Table 3: Professional Development Series

		Math	Science	Technology	Integrated M/S/T	Other	Total
Elementary	Events	78	61			41	180
	Hours	424	404			173.25	1,001
	Participants	1,995	905			896	3,796
Elementary & Mid/Jr. High	Events	94	50	1	1	4	150
	Hours	361.5	202.5	3	2	15.5	584.5
	Participants	1,937	647	10	37	142	2,773
Mid/Jr. High	Events	36	57		5		98
	Hours	153.5	405		10		568.5
	Participants	959	795		129		1,883
Mid/Jr. High & High School	Events	16	21			9	46
	Hours	121.5	202			71	394.5
	Participants	174	198			125	497
High School	Events	40	15	1		4	60
	Hours	220	82	6		6	314
	Participants	874	89	16		30	1,009
Other Mixed Levels	Events	28	39	37		46	150
	Hours	98.5	189	142.5		201.5	631.5
	Participants	418	602	361		905	2,286
Total	Events	292	243	39	6	104	684
	Hours	1,379	1,484.5	151.5	12	467.25	3,494
	Participants	6,357	3,236	387	166	2,098	12,244

Table 4: Student Services Activities

		Math	Science	Technology	Other	Total
Pre-K	Events		5			5
	Hours		18			18
	Participants		97			97
Elementary	Events	9	731	8	8	756
	Hours	102	14,994	106	66	15,268
	Participants	633	49,598	142	343	50,716
Elementary & Mid/Jr. High	Events	20	115	9	8	152
	Hours	4,683.5	1,256.25	123	92	6,155
	Participants	13,444	16,558	383	1,251	31,636
Mid/Jr. High	Events	18	104	4	9	135
	Hours	379	1,221	62	32.5	1,694
	Participants	1,216	28,117	640	1,020	30,993
Mid/Jr. High & High School	Events	6	17	6	12	41
	Hours	312	256.25	125.5	154.5	848
	Participants	163	2,986	86	282	3,517
High School	Events	17	81	3	20	121
	Hours	1,283	2,611	16.5	114.5	4,025
	Participants	6,128	3,757	72	981	10,938
Other Mixed Levels	Events	10	26	2	4	42
	Hours	5,715	4,090.5	33	47	9,885.5
	Participants	81,685	30,006	194	202	112,087
Total	Events	80	1,079	32	61	1,252
	Hours	12,474.5	24,447	466	506.5	37,893.5
	Participants	103,269	131,119	1517	4,079	239,984

Appendix B

NINE YEAR SUMMARY DATA

SUMMARY OF PROFESSIONAL DEVELOPMENT ACTIVITIES 1996-2004

School Year	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-2002	2002-2003	**2003-2004**
Total PD Programs Offered	2,244	2,102	2,396	2,186	2,549	2,765	3,436	3,239	1,705
Total PD Program Hours	11,424	12,423	18,862	16,158	14,059	13,067	14,757	14,563	10,507
Total PD Enroll-ments	NA	44,113	47,068	40,160	43,655	47,210	21,904	51,527	28,540
Percent PD Science-Focused Programs	37%	29%	40%	32%	42%	40%	43%	36%	41%
Percent PD Math-Focused	19%	19%	19%	18%	17%	21%	23%	27%	30%
Percent PD Technol-ogy-Focused	6%	15%	4%	1%	9%	11%	7%	8%	15%
Percent PD Integrated M/S/T	38%	20%	34%	47%	19%	18%	15%	13%	1%
Percent PD Other	-	17%	3%	2%	13%	11%	12%	15%	14%

SUMMARY OF STUDENT ACTIVITIES 1996-2004

School Year	1995-1996	1996-97	1997-98	1998-99	1999-00	2000-01	2001-2002	2002-2003	**2003-2004**
Outreach -- Sessions	NA	3,930	2,825	5,110	6,763	6,514	6,990	5,024	1,252
Outreach -- Hours	NA	83,844	41,662	49,171	46,403	52,879.3	159,592	109,815.5	37,893.5
Outreach -- Partici-pants	NA	190,655	156,949	250,817	251,251	263,292	309,716	347,813	239,984

