

The Abell Report

What we think about, and what we'd like you to think about

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Baltimore's Poor Children Learn As Much As Middle-Class Children During the School Year, But Fall Behind During the Summer, Hopkins Researchers Document.

ABELL SALUTES: Greenspring Middle School's "Uniformity Of Character" Program

School uniforms are making a difference

"School crime has decreased 36 percent."

"Leaving class without permission is down 47 percent."

"There has been an overall improvement in the school climate and a greater focus on positive behavior."

These comments from principals in schools around the country where uniforms have been made mandatory, came to the attention of, and intrigued, Mr. Audrey Bundley, principal of Greenspring Middle School in Baltimore. The positive effects of school uniforms wherever they had been introduced prompted Mr. Bundley to ask: What contribution would mandatory

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If disadvantaged students stayed in school 12 months, would they progress academically at the same rate as middle-income students? New research shows that the likely answer is "Yes."

"Pupils Lose Ground in City Schools: The Longer Children Stay in the System, the More They Fall Behind."

Baltimore Sun¹

November 12, 1997

Baltimore schools are not unusual among large American cities; typically, in urban schools achievement scores of low-income students fall farther and farther behind national averages the longer children attend public school (e.g., *Education Week*, Special January 1998 Issue). But what is less certain is whether the **schools** are largely responsible for these problems. Many factors, including poverty, meager funding, and poor parenting, have been blamed for

widespread urban failure, yet there is little consensus in either public or academic debates about which factors are most important.

A recent study of Baltimore City school children sheds light on this important issue. Johns Hopkins University sociologists Karl Alexander and Doris Entwisle have been following the progress of 790 Baltimore students who began first grade in 1982. In trying to understand how public schools contribute (or fail to contribute) to student learning, they have studied standardized test results of these Baltimore children. But rather than studying changes in test scores from one grade to the next, Alexander and Entwisle have compared changes in test scores during the school months (September to June) to changes

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that occur over the summer months (June to September). They believe gains in test scores that occur during the school months can be thought of as “the school’s contribution to achievement,” while gains (or losses) that occur over the summer months are not likely to be related to schooling, but to children’s individual family and neighborhood circumstances. Because the group of Baltimore children they studied included poor and non-poor children, Alexander and Entwisle also analyzed how school-year and summer test score gains related to children’s economic circumstances.

Alexander and Entwisle found poor and non-poor children have very similar test score gains during the school year. However, more affluent Baltimore children continue to gain over the summer months, when school is not in session. Their test scores actually increase during the summer, while scores of less advantaged children typically decline or, at best, stay even over the summer. The authors argue that this pattern of year-round gains for advantaged children and school-year gains for less affluent children has profound implications for Baltimore and other urban school districts.² But while social scientists

know of these seasonal learning patterns, educators and the general public are generally not aware of these findings or of their importance for poor, urban school districts.

Separating Home and Community Influences on Tests Scores from School Influence

More than 30 years ago, the Equality of Educational Opportunity Report (now widely known as the Coleman Report) showed that the gap between the test scores of poor and more affluent children increased from first grade through high school. The Coleman report studied a large number of children across the nation and included both urban and suburban school districts. The report’s authors concluded that family factors, not school factors, are mainly responsible for unequal educational performance. Given the long-standing findings of the Coleman Report, and the fact that 68% of Baltimore’s public school population is poor enough to qualify for subsidized meals, it is not surprising Baltimore has lower test scores than the nation as a whole. Nor is it surprising that differences in performance grow as children continue in school.

Alexander and Entwisle see family circumstances as critical to children’s achievement. However, they hold that the importance of family circumstances does not necessarily mean schools are unimportant or that schools are failing to teach America’s poor children.

While schools are responsible for

children’s academic learning, Alexander and Entwisle argue that experiences at home and conditions in the community contribute as well. They maintain out-of-school experiences explain why test scores of low-income and minority youths are already behind at the start of first grade, and why Baltimore’s school children do not compare favorably with national testing norms. In their sample of Baltimore children, Alexander and Entwisle found that those from poor families scored well below their non-poor peers at the start of first grade. (See Table 1 below.)

The authors also argue that life circumstances that undermine school readiness don’t “turn off” when children turn six and schools begin to influence learning. Instead, they believe home influences on children’s school performance continue after school starts. Given that many of the home circumstances of Baltimore’s school children are far from ideal for learning, Alexander and Entwisle structured their analysis to determine how much of the widening gap in school performance could be attributed to the schools and how much to out-of-school influences.

