpretation, and the need for obtaining greater clarity about findings by disaggregating results.

Table 4 shows student reading achievement for grades four and eight in three at-risk categories for Arizona and the nation: students who have an Individual Education Plan (IEP), students classified at Title I and who receive free lunch, and students who are English Language Learners (ELLs). These results are not remarkable, except for the fact that the percentages of at-risk students in Arizona exceed the percentages of at-risk students nationally. Thus, Arizona's national standing appears to be directly related to the differences in proportions to variables associated with chronically low-performing students. Table 4, however, also shows that for the three at-risk categories, Arizona students consistently score a few points lower than their national at-risk counterparts. It is also important to note that the way that states classify students as having an IEP or being an ELL may vary; thus it is difficult to make valid comparisons between one state and the aggregate of all other states if methods for identifying at-risk students differ. Nonetheless, a valid observation can be made that the achievement trend for all students is flat over assessment years considered in this report.

Table 4: Analysis of Student Reading Achievement by At-Risk Factors

		Arizona		U.S.	
Grade 4		**Percentage in Sample**	**Average Score**	**Percentage in Sample**	**Average Score**
IEP	**Yes**	7%	177	9%	185
	No	93%	211	91%	221
Free/Reduced Lunch	**Yes**	52%	194	46%	201
	No	48%	225	54%	229
Title I	**Yes**	38%	187	36%	201
	No	62%	217	64%	226
ELLs	**Yes**	18%	177	8%	186
	No	82%	216	92%	221
Grade 8		**Percentage in Sample**	**Average Score**	**Percentage in Sample**	**Average Score**
IEP	**Yes**	8%	214	5%	222
	No	92%	259	95%	265
Free/Reduced Lunch	**Yes**	43%	241	38%	247
	No	57%	265	62%	271
Title I	**Yes**	26%	240	21%	245
	No	74%	263	79%	267
ELLs	**Yes**	16%	219	5%	222
	No	84%	261	95%	265

Source: Nation's Report Card, http://nces.ed.gov/nationsreportcard/

Results and Discussion of Stanford 9

Table 5 provides Arizona's percentile rank on the Stanford 9 in reading, mathematics, and language for the years 1999 to 2003. These data provide the basis for the summary data and for the discussion that follows. Because of the complexity of the data found in Table 5, an analysis of variance (ANOVA) was performed to examine main effect differences among grade levels, subject matters, and time and among all three first-

order interactions. A technical note on this analysis and the results of that ANOVA are given at the end of this paper.

Table 5: Reading, Mathematics, and Language Percentile Ranks for Grades 2–9 for a Five-year Period

Grade	Subject	1999	2000	2001	2002	2003
2	Reading	50	52	53	57	49
	Mathematics	51	55	57	61	63
	Language	40	43	44	48	57
3	Reading	47	48	50	50	60
	Mathematics	49	52	54	56	59
	Language	51	54	56	57	54
4	Reading	54	54	55	55	52
	Mathematics	54	55	57	58	60
	Language	49	48	50	50	57
5	Reading	51	51	51	53	49
	Mathematics	54	55	57	59	61
	Language	44	45	45	47	54
6	Reading	54	53	54	56	49
	Mathematics	59	60	63	65	66
	Language	44	44	45	47	57
7	Reading	53	52	53	55	59
	Mathematics	55	56	58	60	61
	Language	54	54	55	58	55

Grade	Subject	1999	2000	2001	2002	2003
8	Reading	54	53	55	56	53
	Mathematics	54	56	58	59	61
	Language	49	49	50	52	56
9	Reading	43	43	43	43	44
	Mathematics	57	59	61	62	63
	Language	39	40	41	42	44

Source: Arizona Department of Education.
http://www.ade.state.az.us/ResearchPolicy/SAT9Results/2003/default.asp

Table 6 provides a summary of data from Table 5 dealing with the differences among grade levels across all subjects and years of data collection. The results were statistically significant, and accounted for 13.4 percent of the variance of these percentile ranks. However, note that grade nine produced the lowest scores and the highest standard deviation. The fluctuations of percentile ranks for grades two through eight were very small indeed. The lower score in grade nine may result due to one or more causes. First, ninth graders may no longer see the Stanford 9 as an important test and therefore make less of an effort because the AIMS takes on high-stakes importance. Second, schools may no longer emphasize the Stanford 9, and therefore may be less likely to use test preparation and other measures designed to increase scores. Excepting the ninth-grade results, scores fluctuate very little across grade, regardless of when the assessments occurred.

Table 6. Overall Achievement Scores (in Mean Percentile Ranks) by Grade

	2	3	4	5	6	7	8	9
Mean	52	53	54	52	54	56	54	48
Standard Deviation	6.7	4.0	3.5	5.1	7.4	2.7	3.5	9.1

Source: Arizona Department of Education.
http://www.ade.state.az.us/ResearchPolicy/SAT9Results/2003/default.asp

Table 7 summarizes data from Table 5 by subject matter. As indicated there, scores are significantly higher in mathematics than in reading and writing. Mathematics scores are well above the national average, and reading and writing scores are very close to the national average. These findings contrast sharply with NAEP findings that show Arizona students at grades four and eight to be substantially below the nation's average. The standardized difference between these mean scores is substantial. Since the standard deviation of all percentile ranks is 5.897, mathematics scores are extraordinarily high.

Table 7: Reading, Mathematics, and Writing Scores Across All Years and Grades

	Reading	Mathematics	Writing
Mean	51.65	58.000	49.200
Standard Deviation	4.234	3.749	5.640

Source: Arizona Department of Education
http://www.ade.state.az.us/ResearchPolicy/SAT9Results/2003/default.asp

Table 8 summarizes data from Table 5 for reading, writing, and mathematics across the years 1999 to 2003. The following results are the most noteworthy. Scores increase substantially over the five assessment years. The differences for mathematics and writing show substantial growth. The magnitude of this growth greatly exceeds more than one standard deviation (5.897) of these percentile ranks. The increase in reading scores is less pronounced, and a slight decline is noted in 2003. These results do not correspond with NAEP trends that show no increases of this magnitude in any of the three subject areas.

Through the years, some speculation has been offered about the nature of increases in published test scores since the time of publication of a particular edition of a test such as the Stanford 9. This test score "creep" or "drift" has been suspected to be caused by teaching to the test or excessive or unethical test preparation.[6] Such practices are known to occur, but their extent is a matter of considerable debate and in need of

more research. Nonetheless, the achievement gains on the Stanford 9 in Arizona do not seem to be correlated to NAEP data.

Table 8: Reading, Mathematics, and Writing Scores for Each Year of the Assessment.

	1999	2000	2001	2002	2003
Reading	50.750	50.750	51.750	53.125	51.875
Mathematics	54.125	56.000	58.125	60.000	61.750
Writing	46.250	47.125	49.286	49.111	54.250
All subjects	50.375	51.292	53.297	53.880	55.958

Source: Arizona Department of Education. http://www.ade.state.az.us/standards/science/standard1.asp

This last section of the study focuses on the reading, mathematics, and writing scores of English Language Learners (ELLs) as compared to the state average. Comparisons may also be made with other at-risk groups, but the results will be similar to those reported here. The omission of other groups from this final analysis should not suggest that their situation is of less concern: the situation with the ELL population seems to be the most severe of all at-risk groups.

Table 9 shows the status of ELLs on a normative percentile rank scale for the Stanford 9. ELL percentile ranks for all grades and subject areas are well below the national norm (50th percentile) and Arizona's above-average percentile ranking, as shown in Table 5. The differences are very large in all instances.

Table 9: Reading, Mathematics, and Language Scores for the 2003 ELL Students

	2	3	4	5	6	7	8	9
Reading	30	23	36	23	26	22	25	27
Mathematics	40	35	37	36	41	38	37	41
Language	22	34	28	24	21	24	20	19

Source: Arizona Department of Education.
http://www.ade.state.az.us/researchpolicy/SAT9Results/2003/default.asp

These results for ELLs are more consistent with NAEP results in two ways. First, the differences between at-risk groups and the national and state averages are very large. Second, the problem seems to be persistent at all grade levels reported. It would also be useful to know how this gap has changed over years, but these data are not available at this time. NCLB has as one of its goals reducing the gap between at-risk and other students. To the extent that this goal is met, future results of state assessments should show a reduction in this gap. However, the current data sources do not seem adequate to the task.