The program data above represent a significant decline in the amount of activities offered to teachers and students, the number of programming hours offered, and the number of enrollments in programs. **This clearly suggests that the reduction in state funding of Michigan's Mathematics and Science Centers has significantly impacted the quantity and accessibility of mathematics and science programming for Michigan's students and teachers.**

However, Centers have focused their efforts on providing high quality professional development to ensure teachers are highly qualified and using best practices. **Professional development programming hours have only been reduced by 28% despite the 75% cut in funding.**

DIRECTORY OF MICHIGAN MATHEMATICS AND SCIENCE CENTERS

Center Name	Contact Person	Telephone
Allegan County M/S Center	Amy Oliver	269.686.5087
AMA/IOSCO M/S Center	Gary Goren	989.354.3101
Battle Creek Area M/S Center	Connie Duncan	616.965.9440
Berrien County M/S Center	Dennis Lundgren	269.471.7725
Capital Area Sci/Math Center	Julie Fick	989.224.6831
Central Michigan SMTC	David DeGraaf	989.774.4387
COOR S/M Center	Jan Keith Farmer	989.275.9533
Detroit M/S Centers	Marvie Hackney	313.596.0758
Dickinson-Iron Area M/S Center	Dee Benjamin	906.776.8137
EUP M/S Center	Michelle Ribant	906.632.3373
Genesee Area M/S/T Center	Larry Casler	810.591.4495
Grand Traverse Regional M/S/T	Karen Szcodronski	231.922.6378
Hillsdale-Lenawee-Monroe M/S/T	Jan Parsons	517.265.1636
Huron M/S/T Center	Peggy Reynolds	989.269.3465
Jackson County M/S Center		517.768.5151
Kalamazoo Area M/S Center	Brenda Earhart	616.337.0004
Lapeer County M/S Center	Tom English	810.245.3977
Livingston/Washtenaw M/S	Jim Reece	517.546.5550
Macomb County M/S/T Center	Paul Drummond	586.228.3528
Manistee Regional M/S Center	Karen Mlcek	231.876.2263
Mason-Lake Oceana M/S	Marsha Barter	231.845.6211
Mecosta-Osceola M/S/T Center	Paul Bigford	231.796.3543
Muskegon M/S Center	David Krebs	231.767.7317
Northwoods M/S/T Center	Debra Homeier	906.786.9300
Oakland Schools S/M/T Center	LaMoine Motz	248.209.2378
Regional M/S Center (GVSU)	Mary Ann Sheline	616.895.2265
Saginaw Valley State Univ. Regional M/S Center	Walter Rathkamp	517.790.4114
Sanilac County S/M Center	Joanne Hopper	810.648.4700
Seaborg Center- NMU	Debra Thatcher	906.227.1880
SEE-North	Mary Whitmore	231.348.9700
St. Clair ISD M/S Center	Terry Parks	810.364.8990
Wayne County M/S Center	Libby Trenkle	734.334.1375
Western UP M/S Center	Shawn Oppliger	906.482.4520

ATTACHMENT **B**

Michigan Mathematics and Science Centers

1 What are the Michigan Mathematics and Science Centers?

The Michigan Mathematics and Science Centers form a statewide network of 33 Centers providing resources to local school districts to improve mathematics and science education.

2 What are the services provided by Michigan Mathematics and Science Centers?

Centers provide:

- support to districts in improving and enhancing curriculum, instruction and assessment;
- unique programs for K-12 grade students including summer camp experiences, workshops, field studies and field trips;
- professional development for teachers;
- equipment, classroom activities, literature, and information;
- leadership on key issues related to science and mathematics education.

3 How do Michigan Mathematics and Science Centers provide these services?

The types of services and how they are provided vary considerably by geographic area, population and need. By evaluating existing resources in the communities it serves, each Center identifies the most appropriate and economical combination of programs and resources that will benefit students, teachers and community members.

4 What are the goals for Michigan Mathematics and Science Centers?

Each Center strives to:

- *Provide leadership that promotes collaboration and ensures that all partners are kept informed of key issues so students benefit from the highest quality mathematics, science and technology education.*

Collectively, Centers devote over 10,000 hours of service each year collaborating and consulting with:

- local school districts and teachers
- Michigan Department of Education
- intermediate school districts
- professional organizations
- business and industry
- universities and museums

Over 1,200 additional hours are spent actively working to engage families, business, and civic organizations in mathematics and science education.