Typically, performance is assessed at the end of an academic year, and children’s progress is measured by comparing achievement scores from the end of one year with scores from the end of the preceding year. The authors note that because this approach incorrectly assumes children’s academic growth is supported by the same inputs year-round, the conclusions based on such annual comparisons are mislead-

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111 S. Calvert Street, 23rd Floor
Baltimore, Maryland 21202-6174
(410) 547-1300
Fax (410) 539-6579

ing. Rather than measuring achievement on an annual basis and using statistical adjustments to separate home and school influences,³ Alexander and Entwisle assessed children’s achievement twice a year, which permitted them to compare the gains during the school year with those over the summer.⁴ They reasoned that children learn all the time, in school and out. But while children are in their homes and communities year-round, they are in school for only part of the year. It is the long summer recess that provides an opportunity to separate home/community influences from school influences, because all settings can contribute to achievement gains during the school-year, but only home and community can do so during the summer months.

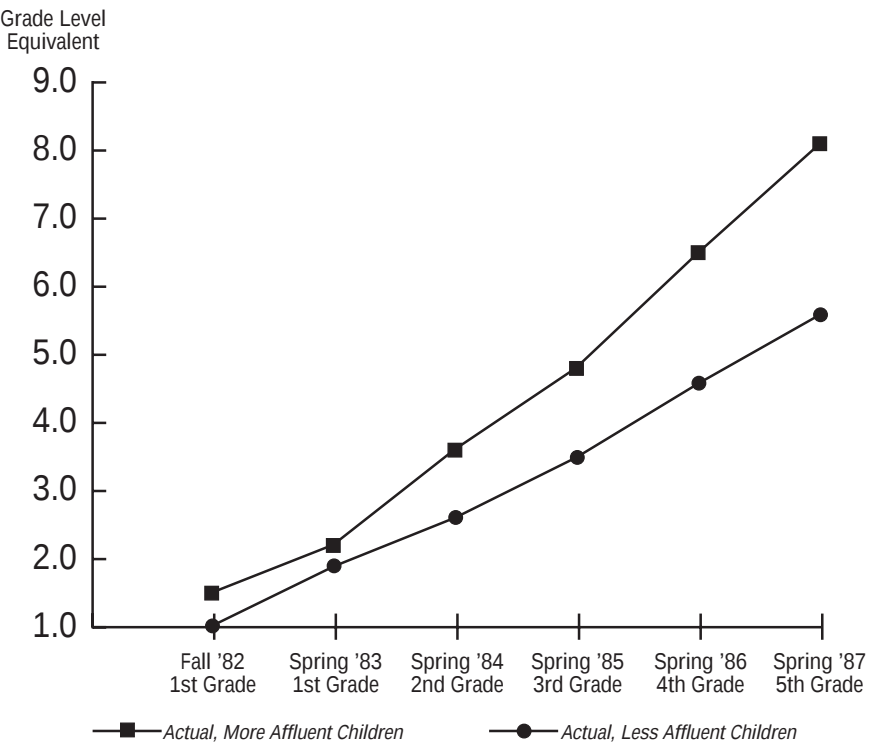
Annual versus Seasonal Testing Patterns: Results from the Beginning School Study.

Alexander and Entwisle’s Beginning School Study (BSS) reveals important patterns that are hidden in annual testing data. The BSS is an ongoing study of a representative random sample of 790 children who began first grade in the fall of 1982 in 20 of Baltimore’s public schools. Fall and spring test scores are available, so school year gains (fall to spring) can be separated from summer gains (spring to fall) for the first five years of the study group’s schooling. This period covers all of elementary school for children

Table 1
Children’s Standardized Test Scores
Grade Level Equivalent Scores

	<i>Fall '82 1st Grade</i>	<i>Spring '83 1st Grade</i>	<i>Spring '84 2nd Grade</i>	<i>Spring '85 3rd Grade</i>	<i>Spring '86 4th Grade</i>	<i>Spring '87 5th Grade</i>
Verbal Test						
<u>Less Affluent</u>						
Grade Level Equivalent	1.0	1.9	2.6	3.5	4.6	5.6
<u>More Affluent</u>						
Grade Level Equivalent	1.5	2.2	3.6	4.8	6.5	8.1
Difference	.5	.3	1.0	1.3	1.9	2.5
% of Standard Deviation	66%	56%	72%	91%	80%	87%
Math Test						
<u>Less Affluent</u>						
Grade Level Equivalent	1.0	1.9	2.9	3.7	4.9	6.1
<u>More Affluent</u>						
Grade Level Equivalent	1.5	2.4	3.7	5.1	6.6	7.9
Difference	0.5	0.5	0.8	1.4	1.7	1.8
% of Standard Deviation	84%	57%	82%	94%	93%	81%