Lake Wobegon Effect

The humorist Garrison Keillor coined this phrase to describe a mythical Minnesota town where all the children are above average. John Cannell[7] adopted this phrase to exemplify a peculiar finding that all states were above the national average in their statewide assessments as based on their publisher's standardized achievement test scores. This state of affairs may arise from practices in the schools that inflate test scores without appreciably improving learning. These practices include selecting content that matches the test (teaching to the test), cheating, unethical test preparation, unethical test administration, and sanitizing answer sheets[8]. Gains reported in Arizona based on Stanford 9 scores may not be validated by trend data reported by NAEP for the same time in Arizona, calling into question the validity of the Stanford 9 results. The trend data in the Stanford 9 also show exceptional gains in student learning, but the validity of an interpretation that says Arizona students are learning more does not seem borne out by other data reported here. Moreover, the Stanford 9 is not necessarily the best achievement measure, as it is not aligned to the state's content standards.

Quality of Available Data

Neither of the original questions about the achievement of Arizona students, either over time or in comparison with the achievement of students elsewhere, can be answered with assurance, because no data source provides the quality of information needed. Although AIMS has the greatest potential to track growth in student

achievement in an accurate manner, this testing program is very young and still under development, and it will take several years before valid trend data can be reported. The Stanford 9 has the serious limitation of not being aligned to content standards, yet the Stanford 9 does have the advantage of providing normative information about student achievement. Like the Stanford 9, the NAEP provides normative data, but, also like the Stanford 9, is not linked to Arizona's content standards.

The NAEP data offers a picture of no achievement gains in reading, mathematics, and writing (language) over recent years both nationally and in Arizona. NAEP findings suggest that Arizona students are doing poorly in comparison to other students across the nation.

The Stanford 9 data, however, suggest that Arizona is performing well above the national average for most grades and subject matters. The trend data clearly show that Arizona students are learning more each year in all subjects reported in this study. This anomaly calls into the question the validity of norms for the NAEP or the Stanford 9 tests and the validity of score interpretations for the Stanford 9, where it has been suggested that the Lake Wobegon effect may in fact be operating.

Key Unanswered Policy Questions

As a result of the foregoing discussion and the data reported, several key unanswered policy questions arise:

1. Which data source, Stanford 9 or NAEP, is most valid in indicating the status of Arizona learners in relation to students from other states?
2. Do Arizona students lag behind their national counterparts in reading, writing and mathematics?
3. To what extent are Arizona students, particularly those who are at risk, making adequate annual progress?

Recommendations

Arizona is not yet able to use student achievement data effectively to inform policy makers about student learning. A comprehensive database of student achievement would serve a number of purposes for the state. Those purposes include:

- Implementing accountability measures called for in NCLB and in state mandates to monitor student achievement and to improve conditions for learning in poorly performing schools.
- Monitoring high-school graduation testing and the graduation and drop-outs in the state.
- Evaluating achievement of at-risk and other students, both in comparison with the nation and across years in the state in order to guide reforms to improve student learning.
- Conducting occasional policy studies for various constituencies, agencies, and organizations.
- Evaluating specific programs or reform efforts in the state.
- Informing teachers and other school leaders about student learning to guide and improve instruction.

The Nation's Report Card (http://nces.ed.gov/nationsreportcard/), which represents the compiled results obtained from the NAEP, offers a suitable model for such a comprehensive database. Such a database is publicly accessible and affords users a variety of options to answer a wide range of policy-related questions. The Nation's Report Card includes information on student factors, factors existing outside of schools, instructional content and practices, teacher and school factors, community factors, and state government factors, all of which would increase the usefulness of a state database. The Nation's Report Card also offers expertise and background useful for developing a comprehensive and meaningful state database. The NAEP, on which the Report Card is based, also offers public access and training to researchers and policy analysts who desire to ask more complex questions. Although it yields state-specific data, however, the

NAEP does not provide scores for each student, and its test items are not keyed to the state's content standards; therefore, it is unable to fill Arizona's need for a comprehensive database.

Large gains that have not been validated in Stanford 9 scores over the years suggest anomalies between NAEP and Stanford 9 national norms and results. Very different conclusions follow depending on which data source is used, creating a large discrepancy that make suspect the validity of either conclusion.

Of the tests most commonly used to measure achievement, the AIMS appears to have the greatest potential to offer valid interpretations for a variety of purposes. The state's nationally recognized content standards and the AIMS have received national recognition, and have been widely supported by educators and the public. Improving the assessment system can contribute to the better understanding of what it takes to increase student learning, particularly for those students who are at-risk and have the poorest record of achievement.

It is recommended that:

1. The Arizona Department of Education (ADE) develop a comprehensive database that includes valid indicators of student learning as well as in-school and out-of-school indicators reasonably believed to influence student achievement.
2. The ADE concentrate state assessment resources on the AIMS, using it to provide the achievement information sought by a wide range of constituencies and agencies.
3. The ADE resolve the contradiction between the NAEP and Stanford 9 results if Arizona continues to use both these tests.
4. The ADE validate the large gains over time reported by the Stanford 9, and if the gains are shown to be valid, investigate the factors associated with them: whether teaching and student learning are improving, and whether schools or districts have successful programs that are producing unusually high gains in student learning.

The data in Table 5 provided the basis for answering this three-part research question: is there is a difference in student learning as a function of (1) grade level, (2) subject matter, and (3) time? First order interactions were considered in this analysis but a second order (three-way interaction) was not done for two reasons. First, there was no plausible hypothesis to test for a three-way interaction, and the main effects analysis accounted for most of the variance of these scores.

Normally, one would not use ordinal data for analysis of variance. ANOVA is very strong, however, to minor violations in assumptions; and the effects to be detected were large enough that this violation of the assumption about the scale used in this analysis did not threat the validity of this analysis. Effect sizes were calculated as the percentage of total variance accounted by the independent variable. The results appear in the table below and provide the justification for the discussion of this report in the text.

Independent	**SS**	**Df**	**MS**	**F**	**P**	**R^2**
Grade level	552.561	7	78.937	13.981	<.001	10.5%
Subject matter	1643.073	2	821.536	145.505	<.001	31.2%
Year	496.481	4	124.120	21.983	<.001	9.5%
Subject matter	155.284	8	19.411	3.438	.003	2.9%
Grade level *	73.518	28	2.626	0.465	0.985	-
Grade level*	878.105	14	62.722	11.109	<.001	16.7%
Residual	1450.035	106	13.686			
Total	5250.057	119				

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The Condition of Choice in Arizona Public Schools: 2004

Executive Summary

School choice in Arizona takes the form of either charter schools (since 1995) or education tax credits (since 1998). About 8 percent of public school students in Arizona are enrolled in charter schools, compared with slightly over 1 percent nationally. The ethnic composition of Arizona charter schools roughly mirrors that of the traditional Arizona public schools. No credible data exist to answer the question whether students in charter schools are performing better academically than they would have performed had they remained in traditional public schools. No data on special education students' participation in charter schools exist. Since the inception of the Arizona Education Tax Credit program in 1998, approximately $170 million has been diverted from state revenues and allocated to this program. No comprehensive data exist to verify whether this program enabled any public school students to move to private schools. Policy analysts, journalists, politicians, educators, and citizens need data on school choice in Arizona that clearly show trends over many years in the growth and operations of these programs. Only slight modifications in how certain data are collected and reported would be needed to facilitate their use by other parties.

Recommendations

It is recommended that:

- The State Board for Charter Schools include legislative staff and non-governmental policy analysts in data collection discussions so that the needs of multiple audiences can be served by the data collected.
- The State Board for Charter Schools expand its data collection efforts to include information on the participation in charter schools of children with special needs. Such data do not now appear to exist.
- The State Board for Charter Schools' website clearly spell out corporate relationships among charter holders.
- The Arizona Department of Education collect data on transfers from public schools to private schools as a result of award of a tuition scholarship from a School Tuition Organization.

The Condition of Choice in Arizona Public Schools: 2004

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Background

School choice as a state-wide policy issue in Arizona exists in two forms: charter schools and tuition tax credits. Both laws can be viewed as the "half-a-loaf" for which voucher supporters settled. Repeated attempts to pass school voucher legislation in Arizona (the most recent occurred in February 2004) have failed.

Charter Schools

The Arizona State Legislature passed the Charter School Law (Arizona Revised Statutes, Education Code §15-181 to §15-189) in 1994, effective September 16th of that year. The law was the blueprint by which all charter schools were to operate regardless of sponsorship. It allowed the State Board of Education, the Arizona State Board of Charter Schools, and local school districts to issue charters for the operation of charter schools.

The stated purpose of the law was "to provide a learning environment that will improve pupil achievement" and to "provide additional academic choices for parents and pupils" (A.R.S. §15-181).