- *Support schools, especially high priority schools, as they strive to meet high mathematics and science achievement standards, as established by the Michigan Curriculum Framework, the Michigan Mathematics Grade Level Content Expectations and the Science Grade Span Content Expectations. Centers also provide students with opportunities to explore and pursue careers in science and mathematics.*

Each year, Centers offer over 1,200 activities that impact more than 230,000 students.

- *Provide professional development opportunities that enable and sustain effective teaching in mathematics and science.*

Each year Centers provide:

- over 1,500 professional development activities
- more than 10,000 hours of professional development programming
- services to nearly 29,000 teachers

On average, each of these teachers participates for 12 hours.

- *Ensure that human and instructional resources are identified and shared to support the efforts of local districts and educators.*

Centers provide access to comprehensive libraries of materials, kits and equipment at little or no cost to districts.

5 How do Michigan Mathematics and Science Centers coordinate and collaborate statewide to meet these goals?

Through the statewide infrastructure, Centers are able to leverage funding and resources for programs and staff. Local school districts benefit from savings associated with economies of scale and shared access to innovative programs, equipment, and facilities. Centers create valuable partnerships with the Michigan Department of Education, professional organizations, business and industry, institutions of higher education, intermediate school districts, schools, and museums.

6 How do Michigan Mathematics and Science Centers help schools implement the Michigan Curriculum Framework, Education YES! and the No Child Left Behind Act of 2002?

Centers work with schools and districts to align their curricula with Michigan's established guidelines for teaching science and mathematics. The Centers also work with districts and schools to adequately prepare them for the requirements of the No Child Left Behind Act of 2002 and State Board of Education Priorities. This work capitalizes on Centers' leadership and expertise in professional development and curriculum development and results, for example, in instruction that is aligned with the new mathematics grade level performance expectations and testing in Grades 3-8. In addition, the statewide infrastructure of the Centers allows them to quickly mobilize to help schools implement the requirements of new legislation.

7 How are Michigan Mathematics and Science Centers helping to close the achievement gap in mathematics and science?

Centers provide targeted assistance to high priority schools to improve academic achievement for all students. Centers also help support schools as they analyze student data and identify specific areas for improvement.