Chart 1
Actual Verbal Test Grade Level Equivalent Scores



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promoted regularly each year.⁵

In this analysis, Alexander and Entwisle use children’s annual test averages on reading and math subtests from the California Achievement Test (CAT), a standardized test widely available during the 1980’s. Mother’s and father’s educational levels (years of school attended), mother’s and father’s occupational status, and whether or not the youngster received reduced-price meals at school⁶ were used to assess family circumstances and divide the sample into two groups. In the first, mother’s education averaged 14.6 years, father’s education 15.1 years, just 13% received meal subsidies at school, and 72% were living in two-parent households as first graders. Most families in this group are not poor, and include two parents who have graduated from high school. The other (“less affluent”) group includes children whose mothers attended school, on average, for only 10.7 years and whose fathers stayed in school 11.0 years. Only 51% of these children lived in two-parent households, and 81% of them were poor enough to qualify for subsidized school lunches.

Alexander and Entwisle’s analysis includes only those children with complete testing data over the entire five-year period.⁷ Their results are shown in Table 1 as grade level equivalents. A grade level equivalent of 1.0, for example, means that a child is performing at the level of a beginning first grader, while a 1.5 indicates that a child is performing as a first grader in his/her fifth month of the school year.

“...all children learn more and learn more efficiently when they are in school.”

As Alexander and Entwisle note, scores of less affluent children lag behind more affluent children even at the fall of first grade. Unfortunately, less affluent children fall farther back the longer they are in school. In both verbal and math skills, less affluent children score five months behind more affluent children at the start of first grade. By the end of the fifth grade, however, the difference in verbal achievement is more than two years; in math it is a grade and

half. Chart 1 plots these grade level equivalents; its diverging lines show graphically how far behind less affluent children fall as they continue in school.

Alexander and Entwisle argue that this growing gap is only part of the story of Baltimore children’s learning patterns. Table 2 shows average monthly gains in school-year test scores and summer test scores separately for more and less affluent students. In presenting test scores in this way, Alexander and Entwisle identify three factors critical to understanding learning patterns of Baltimore City school children.

First, test gains are much larger when children are in school (top row of Table 2) than over the summer months, (bottom row of Table 2). Thus, the first major point brought home by this table is that “all children learn more when they are in school” (Alexander & Entwisle, 1998).

Second, verbal test gains over the summer are larger than math gains over the summer, which suggests that math learning may be more dependent on schooling than verbal learning.

Finally, while school-year gains in each year are similar for more and less affluent children, more affluent children’s scores continue to improve during the summer, while less affluent children’s scores do not. Less affluent youth tread water over the summer, sometimes gaining a few points, sometimes losing a few, with the largest losses in the first two summers. Thus, less affluent children start a new school

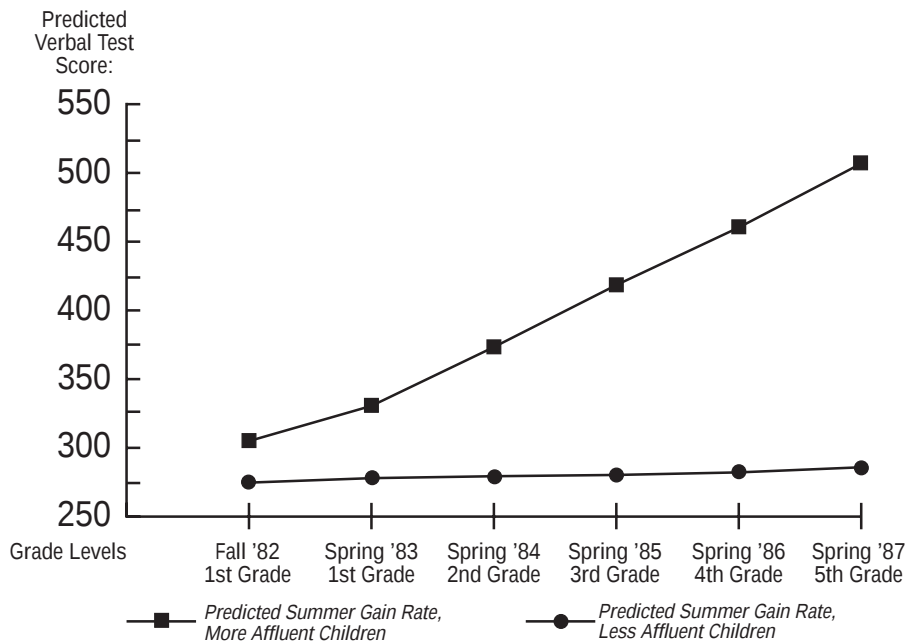
Table 2*
Children’s Standardized Test Gains by Season and Economic Level