In the original law (A.R.S. §15-183), schools were able to apply for "stimulus funds" to assist schools with the expense of opening a new school. The maximum award for each school was to be $100,000. The average award received was only slightly over $20,000. Although this provision of the law still exists, the legislature has not budgeted funds for it in the past five years. The law originally provided for a charter of five years, with renewal for seven years after the initial period. In 1996, the law was amended so that the length of the initial charter is now 15 years, with a review every five years.

Education Tax Credits

Arizona's Education tax credit law, passed and signed into law on April 7, 1997, is the second policy move intended to provide parents with school choice. That the education tax credit law was intended as a school choice initiative was made clear in the remarks of legislator Trent Franks who said, "… with Arizona's tax credit law, who needs vouchers?"

Arizona, Florida, Illinois, Minnesota, and Pennsylvania have enacted education tax credits into legislation. Proponents claimed that education tax credits will give low-income students the opportunity to attend private schools and that tax credits will improve all schools, both public and private, by increasing competition between schools for students.[1] Lisa Keegan, former Superintendent of Public Instruction in Arizona during the advent of the tax credit program, wrote: "…the inclusion of tax incentives to directly assist public schools helped sell the program not only to the Legislature but also to the public." The original legislation permitted contributions of $200 to public schools to support "extra curricular" activities that require a student fee, and contributions of $500 to school tuition organizations (STOs). STOs grant scholarships to students attending private schools and were a device to avoid church-state issues in the law—a device that proved crucial in the court test of the law. The law was upheld by a three to two vote of the Arizona Supreme Court in the spring of 1999.[2] Such contributions are a dollar-for-dollar credit against the donor's state income tax liability. Adding the fact that such contributions can be claimed on one's federal income tax return, a dollar contribution brings more than a dollar's tax reduction.

Recent Developments

Charter Schools

During the 2000 legislative session, Senate Bill 1302 was passed. The law removed differences between the two sponsoring boards (the State Board of Education and the Charter School Board) and school districts, which could also issue charters. School districts could issue unlimited numbers of charters, but the other two agencies could not issue more than 25 charters per year. The limits on the two boards were lifted in Senate Bill 1302. The new law also restricts district sponsorship only to schools located within the boundaries of the sponsoring district.

In 2003, the State Board of Education issued a moratorium on its own awarding of charters and turned over monitoring of all schools that it had chartered to the State Board for Charter Schools. The State Board of Education will not issue charters in the future. (See ADE Interagency Service Agreement No. 04-00-ED.)

Education Tax Credits

In 2002, the allowable contribution to STOs was increased to $625 for married couples filing jointly (A.R.S. § 43-1089). The amount for public school extra-curricular fees was increased to $250.

Available Data

Charter Schools, Students, and Expenditures

A couple of technical definitions are required to understand the reporting of data on Arizona charter schools.

ADM (Average Daily Membership) is the "total enrollment of fractional and full-time students, minus withdrawals, of each school day through the first one hundred days …." (A.R.S. § 15-901).

Total Revenues include School Plant, State and Federal Projects, Building Renewal, Deficiencies Correction, and New Schools Facilities funds. In FY 2001 and

2002, Total Revenues include Soft Capital Outlay in addition to the funds included in the previous year (A.R.S. § 15-901).

To obtain any plausible estimates of charter school activity in Arizona, data from many sources must be analyzed and reconciled. The specific problems with disparate sources of data that require this integration of different sources of information are discussed below under the *Evaluation of Available Data* section. The authors' best estimates of the numbers of students, operating schools, and revenues for charter schools from the 1995-96 to the 2002-03 school years appear in the following table:

Table 1: Estimated Numbers (100th Day ADM) of Charter School Students, Schools, and Total Revenues for Arizona (1995–2004)

	1995-1996	**1996-1997**	**1997-1998**	**1998-1999**	**1999-2000**	**2000-2001**	**2001-2002**	**2002-2003**	**2003-2004**
Students	7,350	16,650	25,500	36,250	46,350	55,586	65,769	75,135	*
Schools	51	133	163	252	322	339	391	446	460

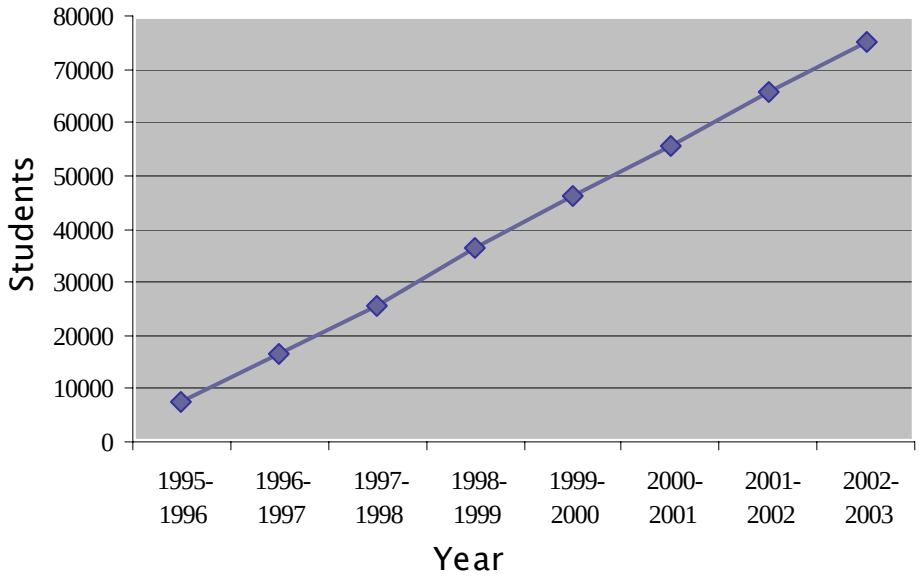
Sources: 1995-96 to 1999-2000 (Nunez, D.R. [2001]). Counting Students in Arizona Charter Schools. Dissertation, Arizona State University); 2000-01 to 2002-03 (Arizona Department of Education, Research and Policy Section); 2003-04 (U. S. Department of Education Common Core of Data).

* A figure for 2003-04 charter enrollments of approximately 73,000 students appears to have originated in the Charter Schools Office of the U.S. Department of Education, but the number is not an actual count and may be some sort of "projection" (Personal communication. March 15, 2004, Ildiko Laczko-Kerr, Arizona Department of Education, Research and Policy Section).

As the graph on the following page shows, charter school enrollments in Arizona have followed a nearly linear progression for seven years, without signs of abating. While the student population of Arizona traditional public schools has been growing at a rate of slightly under 3 percent per annum, the charter school population has grown at a much faster rate: from a rate of increase of 42 percent from 1997-98 to 1998-99 to a rate of growth of 14 percent from 2001-02 to 2002-03. The declining growth rate occurs as a natural consequence of growing at a fixed numerical rate (there is a "cap" on the number of new schools chartered each year).

Figure1

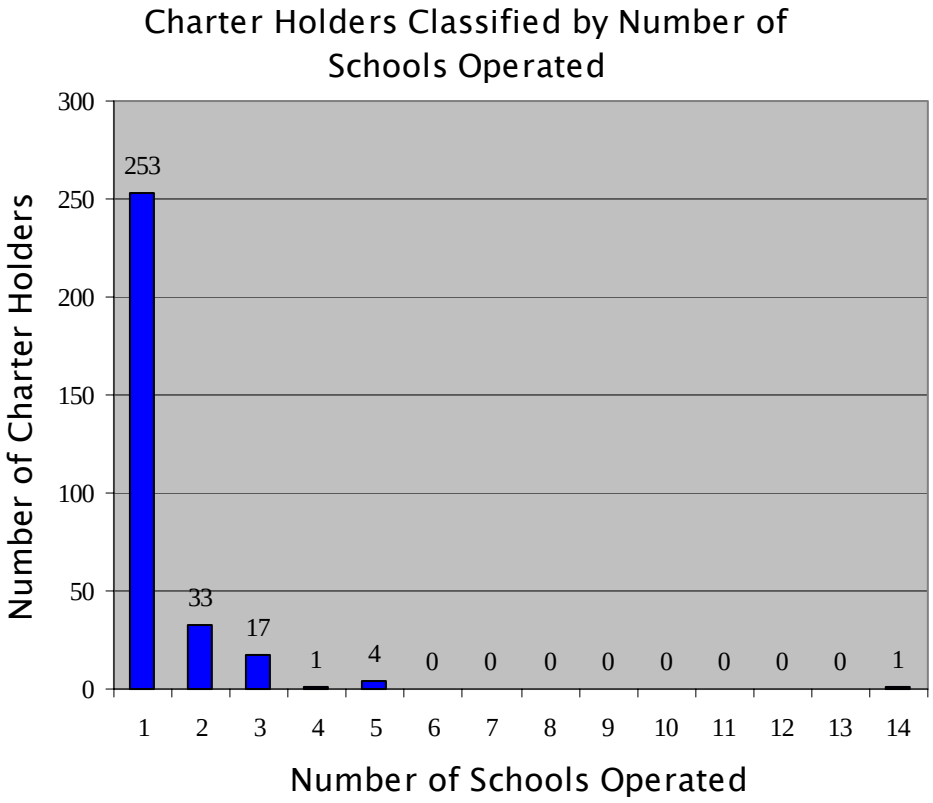
Student Enrollments (100th Day ADM) in Arizona Charter Schools (1995–2003)