8 How do Michigan Mathematics and Science Centers leverage additional funding for mathematics and science education?

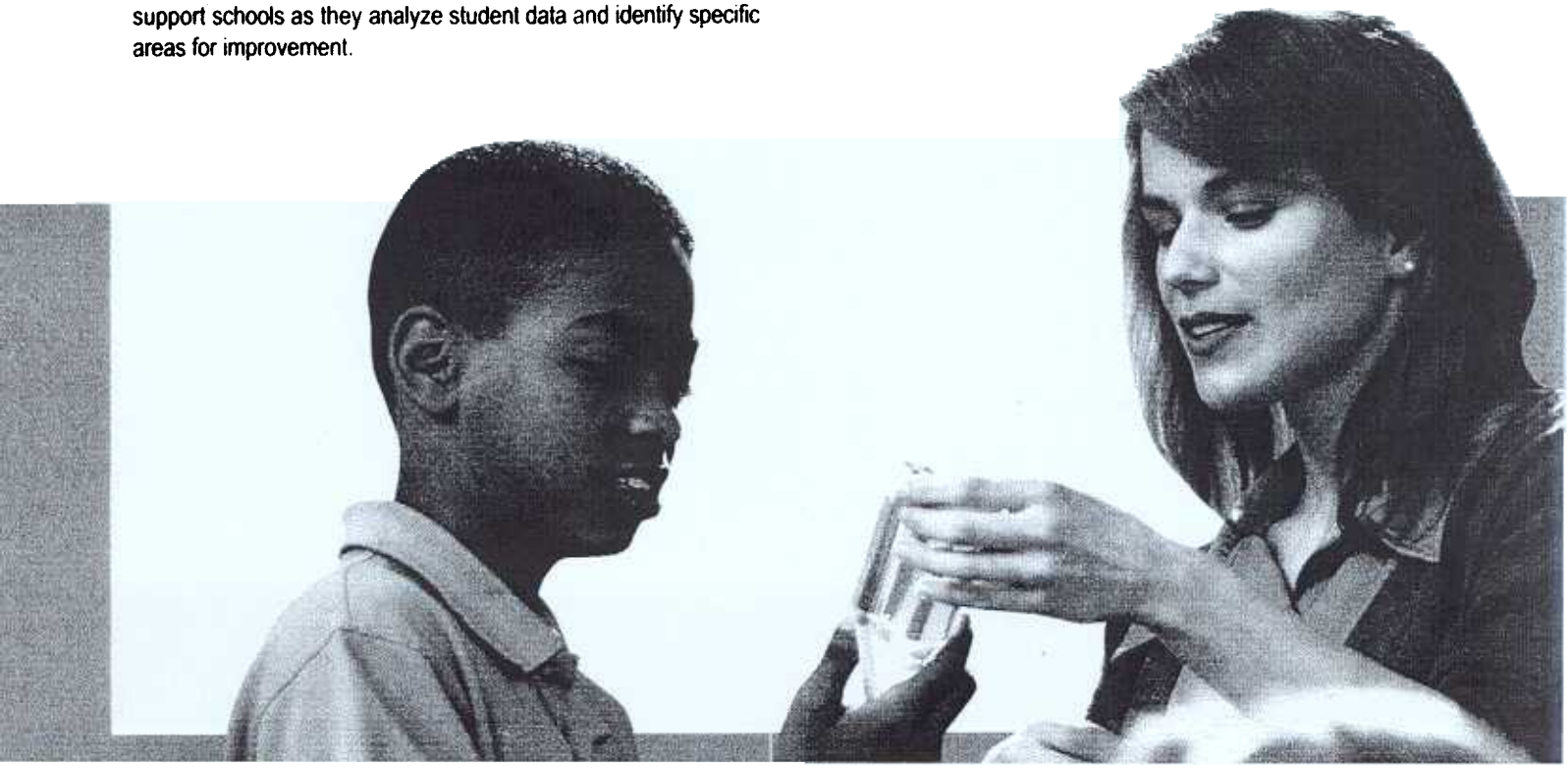
Since 2003-2004, state funding to Michigan Mathematics and Science Centers has been reduced by 75 percent, from $9.7 million to $2.4 million in state funding, a significant cut to Centers. Centers leveraged $1.6 million in grants and community support, but were forced to cut programming in mathematics and science due to the 75 percent budget reduction.

9 How do Michigan Mathematics and Science Centers build advocacy for mathematics and science education among parents and community?

Centers encourage family and community involvement in a variety of ways, including Family Mathematics and Science events, after-school and summer-school programs, and internships. Through advisory boards and task forces, Centers involve the community in planning and implementing programs. In addition, Centers are a "first-line resource" in promoting public understanding and awareness of important issues in mathematics and science education.