	<i>Verbal Test</i>		<i>Math Test</i>	
	<i>Less Affluent</i>	<i>More Affluent</i>	<i>Less Affluent</i>	<i>More Affluent</i>
<i>School Year Gains:</i>				
Average Gain/Month ^b	5.13	4.66	4.79	4.73
<i>Summer Gains:</i>				
Average Gain/Month ^b	0.11	3.59	-0.14	1.29

b) Scale scores based on 8 months winter (Oct-May), 4 months summer (June-Sept).

*Alexander and Entwisle (1998)

Chart 2*
Predicted Verbal Test Averages Over Five Years by Economic Level
Projecting Summer Gains Year-Round:



*Alexander and Entwisle (1998)

year about where they ended the previous spring, while more affluent children have moved ahead. Alexander and Entwisle note that these summer differentials are very large: when added over the four summers, “they account for practically the entire gap in scores between less and more affluent children that emerges over the first five years of school.” (1998) School-year gains do not contribute to the gap: all children progress at about the same rate during the school year.

Alexander and Entwisle make this pattern even more vivid by projecting seasonal gains year-round. When they apply the summer pattern through the entire year (Chart 2), the less affluent group hardly progresses at all and the gap between less and more affluent children increases tremendously. In con-

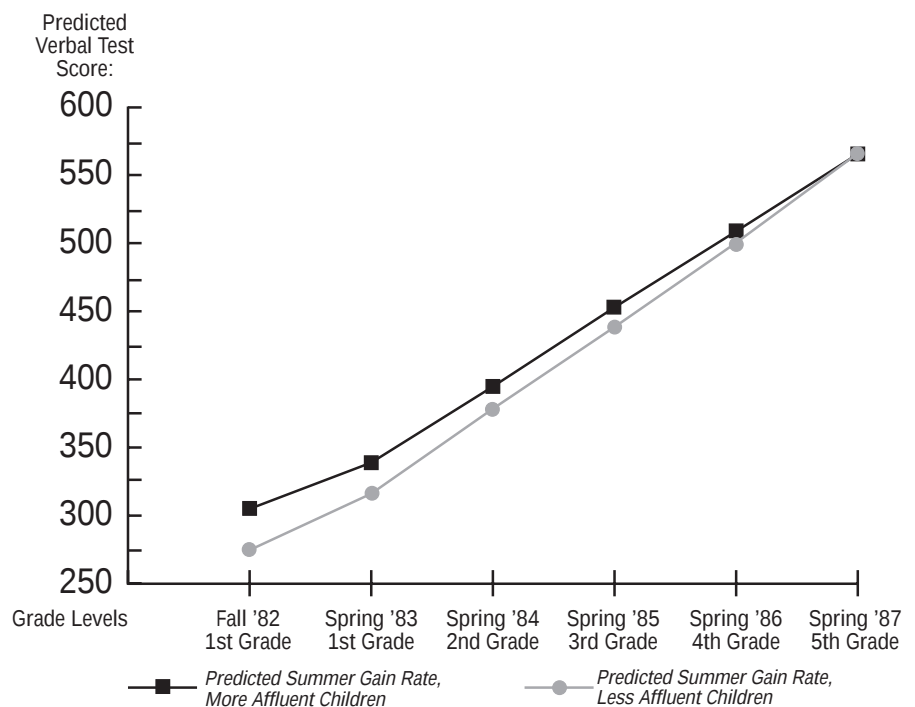
trast, when they apply the winter pattern year-round, the gap between these two groups almost disappears by year five.