Although Arizona ranks first in the nation in the number of charter schools, it ranks below California (112,000) and Michigan (55,000) and just above Texas (38,000) in numbers of students in charter schools in 2000-01, according to the U.S. Department of Education Common Core of Data. In 2002-03, 7.8 percent of all public school students in Arizona K-12 were enrolled in charter schools. This figure contrasts with 1.2 percent of public school students nationally enrolled in charter schools.[3]

It is important to track across years the number of charter schools that are operated by charter holders. Such data could reveal trends in consolidation of schools under increasingly larger charter school companies, yet such data are not readily available. For 2003-04, the distribution of charter schools by holders was calculated by counting from the website of the Arizona Charter School Board for only those charters granted by the Board (nearly 90 percent of all charter schools). See the figure on the following page.

Figure 2



Source: (http://www.asbcs.state.az.us/asbcs/CharterSummary.asp)

The charter holder that operates 14 different charter schools is Portable Practical Education Preparation (PPEP) Affiliates (http://www.ppep.org/). The four charter holders operating five separate charter schools each are Humanities & Sciences Academy of the United States, Inc.; Ideabanc, Inc.; Ombudsman Educational Services, Ltd.; and Renaissance Educational Consortium, Inc.

It must be added, however, that simple counts of numbers of "charter holders" is of limited value since the same corporate entity may (and often does) take out several charters. For example, the company Pinnacle Education operates nine separate charter schools under eight different charter holder names (e.g., Pinnacle Education Mesa Inc, Pinnacle Education Tempe Inc., Pinnacle Education Casa Grande Inc., etc.). Likewise, Sequoia Charter Schools, Inc. operates nine different charter schools under six different charter holder names (e.g., Sequoia Charter Schools LLLP, Sequoia Charter Schools LLC, Sequoia Village School, etc.). Excel Education Centers LLC operates eight

different charter schools under seven different charter holder names. More difficult to discover is the fact that one large company, whose charters were also issued by the Arizona State Board for Charter Schools, operates 12 schools—11 in Maricopa County and one in Pima County. Oddly, this company's name does not appear in the State Board for Charter Schools listing of charter holders. Instead of appearing under the corporate name, a school's charter is held in the name of a "company" whose name matches the name of the school. For example, Tempe Accelerated High School is operated by a company named Tempe Accelerated Public Charter High School, which is really The Leona Group LLC (or rather The Leona Group Arizona LLC, which itself is a subsidiary of The Leona Group LLC). Hence, the name "Leona" does not appear in the listing of charter holders at the Arizona State Board for Charter Schools website. (See the Leona Group LLC at http://www.leonagroupaz.com/.) This company also operates 21 charter schools in Michigan. Putting all these multiple school operating organizations (companies running three or more schools) together yields a figure of 23 corporate entities operating more than 120 charter schools, or approximately one out of every four charter schools. There are several more closely related charter-holder names in the Charter Board's list of holders that probably represent corporate ties, but one can not be sure (e.g., Heritage Academy, Inc. and Heritage Elementary School are separate charter holders).

The ethnic composition of Arizona Charter Schools has been a matter of concern to some. Certain researchers have claimed a "re-segregating" effect of the growth of charter schools.[4] Others have disputed such claims.[5] October enrollment data (100 Day ADM) disaggregated by race and ethnicity, gender, and grade level for the years 1994-97 were obtained from the Arizona Department of Education (ADE) School Finance Division for all public elementary and secondary schools in Arizona. The same data were acquired from the ADE for charter schools for the years 1995-98. All public schools, including charter schools, are required to report October 1 enrollments by race and ethnicity, gender, and grade level. The ADE Research and Policy Section provided ethnic composition data for later years.

The ethnic composition of Arizona charter schools from 1995-96 to 2002-03 is as follows:

Table 2: Ethnic Composition (Percent of Total) of Arizona Charter Schools from 1995–96 to 2002–03

	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
White	60%	55%	61%	61%	58%	57%	56%	55%
Black	10	7	6	7	8	7	7	7
Hispanic	20	16	18	22	24	26	28	30
Asian	1	1	2	2	2	2	2	2
Native American	9	20	13	8	9	8	2	7

Sources: 1995-1999[6]; 1999-00[7]; 2000-01[8]; 2002-03[9].

No marked changes in ethnic composition of charter schools are apparent. Aside from some start-up fluctuations, the only consistent trend of any consequence appears to be a gradual increase in the percentage of Hispanic students in charter schools from under 20 percent in 1995-96 to around 30 percent in recent years. In 1999-00, the ethnic composition of Arizona charter schools roughly mirrored the ethnic composition of all Arizona traditional public schools, with 58 percent vs. 54 percent White or Anglo and 30 percent vs. 33 percent Hispanic. For the nation as a whole, in 1999-00, the ethnic composition of charter schools was 43 percent White or Anglo, 33 percent Black, 19 percent Hispanic, 3 percent Asian, and 2 percent Native American.[10]

Comprehensive data on the participation of special education students in charter schools do not exist, although there is some suggestion in very limited datasets that children with severe disabilities are underrepresented in charter schools and that children with mild conditions ("learning disability") are over-represented.[11]

"Stimulus funds" is the term used in the charter school legislation to designate monies provided to help charter holders cover the expenses of opening new schools. No such funds have been budgeted by the legislature in the past five years. In the first four years of the program, however, $10.4 million was awarded to 188 schools. Of this amount, approximately 40 percent was spent on capital expenses (equipment, buildings,

and the like), and another 40 percent of the expenditures was unaccounted for by the Arizona Department of Education, Charter School Division.[12] (The ADE no longer has a Charter School Division, since all charter schools have been moved to the State Board for Charter Schools.)

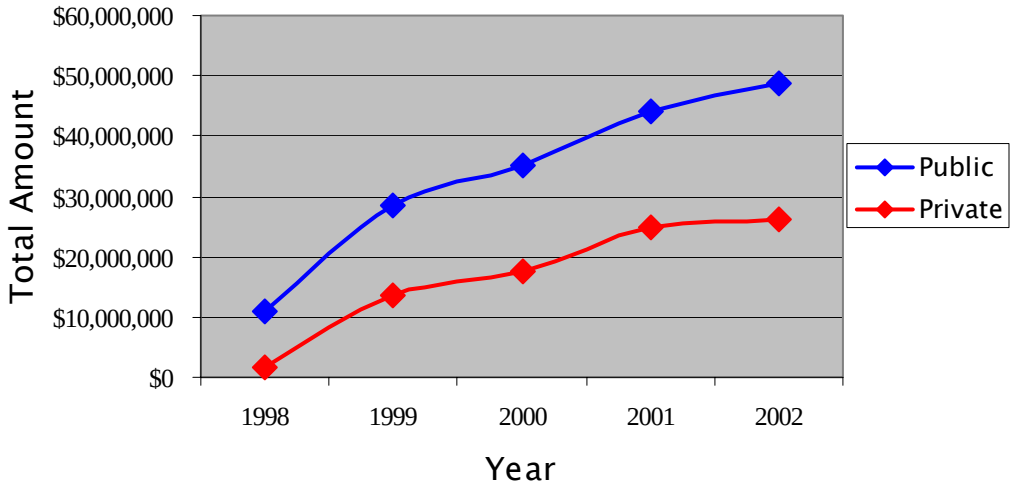
Table 3: Education Tax Credits Taken under Arizona's Education Tax Credit Program Classified by School Type and Year (1998–2002)

	1998	1999	2000	2001	2002	Total
Private	$1,816,799	$13,716,791	$17,620,022	$24,865,295	$26,169,177	$84,188,084
Public	$8,990,042	$14,775,353	$17,514,774	$19,224,488	$22,455,129	$82,959,786
Total	$10,806,841	$28,492,144	$35,134,796	$44,089,783	$48,624,306	$167,147,870

Source: Arizona Department of Revenue.