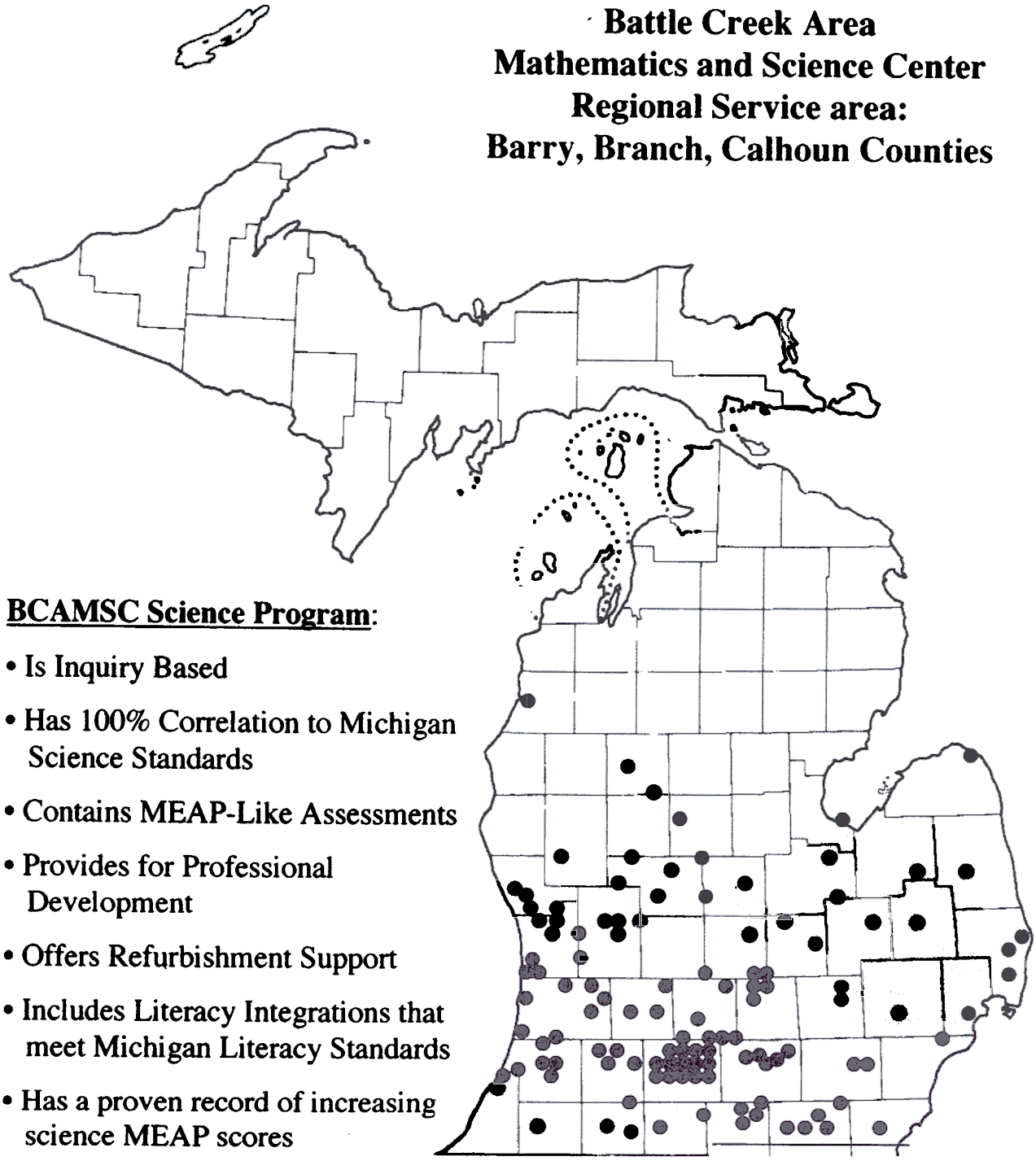
10 How can I learn more about Michigan Mathematics and Science Centers?

Visit our website at http://www.mscenters.org. We offer the latest information on mathematics and science education. Click on the interactive county map to locate the center in your area.



Michigan School Districts Implementing BCAMSC Science Unit/Kits

Battle Creek Area
Mathematics and Science Center
Regional Service area:
Barry, Branch, Calhoun Counties



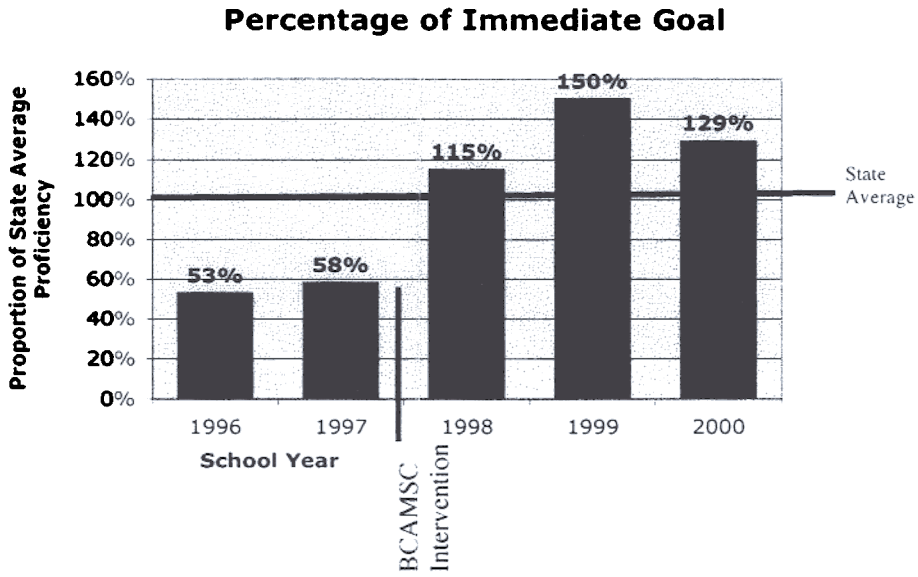
<u>BCAMSC Science Program</u>:

- Is Inquiry Based
- Has 100% Correlation to Michigan Science Standards
- Contains MEAP-Like Assessments
- Provides for Professional Development
- Offers Refurbishment Support
- Includes Literacy Integrations that meet Michigan Literacy Standards
- Has a proven record of increasing science MEAP scores

BCAMSC Intensive Assistance Program

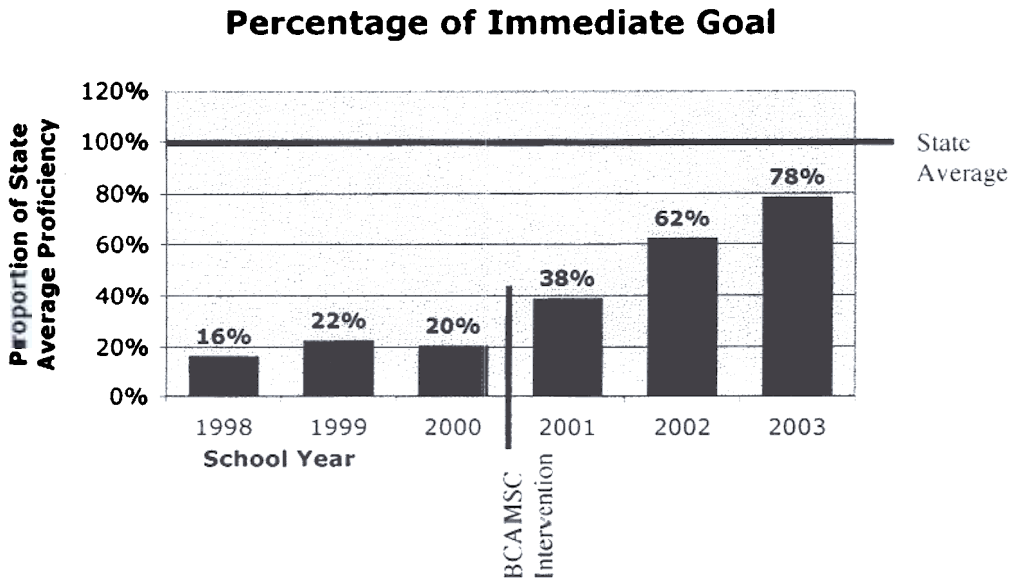
The Pilot Study: 1998-2000

Impact of BCAMSC and School Interventions on Proficiency
in Science at "Building F" Elementary
(48% poverty, 55% Minority)