Modeling the Time-Line of Cognitive Growth

Alexander and Entwisle used additional statistical modeling techniques to support patterns revealed by analyses of average test scores.⁸ These statistical models allowed the authors to separate effects due to gender and ethnicity from effects due to economic circumstances of children. The authors found that race and gender have “small and scattered effects on learning patterns,”

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Chart 3*
Predicted Verbal Test Averages over Five Years by Economic Level Projecting School Year Gains Year-Round:



*Alexander and Entwisle (1998)

but that economic characteristics of children's families most strongly influence summer learning patterns. In their own words:

Socioeconomic standing is not simply a proxy for race in these analyses (or for gender). And since socioeconomic standing effects on the summer reductions are both larger and more numerous than race effects, we conclude that the summer drop-off has more to do with lower socioeconomic standing than with minority group standing. (1998)

Summary and Conclusions

Alexander and Entwisle's findings reinforce the notion that the early primary grades are the years when cognitive gains are most profound and losses most dramatic. Their research indicates that schooling is important for verbal learning, but even more important for learning in math. Alexander and Entwisle also document that Baltimore children exhibit the same economically-dependent patterns of summer learning found in other districts where the family resources vary widely. Simply put, children from Baltimore's disadvantaged families do not progress when school is out of session, while children from more affluent families continue to learn. Finally, Alexander and Entwisle find "that children of all economic levels gain at close to the same rate when they are in school," and that learning rates during the school

year are much greater than are summer learning rates. Put another way, this research strongly suggests that Baltimore's schools - when they are in session - help the neediest children to learn at rates very comparable to more affluent children.⁹

"Baltimore City's public schools can help poor children learn efficiently."

The equalizing power of schooling is perhaps never more important for Baltimore than the present. The authors note current conditions in Baltimore put many more children "at risk" academically than heretofore, and that the concentration of poverty has increased substantially over the past three decades. In 1990, for example, Baltimore's childhood poverty rate for children 18 and under was 32.5% overall, 39.1 % among African-Americans. The national child poverty average that year for the nation's 200 largest cities (population 100,000 and above) was 15.2%. In 1989, average poverty rates across all of Baltimore's 203 census tracts are classified by noted sociologist William J. Wilson as "high poverty," and almost a fifth surpassed his 40% cutoff for "extreme poverty" areas. These rates placed Baltimore 11th among the nation's 100 largest cities in 1990 in concentration of poverty.

There is a good deal of research that links increasing levels and concentrations of poverty to a whole range of social problems, not the least of which

is poor schooling. But, Alexander and Entwisle argue, even with growing poverty and without a substantial middle class, their seasonal perspective on learning suggests Baltimore City's public schools do help poor children learn efficiently during the school year. While they caution that it is unrealistic to expect schools to substitute *wholly* for parental influence, they also acknowledge, "We will look to our schools for solutions, as historically we have, and as well we should" (Alexander & Entwisle, 1998).

Given that students appear to make up for lost time during the school year, a commonsense approach would seem to involve year-round schooling for low-income children. While logical, research has yet to document that this approach would erase the "summer learning gap," - as some researchers have named it. In the case of summer programs, lack of documented improvement may be due to the fact that summer school is generally less intensive and less academic than regular schooling. Many programs do not insist on certified teachers, last for only part of a school day, and do not extend throughout the whole summer. Few are connected to the regular curriculum of schooling. Unlike regular schooling which typically includes a mix of more and less able and more and less advantaged students, many summer programs include only children who have failed during the regular school year and/or come from very disadvantaged circumstances. When, under these circumstances, summer schools don't

produce great strides in achievement, observers may assume they are unsuccessful. Alexander and Entwisle's research suggests that this assessment may be too harsh, given that such students would likely have suffered large losses without summer tutoring. There is little research which studies student achievement separately for poor and more affluent children in year-round schooling. Overall, however, year-round schools¹⁰ have reported improved student performance, reduced problem behavior and vandalism, and improved graduation rates.

Alexander and Entwisle's picture is both promising and disheartening. Schools appear to be more successful than is generally believed, but they do not prevent learning gaps between more and less affluent children from growing larger as children move through the system. Reforms of school-year programs are necessary to improve students' performance, but just as clear, thanks to this study, is the need to improve summer learning opportunities for less affluent children. While current models of summer programs and year-round schools may need further study, they are clearly the place to start.