Figure 3

Tax Credits Taken Under Arizona's Education Tax Credit Program by School Type and Year (1998–2002)



In the first year of the program (1998), public school contributions outpaced contributions to STOs by more than four to one. By the second year, contributions were nearly equal and have remained so through 2002. Total contributions have risen more than 400 percent in the first five years of the program. Nearly $170 million has been diverted from state revenues since the inception of this program. A far greater number of students in public schools than in private schools are potentially recipients of the benefits of tax credits. On a per-pupil basis, tax credit redirections in 2002 were $24 per pupil in public schools versus $565 per pupil in private schools.[13]

Evaluation of Available Data

Charter Schools Data

It has proven difficult to track a consistent indicator of charter school activity over time. The most authoritative data on Arizona charter schools were compiled by Nunez[14], who consulted financial records and enrollment data held by the Arizona Department of Education (ADE) and the State Board for Charter Schools, and interviewed charter school directors and officials in districts which chartered schools. Not incidentally, Nunez's work was part of dissertation research at a state university and thus represents uncommon effort expended in collecting data—uncommon, that is, for agencies charged with keeping particular records but not expected to do extensive research. Nunez's data stops with the 1999-00 school year, unfortunately. When the data stream is picked up beyond Nunez's work in the ADE's Annual Reports, several problems are encountered. For some years, only schools and their students whose charters were granted either by the Charter School Board or the State Board of Education are reported; district-sponsored chartered schools are not included in the charter school counts. In later years, it appears that all charter schools are included in the counts, but the reports are ambiguous. Within the ADE, discrepancies in data exist regarding the number of charter schools and student enrollment counts. Caution should be exercised when interpreting data, since different sections within the ADE may use different definitions, selection criteria, or original documents in reporting results.

Finance data appear to be most complete, for obvious reasons. But even there, non-reporting by charter schools is common, far more so than for traditional public schools, since the former were nurtured in an environment of anti-government regulation. For example, in 1999-00, expenditure data were first reported based on 23,179 students in charter schools; later, these numbers were updated to include data for 29,727 students in charter schools (The second report was footnoted with the message "This report was substantially revised and corrected from the printed Annual Report."). At the same time, the Department of Education's own count was 35,172 students enrolled (ADM) in charter schools.

In addition to data collected by the Arizona Department of Education, data are available from U.S. Department of Education surveys that form the basis of the Common Core of Data (CCD). These data include counts of students attending charter schools in each state, but it is unknown the degree to which these data are an accurate count. Many organizations report CCD data, however, often uncritically or without the necessary definitions or qualifications to make them as accurate as they could be. The resulting multiplicity of information can form a confusing picture.

The Arizona State Board for Charter Schools website is particularly unhelpful. The only state-aggregated data that can be found there are total numbers of charter holders and operating sites (http://www.asbcs.state.az.us/asbcs/).

The counting of charter school "holders" (individuals, groups of persons, organizations, or companies) is as complex as counting operating schools and students. The Arizona State Board for Charter Schools lists 309 "holders" of charters it has granted, as of 2003. The ADE shows 337 "holders" receiving funding in 2002-03, but this number had to calculated by counting entries "by hand" on a long page of expenditures at the ADE website. Data on the distribution of numbers of charter schools operated by charter holders are not readily available. Such numbers had to be counted "by hand" from long lists on websites for the current academic year (2003-04), and raw data could not even be found for prior years.

Education Tax Credit Data

Financial data are generally of much higher quality than other types of data concerning schools, particularly so when revenue departments are tracking monies. The most serious lack of information on which to base an evaluation of the Arizona Education Tax Credit program is information about how many students attending public schools switched to private schools as a result of the availability of scholarships. Since this was the original intent of the law, such information is crucial to any evaluation and judgment of the law's success. The authors know of no such data nor of any plans to collect it .

Key Unanswered Policy Questions

Charter Schools

No credible data have been analyzed addressing the question whether students attending charter schools perform better academically than they would have performed had they attended a traditional public school. Mulholland[15] concluded an evaluation of Arizona charter schools' academic performance as follows: "Student achievement data (as measured by Stanford Achievement Test 9 for 1997 and 1998) appear to indicate—in a preliminary way—that charter school students are achieving similar academic gains to students attending regular public schools. However, an experimentally controlled research study over a longer period of time is needed to adequately understand achievement group differences and trends." Long-range controlled experiments are not the province of government agencies already overburdened with mandated record keeping.

Questions concerning the potential re-segregating effects of charter schools can not be answered by aggregate statistics and state or even school district levels, for it is possible for the entire student population of Arizona to re-segregate into ethnically homogeneous schools without its affecting state-level statistics on the ethnic composition of the schools. Exit (from traditional public schools or vice-versa) interviews are the most accurate way to gauge this phenomenon, but they are beyond the budget of an already financially strapped system.

Although longitudinally consistent data do not exist, the evidence of a small number of companies operating a large number of schools is obvious in 2003-04 and should be tracked across time. No provisions for doing so appear to have been made.

The role of charter schools in the education of children with special needs is of concern. No data exist with which to form a judgment in the area.

Education Tax Credits

The intent of the tax credit law as argued for its passage was to enable poor families to have a choice between sending their children to a public school or a private school. Some $165 million later, Arizona is no closer to an answer to the question of whether any families have used the opportunity to exercise their right to this choice than the state was the mere prospect of such a choice was a speculative argument in legislative debates.

Recommendations

It is the understanding of the authors of this report that the State Board for Charter Schools has recently added staff to assume the responsibilities of data archiving and analysis. Efforts should be made to provide for the definition of indicators of charter school activity and performance that can be tracked consistently across the years. The effort will very likely call for some collaboration between the Charter School Board and the Arizona Department of Education in order to provide accurate data.

It is recommended that:

1. The State Board for Charter Schools include legislative staff and non-governmental policy analysts in data collection discussions so that the needs of multiple audiences can be served by the data collected.
2. The State Board for Charter Schools expand its data collection efforts to include information on the participation in charter schools of children with special needs. Such data do not now appear to exist.
3. The State Board for Charter Schools' website clearly spell out corporate

relationships among charter holders.

4. The Arizona Department of Education collect data on transfers from public schools to private schools as a result of award of a tuition scholarship from a School Tuition Organization.

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The Condition of School Funding in Arizona: 2004

Executive Summary

For the past ten years, Arizona has been in the bottom five of the 50 states in terms of per pupil expenditure. It is Arizona's policy of restricting school district access to the property tax and a generally minimalist approach to school funding that have made Arizona's per pupil spending comparatively low. In a climate of low funding for public schools during the 1990s, the Arizona legislature enacted a variety of laws and provisions expanding charter schools, assumed responsibility for school construction costs, created a tax credit for citizens who contribute money to be used for private school scholarships, increased sales taxes through a citizen's initiative to increase school funding, and sought to use Indian gaming revenues to add to support for schools.

Recommendations

It is recommended that:

- The Arizona legislature review and reconsider its decision to fund school capital expenses, such as construction of new buildings and additions, upgrades, or repairs to existing buildings, from annual appropriations through Students FIRST (Fair and Immediate Resources for Students Today) legislation.
- The Arizona legislature and the Arizona Department of Education (ADE) either conduct a study of whether Arizona's school funding is adequate to support the state's education standards, or establish a means to formally review recommendations for adequacy in school funding developed by the Rodel Foundation.
- The ADE develop, using the National Center for Education Statistics (NCES) model, a common process to be used by all agencies for calculating school finance trends and details.

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Background

Setting the Stage in the 1980s

At the fall 2004 meeting of the Arizona Association of School Business Officials, a member of the Arizona Senate's Education Committee remarked, "Most education policies in the state come either from initiatives or court orders."[1] This observation omits the considerable influence state legislators have had on school finance, however. Funding public schools in Arizona is a state responsibility established in the Arizona Constitution, which charges the legislature to maintain a "general and uniform" system of schools. This brief examines how Arizona's public education funding has evolved over the last 25 years.

In national comparisons of per-pupil expenditures for public education, Arizona for the last decade has ranked among the bottom five states, leading only Utah in recent years. This has not always been the case (Table 1). Over four decades, Arizona's per pupil expenditure declined from above the national average to well below the national average.[2] This brief will discuss the changes in funding philosophy and the enacted policies that resulted in this comparative decline.

Table 1: History of Arizona and U.S. Average Expenditure Per Pupil, in Dollars (Unadjusted for Inflation).

	FY 60	FY 70	FY 80	FY 90	FY 00
Arizona	$404	$720	$1,971	$4,053	$5,444
National	$375	$816	$2,272	$4,980	$7,392
Percent of National	108%	88%	87%	81%	74%
Arizona Rank	19/50	29/50	28/50	38/50	49/50

Source: National Center for Education Statistics(NCES)(2003) Digest of Education Statistics.