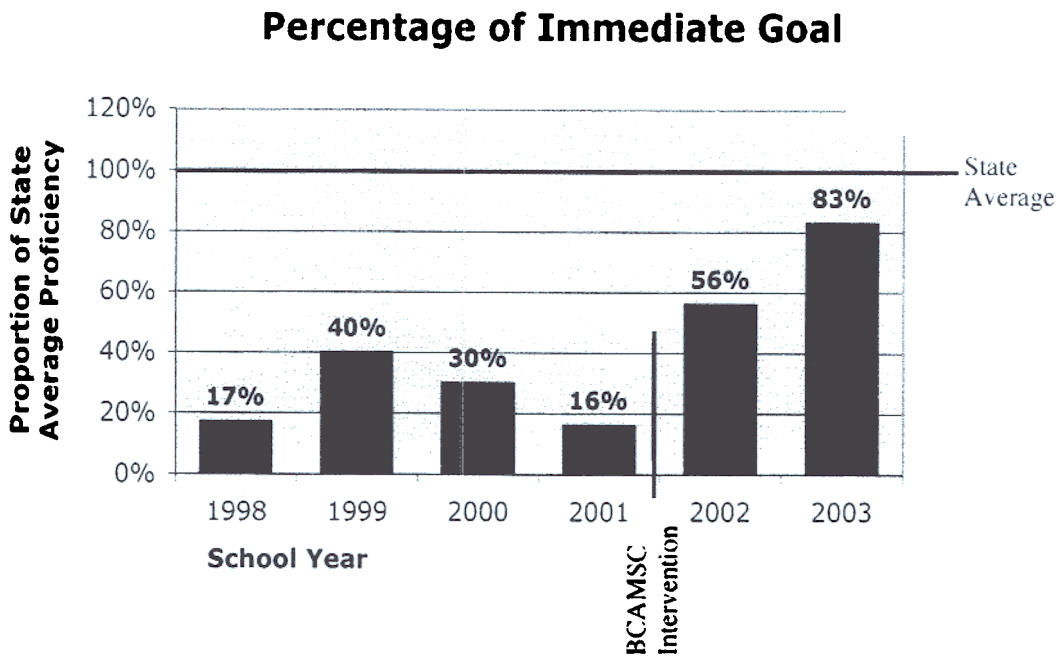
Follow-up Study: 2001-2003

Impact of BCAMSC and School Interventions on Proficiency
in Science at "Building A" Elementary
(82% poverty, 83% Minority)



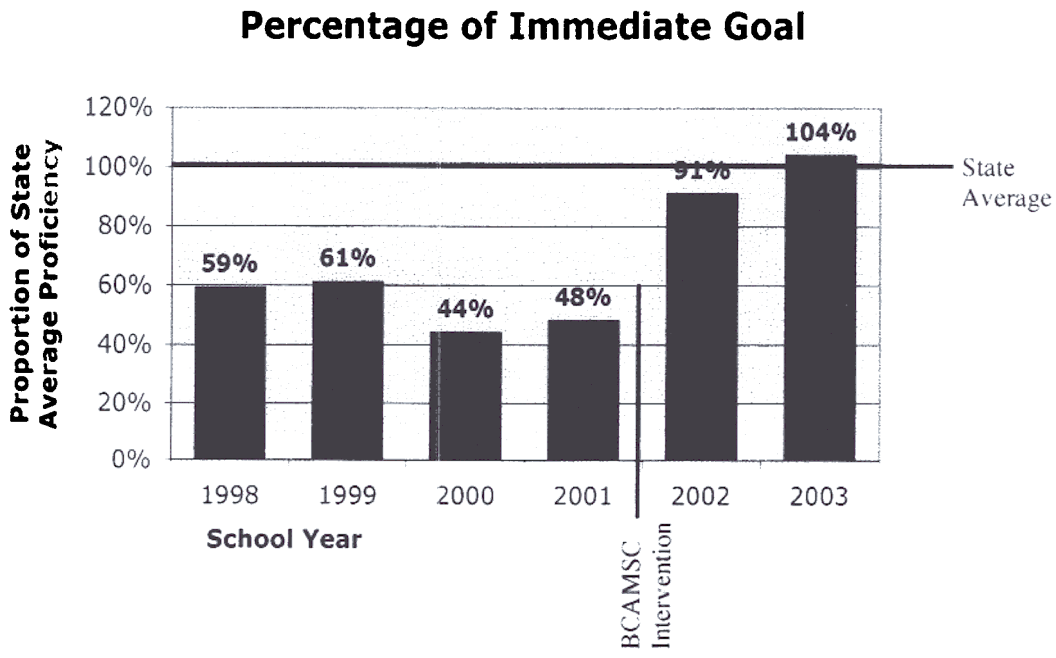
A Three-Year Study: Years 1 and 2

Impact of BCAMSC and School Interventions on Proficiency in Science at "Building B" Elementary (88% poverty, 78% Minority)