Legislative Action

In 1973, plaintiffs in Arizona filed a lawsuit alleging that the state's method of funding schools was not equitable.[3] Similar suits have been filed in many states. The Arizona Supreme Court denied the suit on its merits, but the lawsuit nonetheless opened the door for change. At the time, Arizona funded schools much the way other states did: the state guaranteed a minimum level of funding, and local school boards had unlimited access to property tax monies, although tax increases were subject to voter approval. As in other states, the districts with a higher property wealth base tended to spend more for education than those with a lower property wealth base.

In 1980, the success of an equity lawsuit in California (Serrano v. Priest) prompted the Arizona legislature to reform school funding by adopting a new "equalizing" formula.[4] This reform also greatly limited a local school board's access to the property tax base and put the legislature in charge of the overall level of school funding.

The formula sets a Revenue Control Limit (RCL) for schools and contains three components: the state-guaranteed per-pupil funding level (known as the Basic Support Level, or BSL); the student count (known as Average Daily Membership, or ADM), which is weighted based on certain demographic details, such as grade level and disability, for each student, and a local contribution. The legislature also sets the

Qualifying Tax Rate (QTR) for local school districts, which establishes the local contribution. There are two QTRs: one for Unified (K-12) districts and one for elementary or high school districts.

Each year the legislature establishes an overall Basic Support Level and sets the Qualifying Tax Rate for local school districts. An individual district then applies various multipliers, including its unique ADM multiplier based on student demographics, to derive its particular funding level. The county levies local property taxes according to the Qualifying Tax Rate. Once the amount of money for which the district is eligible has been established, a combination of state allocation and local property taxes provides the guaranteed Basic Support Level (BSL) for school districts. By controlling both the BSL and the QTR, the legislature guarantees all districts approximately the same amount of money per pupil. Districts with a high property tax base get less state money and more property tax money; districts with a lower property tax base get more state money and less local property tax money.

The foundation level, or BSL, is only a starting point, however. Several multipliers allow school districts to increase their particular per-pupil spending figures. Table 2 contains a description of this formula.

Table 2: Components of Arizona School Funding

Components of Operating Funds Contained in the Revenue Control Limit
Weighted Student Count (X of BSL)
Base Support Level (BSL)
Teacher Experience Index (X of BSL)
Career Ladder* OR (X of BSL)
Optional Performance Incentive Program (X of BSL)
Transportation Revenue Control Limit
Capital Funds: Building Repair and Construction
Capital Outlay Revenue Limit
Capital Levy Revenue Limit**
Soft Capital
Operating Funds Not Included in Revenue Control Limit
K-12 and K-3 Overrides
Proposition 301, Classroom Site Fund
Proposition 202, Instructional Improvement Fund
Other State and Local Capital Revenue
Capital Funding Through the School Facilities Board
School District Capital Bonds

*Not a part of the originally adopted formula in 1980.
** CLRL was replaced by Soft Capital with Students First legislation in 1998.
X = Multiplier

The intent of the legislature in creating this new funding system is clear in the language used in the bill and in the terminology of the formula:

> The legislature intends by this act to increase the authority and responsibility of local school boards in determining how revenues will be utilized. Beginning in the 1980-81 fiscal year disparities in operational revenues among districts will be reduced on an annual basis until complete equalization is reached in the 1985-86 fiscal year.[5]

The effect of the 1980 funding formula revision was to cut Arizona's per-pupil spending on education to 81 percent of the national average, from 87 percent before the revision—gaining equity among school districts by leveling downward. With its emphasis during the 1990s on restricting the growth of educational costs and tying increases in funding to desired outcomes, the legislature permitted only minimal increases most years in the Base Support Level (BSL), and no increases in 1994 and 1997.

In the early 1990s, the legislature enacted two outcome-linked funding policies that allowed districts to increase their BSL. These policies, the Optional Performance Incentive Program and Career Ladders, both tied teacher pay to evaluation and performance. School districts participating in one or the other of these programs can increase their BSL up to an additional 5.5 percent.[6]

Although the legislature, seeking to slow the growth of education spending, held down increases in the BSL during the 1990s, average expenditures per pupil nonetheless rose (Table 3), reflecting the growing share of education costs borne by local property taxes.

Table 3: Changes in Foundation Level Compared to Changes in Arizona and U.S. Per Pupil Expenditures.

Year	Arizona Foundation Level (BSL)*	Percent Change	AZ Average Exp. Per Pupil**	Percent Change	U.S. Average Exp. Per Pupil	Percent Change
1994	$2,410.26	0.0	$4,611	***	$5,767	***
1995	$2,458.47	2.0	$4,778	3.6	$5,989	3.8
1996	$2,462.94	0.2	$4,860	1.7	$6,147	2.6
1997	$2,462.64	0.0	$4,940	1.6	$6,393	4.0
1998	$2,499.53	1.6	$5,122	3.7	$6,676	4.4
1999	$2,532.60	1.3	$5,235	2.2	$7,013	5.0
2000	$2,578.41	1.8	$5,444	4.0	$7,392	5.4
Total Change	***$168.15***	***	***$833***	***	***$1,635***	***

Sources: Arizona Department of Education and NCES
*Before ADM and other multipliers
**After ADM and other multipliers

During the seven-year period from 1994 to 2000, the foundation level increased $168 (7 percent), while the Arizona per pupil expenditure increased $833 (18 percent) and the U.S. average per pupil expenditure increased $1,635 (28 percent). The legislature's emphasis on holding down education spending had two effects. First, it allowed Arizona's ranking for education spending per pupil to fall from 39th place to 49th place among 50 states. Second, it decreased the state's share of the cost of education and shifted a greater burden onto the local property tax.[7] In part, this shift resulted from special items outside the formula and special property-tax-limit overrides, both of which are discussed next.

Local Districts' Discretion With the Property Tax

Although the legislature's revised school funding formula restricted districts' ability to raise local property taxes, the formula did include a provision allowing districts to seek voter approval for budget "overrides." Through a general override, a school district may increase its operating revenue from local taxes up to 10 percent of the Revenue Control Limit. In addition, a district may also increase its operating revenue by 5 percent of the K-8 portion of the RCL specifically for K-3 programs.[8]

To hold schools accountable to property taxpayers, the legislature mandated that override measures would expire after seven years, with the override rolled back by 33 percent in year six and another 66 percent in year seven. Thus, a local school board seeking to maintain a stable source of revenue from overrides must submit the question to the voting public every five years. Increased use of overrides and increases in the dollar amount of overrides during the 1990s increased the proportion of education funds coming from local taxpayers.

In addition to overrides, the legislature subsequently gave school districts the power to raise local taxes without voter approval for two separate, specific purposes. The first, Excess Utilities, allowed school districts to levy for rapidly increasing utility costs caused by the 1982 energy crisis. The second, the Desegregation levy, allowed certain school districts to levy additional taxes to pay for programs that were a part of either a federal court order or an agreement with the federal Office of Civil Rights to address inequitable educational opportunities for a racially divergent population.[9]

Proposition 301 (discussed later in this brief) eliminated the Excess Utilities provision as of 2009. Although legislators have expressed an interest in eliminating or containing the Desegregation levy, doing so might be challenged as a perceived interference with either a federal court order or agreement with the Office of Civil Rights (OCR). The legislature has instead opted to freeze Desegregation expenditures in 2003 and 2004 and is seeking to extend that cap for an additional two years while studying a way to "permanently amend §15-910." [10]

Elimination of Excess Utilities will reduce funding by $81 million for the school districts involved, creating the likelihood of financial distress for these districts. Capping Desegregation levies may eventually precipitate program problems, federal litigation, or both. Desegregation expenditures are now close to $200 million annually, the loss of which would have a substantial impact on the school districts levying a tax for supplemental programs and staff.

Charter Schools

In 1994, with the passage of charter school legislation, Arizona entered the free market system for public schools. The new law authorized three different governmental agencies—local school districts, the State Board of Education, and the newly created State Board for Charter Schools—to grant charters. This enabled the number of chartered public schools to grow rapidly: from 51 schools serving 7,350 students in 1995, to 460 schools serving 73,550 students in 2003—nearly 10 percent of the total student population in Arizona.[11]

Charter school funding is similar to the funding of local school districts: money flows through the equalization formula with weighted ADM. There the similarity ends. Charter schools do not have access to a local property tax base or other programs that enhance the Base Support Level (BSL). As a result, charter schools get all of their funds from the state, up to the full amount of their BSL. There are two notable funding differences for charter schools: (1) with the passage of Students FIRST (discussed later in this brief), charter schools were excluded from any capital assistance from the state and were exempted from the constitutional requirement to provide a "general and uniform" system of education; (2) in lieu of transportation assistance and capital assistance, the legislature authorized lump sum "additional assistance" payments to charter schools, with the amount based on student count.[12]

In addition to offering families educational choices, charter schools do not appear to be as expensive to operate as district schools (Table 4). One reason is that they enroll significantly fewer special education students than district schools, which affects the ADM multiplier. Although the dataset in Table 4 does not include all of Arizona's districts and charter schools, it is sufficiently large to demonstrate a point: in 2002,

district schools spent $841 more per ADM than charter schools. The savings per student translates into a total savings of $36,915,695 for this particular sample, plus any capital costs the state would have incurred to house these students under Students FIRST. If the per-student savings amount holds for the entire 2002 charter school population of 57,725 students, the total savings becomes $48,546,735, plus capital costs.

Table 4: FY02 Expenditure Per ADM for Traditional and Charter Schools Based Current Expenditure and ADM Reported.

District Type	Total Expenditure	Attending ADM	Expend. Per ADM
Unified (K-12)	$3,065,384,371	514,702	$5956
Elementary (K-8)	$1,235,400,212	212,665	$5809
High School (9-12)	$464,556,300	71,644	$6484
Above Combined	$4,765,340,883	790,011	$5964
Charter School	$224,902,854	43,895	$5123

Source: Arizona Department of Education, State Superintendent's Report, 2001-2002.
Note: Does not include all districts and charter schools.

Students FIRST

Also in 1994, the Arizona Supreme Court decided that the state's practice of allowing local communities to determine capital expenditures (school construction costs) for schools violated the "general and uniform" language of the Arizona constitution. The high court's ruling in the case *Roosevelt v. Bishop* forced the legislature to equalize capital costs as it had equalized operating funds 14 years earlier. In a follow-up ruling in 1996, the Supreme Court ordered the legislature to develop an acceptable solution within two years or face closure of the state's schools. The Students FIRST (Fair and Immediate Resources for Students Today) legislation was signed into law in July of 1998.[13]

In a design that differed from capital assistance programs in most other states, the legislature established a new Arizona School Facilities Board and assigned it the responsibility for creating standards for school facilities and administering appropriations for school construction and renovation. These appropriations were funneled through

three separate funds: New School Facilities, Building Renewal, and Deficiencies Correction. Before the passage of Students FIRST, local school districts sold bonds to finance construction. The new legislation relied instead on annual appropriations from the legislature and restricted school districts to a more limited use of bonds to supplement funding from the School Facilities Board. The appropriations history for Students FIRST is found in Table 5.[14]

Table 5: Appropriations for Capital Construction FY 99 to FY 03 (In Millions)

Fund	FY 99	FY 00	FY 01	FY 02	FY 03	Total
New School Facilities	$200	$185	$200	$166.75	$400	$1,151.7
Building Renewal	$75	$82.5	$122.73	$62.065	$38.274	$380.569
Deficiencies Correction	$35	$50	$150	($56)	$15	$194
Total	***$310***	***$317.5***	***$472.73***	***$172.815***	***$453.274***	***$1,726.3***

Source: Joint Legislative Budget Committee, K-12 Funding (M&O, Capital, and All Other) FY 1995 Through FY 2004 (2/19/ 04).

When the administration of then-Governor Jane Hull forecast a downturn in state revenues, the legislature in 2000 relaxed its opposition to bonding and incorporated in Proposition 301 (details of which follow), a provision permitting the Arizona School Facilities Board to sell $800 million in construction bonds. The bonds were to be repaid with dedicated revenue from the sales tax increase contained in Proposition 301.

Proposition 301

In November of 2000, voters approved by a 53- to 47-percent margin a ballot question initiated by the legislature that raised the Arizona sales tax to 5.6 percent from 5 percent. The additional revenue was forecast at $445 million in the first year and estimated to grow to $800 million in ten years. Under a sunset provision, the entire increase is to be rolled back after 20 years.

Proposition 301 included provisions related to public schools, universities, community colleges, and the Arizona Department of Education. For K-12 public

education, the most prominent relevant provisions funneled some of the increased sales tax revenue to a new Students FIRST Debt Service Fund, to pay off newly permitted construction bonds, and to a new Classroom Site Fund. The proposition also extended the school year to 180 days from 175. Table 6 shows the amounts deposited in the two funds and the cost of additional school days transferred to the Department of Education. Sales tax from revenue generated by the increase for FY 02 and FY 03 is also shown.[15]

Table 6: Proposition 301 Tax Revenue and Fund Amount

	FY 02	**FY 03**
Students FIRST Debt Serv.	$69,997,137	$63,181,210
Addition School Days ADE	$17,933,408	$32,963,233
Classroom Site Fund	$251,523,404	$252,321,383
Total Above Items	***$339,453,949***	***$348,465,826***
Total Sales Tax Revenue	***$439,105,225***	***$447,841,034***

Source: Office of the Auditor General (2004, February). Arizona Public School District's Dollars Spent in the Classroom: Fiscal Year 2003.

The Students FIRST Debt Service Fund was established as a first lien against revenue to repay up to $800 million in construction bonds. The Classroom Site Fund allocations are calculated on a per-pupil basis and distributed to local school districts under guidelines that call for using 20 percent of the funds for teacher base pay increases, 40 percent for teacher pay for performance, and 40 percent for a prescribed menu of programs. Table 7 lists different ways in which school districts have spent the money received from the Classroom Site Fund.[16]

Table 7: Percentage of Expenditures on Options from Proposition 301

Menu Option	Percentage of Expenditures	Number of Districts
Teacher Compensation	73.3%*	156
Teacher Development	8.6%	80
Class-size Reduction	8.5%	46
Dropout Prevention	4.2%	35
Aims Intervention	5.2%	52
Teacher Liability Premiums	0.3%	3
Total	***100%***	

Source: Office of the Auditor General (2004). Arizona Public School District's Dollars Spent in the Classroom: Fiscal Year 2003.
* This figure is above 60% because of compensation for extra duties related to menu items which is within the spirit of the law.

Tuition Tax Credits

In 1997, the legislature, again in keeping with its support of free market education, passed the Arizona Scholarship Tax Credit Program. Proponents claimed that granting tax credits to donors who gave money to School Tuition Organizations (STO) would enable low-income students to attend private schools. A provision adding a tax credit for extracurricular activity fees for public schools was added to win support for the bill to pass.

The law provided for two income tax credits: the first, for a donation to a private school scholarship fund, is up to $500 for single taxpayers or up to $625 for families; the second, for donations to public schools for extra-curricular activities or character education programs, is up to $200 for a single taxpayer or up to $250 for families. It is a refundable tax credit program, meaning that if a person pays no income taxes, the state owes the amount of the deduction to the taxpayer. Tax revenue loss in 2002 for this tax credit program was $26,169,177 for private schools and $22,455,129 for public schools, for a total $48,624,306.[17]

Is the tax credit program accomplishing what it was intended to do—supporting low income children who wish to attend private schools? In a study published by the Arizona State University's Education Policy Studies Laboratory (EPSL), two populations of private school tuition recipients were examined.[18] Recipients were divided by family income above $50,000 Federal Adjusted Gross Income (FAGI) and those below $50,000 FAGI. Public schools receiving tax credit donations were divided into four groups by wealth. In the first year of the tuition tax credit program, the intended targets, low-income students, were not the primary beneficiaries of the program.

In a more recent study by the Goldwater Institute, a similar pattern of distribution of tuition tax credit dollars was identified. The study's authors suggested a reform referred to as "means-testing," directing some of the scholarship funds strictly to low-income students.[19]

Table 8: Arizona Private School Tuition Tax Credit Claimants Above and Below $50,000 Federal Adjusted Gross Income (FAGI) 1998

	Total	Below $50,000	Above $50,000
Number of Credits Taken	3,548	682	2,866
Percent of Total Credits	100.0%	19.2%	80.8%
Total Amount of Credits	$1,571,100	$249,655	$1,321,455
Percentage of Total	100%	15.9%	84.1%
Mean Credit Amount	$442.81	$366.06	$461.08

Source: Wilson, G. (2002, March). The Equity Impact of Arizona's Education Tax Credit Program: a Review of the First Three Years (1998-2000). Education Policy Research Unit, Doc. No. EPSL-0203-110-EPRU. Tempe, AZ; Education Policy Studies Laboratory. Retrieved May 5, 2004, from http://www.asu.edu/educ/epsl/EPRU/documents/EPRU%202002-110/epru-0203-110.htm

The second part of the EPSL study involved examination of public school tax credit donations for extra-curricular activities during the years 1998-2000. It should not come as a surprise that those schools from the wealthiest areas benefited more from the tax credit donation program (Table 9).