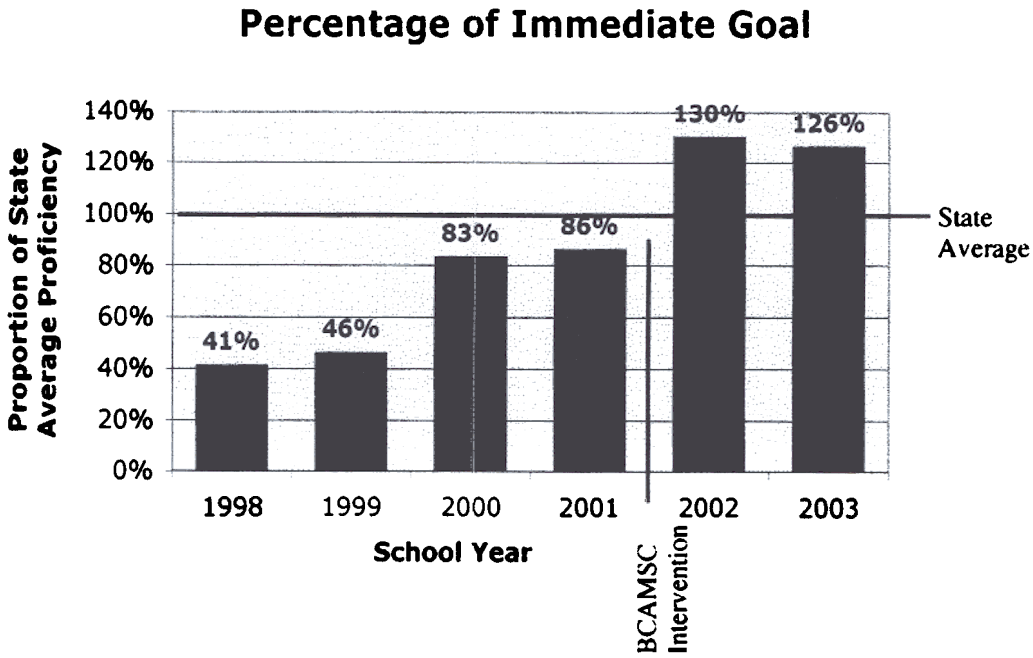
A Three-Year Study: Years 1 and 2

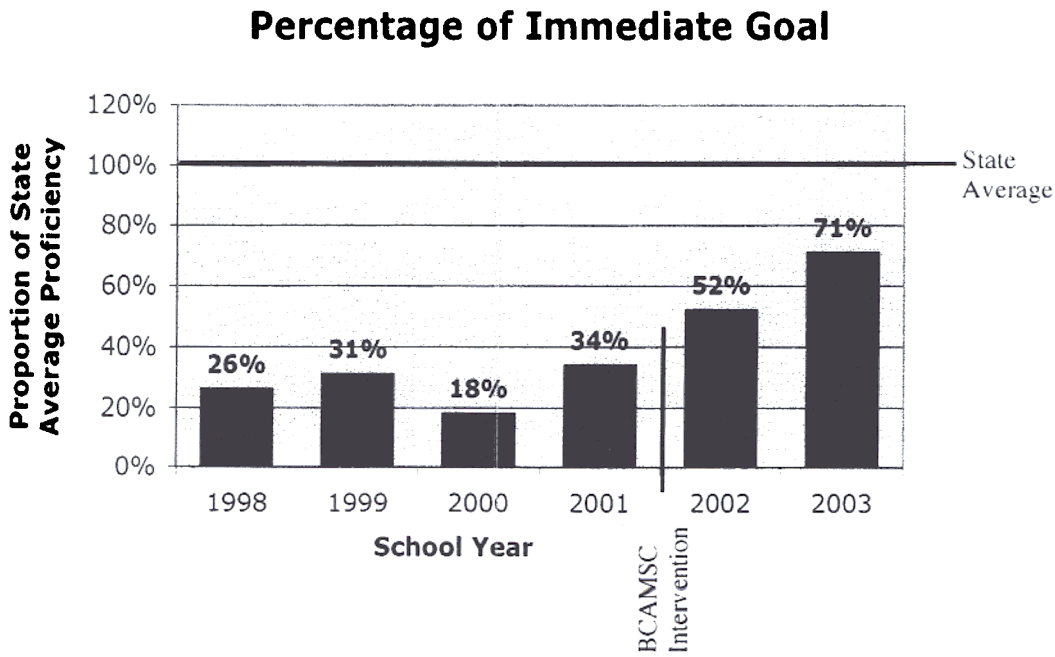
Impact of BCAMSC and School Interventions on Proficiency in Science at "Building C" Elementary (67% poverty, 62% Minority)



A Three-Year Study: Years 1 and 2

Impact of BCAMSC and School Interventions on Proficiency in Science at "Building D" Elementary (44% poverty, 17% Minority)



A Three-Year Study: Years 1 and 2

Impact of BCAMSC and School Interventions on Proficiency in Science at "Building E" Elementary (83% poverty, 56% Minority)