Table 9: Public School Extracurricular Activity Tax Credit Data on a Student Basis 1998-2000

Donation Amount Per Student	1998	1999	2000	3 year Program Total
All Schools	$8.82	$14.24	$17.62	$13.70
Poorest Quarter	$4.63	$6.46	$7.43	$6.24
Second Poorest Quarter	$4.75	$9.44	$10.47	$8.19
Second Wealthiest Quarter	$8.09	$13.60	$17.97	$13.35
Wealthiest Quarter	$15.88	$24.14	$29.28	$23.50

Source: Wilson, G.Y. (2002, March). The Equity Impact of Arizona's Education Tax Credit Program: a Review of the First Three Years (1998-2000). Education Policy Research Unit, Doc. No. EPSL-0203-110-EPRU. Tempe, AZ; Education Policy Studies Laboratory. Retrieved May 5, 2004, from http://www.asu.edu/educ/epsl/EPRU/documents/EPRU%202002-110/epru-0203-110.htm

Recent Developments

Initiative, Litigation and Legislation

School funding issues have continued to emerge in the three areas of initiatives, legislation, and court decisions. An initiative on Indian Gaming (Proposition 202), passed in November 2002, provides for a potential source of revenue by establishing an Instructional Improvement Fund. It remains to be seen how much this source will generate for 2004 and future years. The dollars are to be distributed to districts and charter schools on a per-pupil basis, with two limitations: up to 50 percent may be used for teacher compensation increases and class-size reduction; the remainder is to be used for dropout prevention and instructional improvement programs such as K-3 reading improvement.[20]

The lawsuit *Crane et al. v. the State of Arizona* has the potential for the greatest impact on the way in which Arizona's schools are funded. Plaintiffs claim that current funding is not sufficient to provide programming and staffing that will enable all students, particularly students in poverty, to achieve at a level established by the State's academic standards.[21] The case was recently dismissed by the trial court; an appeal to the

Arizona Supreme Court is being contemplated. Similar lawsuits have been filed in other states, and many have succeeded.[22] Additionally, a lawsuit alleging that the legislature's $90 million reduction in funding for the Building Deficiency Fund of Students FIRST is unconstitutional is also on appeal.

In the 2004 legislative session, Governor Janet Napolitano introduced legislation to provide full-day kindergarten. The program has a price tag of approximately $170 million when fully implemented, but contains the provision for a five year phase-in. The first year costs for full-day kindergarten are estimated at $25 million dollars. Staffing and supplies are estimated to cost $21 million; the remaining $4 million is for the School Facilities Board for additional facilities that may be required. If the program is enacted, the first beneficiaries would be schools where 90 percent or more of the children are eligible for the federal free and reduced lunch program.[23]

Available Data

Policy makers are careful about keeping track of taxpayers' money. This is evident in the area of school finance data. School districts and charter schools are held to a high standard of record keeping and reporting of financial information. School districts and charter schools must keep track of revenues and expenditures through an accounting system monitored by the Arizona Office of the Auditor General. In addition, state law requires districts to file an Annual Financial Report with the Arizona Department of Education to monitor whether or not revenues and expenditures remain within adopted limits. The law also requires districts to submit to annual audits performed by an independent auditor. Therefore, the state's school finance databases are quite extensive. Consistency of financial data is maintained through use of the Uniform System of Financial Records. In short, the data available are both accurate and sound.

Weaknesses in these data relate to what could be characterized as compilation of data on a longitudinal basis and the necessity to collect information from several agencies. Additionally, data more than three years old are more difficult to retrieve. Much is available in aggregate, and detailed questions about specific funding components require the cooperation of the maintaining agency. For example, the author sought

information on the costs of the Optional Performance Incentive and Career Ladders programs. Although the Arizona Department of Education indicated a willingness to provide the information, the response time was lengthy and the information could not be retrieved in a timely manner for inclusion in this brief. Another shortcoming is that no data on the characteristics of charter school teachers and administrators are collected.

Evaluation of Available Data

Information related to school finance comes from either the Arizona Department of Education or the Arizona Department of Revenue. As the process of financial record keeping is governed by the Uniform System of Financial Records, the data tend to be consistent over time. The Arizona Department of Education has been using an online collection and dispersal system called Student Accountability Information System (SAIS) that has created some data collection problems, but given time, the information collected will be accurate. The legislature appears to recognize the extent of problems with the system, as it included in Proposition 301 an allocation for a system upgrade.

Key Unanswered Policy Questions

The long-term policies in school finance are evident in the complicated design of school funding. By its actions, the legislature has set a series of priorities for Arizona school finance:

- First, to restrain educational spending, as evidenced in the equalization formula revision of 1980 and subsequent increases in funding for the Maintenance and Operations funds over the last quarter century.
- Second, to keep property taxes low, as evidenced by the restrictions placed on school districts in their access to the property tax base, with current attempts to eliminate previously granted options.

- Third, to direct how funding is to be spent by a local school district, as evidenced by tying increases in revenue to specific programs such as Optional Performance Incentive Program or Career Ladders. This priority is further demonstrated by the spending restrictions that are placed on increased funding through such measures as Propositions 301 and 202. It can be argued as well that by adopting the Arizona academic standards and the Arizona Instrument for Assessment (AIMS), the legislature is at least indirectly determining how tax dollars are spent by districts.

The most significant policy question to be faced in the near future is whether or not there is sufficient money in the system to offer the programs and support necessary for all students to achieve academically at the level established by academic standards. Litigation may force the issue, but the legislature might prefer to explore and answer this question before being required to by the courts. Arizona has achieved equity in school funding through the efforts of the legislature over the last two decades. The question to be addressed now is whether school funding also meets the test of adequacy.

Recommendations

In funding capital developments for Students FIRST out of annual appropriations, the legislature has set up a potential trade-off. Returning to bonding for capital construction would increase long-term costs, but also would free money annually that could be used to improve educational programs throughout the state.

A further question is whether current education funding is adequate to support state standards and assessment. Other states, such as Kentucky, Illinois, and New York, have embarked on studies of the adequacy of their education funding systems to guide future education funding decisions. Independent of the legislature, the Rodel Foundation is sponsoring an adequacy study in Arizona, to be released by the summer of 2004.

Although the data are available, no state report currently addresses standard questions of school finance policy: what is the average teacher's or administrator's

salary, for example, and what are the racial or gender demographics of school district employees? Having three different agencies calculating expenditures per pupil using different methods and inputs creates confusion. The National Center for Educational Statistics (NCES) offers a model for a common process for calculating school finances.

It is recommended that:

1. The Arizona legislature review and reconsider its decision to fund school capital expenses, such as construction of new buildings and additions, upgrades, or repairs to existing buildings, from annual appropriations through Students FIRST (Fair and Immediate Resources for Students Today) legislation.
2. The Arizona legislature and the Arizona Department of Education (ADE) either conduct a study of whether Arizona's school funding is adequate to support the state's education standards, or establish a means to formally review recommendations developed by the Rodel Foundation for adequacy in school funding.
3. The ADE develop, using the National Center for Education Statistics (NCES) model, a common process to be used by all agencies for calculating school finance trends and details.

Notes and References

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[3] King, R., Swanson, A., & Sweetland, S. (2003). *School Finance: Achieving High Standards with Equity and Efficiency.* New York:.Allyn and Bacon. pp. 277 and 278.

[4] Kind, R. A., Swanson, A. D., & Sweetland, S. R. (2003). *School Finance: Achieving High Standards with Equity and Efficiency.* New York, NY: Allyn & Bacon (p. 275).

[5] Hunter, M.,& Gifford, M. (2000). *School Finance Primer: A Taxpayer's Guide to Public School Finance.* Phoenix , AZ: Goldwater Institute.

[6] Optional Performance Incentive Program, A.R.S. § 15-919.

Career Ladders, A.R.S. § 15-918.

[7] Data from National Center for Education Statistics, *Statistic of State School Systems*, show a decline of state support and an increase in local support on a basis of percentage of overall support. With the passage of Proposition 301, and the accompanying increase in state funding, a reversal in this trend has occurred.

[8] Override Election, Budget Increases, A.R.S. § 15-481.

Special Override Elections, A.R.S. § 15-482.

[9] Excess Utilities, Desegregation Costs, A.R.S. § 15 – 910.

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[13] Geiger, P. E. (2001, August). Arizona Takes on School Construction and Renovation. *School Business Affairs , 67*, 76-79.

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