- 1 The Baltimore headline pertains to city-wide test results in reading and math over grades one through five.
- 2 For an overview of test scores in other urban districts which show similar patterns, see Cooper, Nye, Charlton, Lindsay and Greathouse, 1996.
- 3 While statistical adjustments are often used to partition home and school influences, their reliability is limited, because in-school and out-of-school influences are hopelessly confounded in annual data.
- 4 This method was first applied to understanding differences in school performance and educational stratification by Barbara Heynes (1978).
- 5 Regularly promoted children make up about 60% of the group studied.
- 6 To be eligible to receive subsidized meals, family income cannot exceed 159% of the federally-determined poverty level.
- 7 Test scores come mainly from school records, so the 75% of this sample who remained in Baltimore's schools are more likely to have complete test records and be included in this analysis than those who moved out of the public school system. As can be seen, case coverage drops substantially from first grade through fifth. Under certain conditions, attrition can distort results; in this study, attrition would be a problem if many high-performing students or all of the more affluent students left the study. The authors maintain that attrition probably did not change the pattern of results because it was not highly selective and mainly involved economic standing and race/ethnicity. In particular, there is very little selection along academic lines. Additionally, when achievement trends are plotted using all available scores (which maximizes case coverage each year, but does so by including different subsets of the group at different points), the pattern of results is much the same as in Table 1.
- 8 The authors used a hierarchical linear technique to model the growth curve of their sample. Interested readers may contact the authors for further information or see Byrd and Raudenbusch, 1992.
- 9 The sample used in this research was chosen randomly to be representative of Baltimore's school children. The authors have used five years of data on the same children to document learning trends. What this means is that the learning patterns demonstrated by the sample children in Alexander and Entwisle's research can be generalized with a high degree of confidence to the Baltimore system as a whole (and likely to other north eastern, urban school districts as well). Also noteworthy is the statistical growth curve model that backs up their analysis of average test scores.
- 10 Specifically, achievement gains are most likely when year-round schools offer remediation/enrichment during school breaks and teach new material during the typical 5-6 week "review" periods that exist in traditional school calendars (Ballinger, 1987).

A Bibliography with publication information on these sources appears on Page 8.

ABELL SALUTES:

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school uniforms make to his own school's character building program?

With parent and student support and a \$25,830 grant from The Abell Foundation, school uniforms were introduced at Greenspring Middle in the fall of 1997. Although there is some leeway, students must wear plain white shirts, khaki pants or skirts. Students who wear baggy pants and no belt must come to the office to get a length of string to wear as a belt. Mirrors are posted around the school and students are told, "Look in the mirror and take responsibility for yourself."

What has been the effect of mandatory school uniforms in Greenspring Middle School? "There is no direct cause and effect," Mr. Bundley says, "but my sense is that mandatory uniforms are making a very positive contribution to our overall program of character building. They are helping to make possible in our school what I call 'uniformity of character.'"

"In 1995 and 1996 our attendance was 79 percent; year to date in 1998 it is 87 percent. School discipline data reflects the same positive influence of the uniforms. In February 1997 there were 705 office referrals [for discipline problems]; a year later there were 266.

"Uniforms help give us our uniformity. They identify us to ourselves and to our community. Because I believe school uniforms have made an important difference in the behavior of our students and in the spirit of our faculty and parent group, Greenspring Middle will have uniforms as long as I am the school principal."

Abell salutes Mr. Bundley for the sensitivity, energy, and administrative skills he brought to bear to make, through the use of uniforms, Greenspring Middle a better school.

Some Recent Grants by The Abell Foundation

Arts Education In Maryland Schools

\$25,000

Two grants for general support of a statewide partnership dedicated to advancing the cause of arts education as a basic component of public education.

Center on Juvenile & Criminal Justice

\$73,000

To create a Special Education/Alternative to Detention Pilot Program for institutionalized delinquent youth in Baltimore City, whose special education needs had been previously undiagnosed.

Charles Village Community Foundation

\$11,693

To provide surveillance enhancements to the Video Patrol Program at the Dallas F. Nicholas Sr. Elementary School in an effort to reduce drug dealing and crime.

Harford Road Partnership

\$150,000

For the creation and implementation of the urban renewal and marketing plans for the Harford Road commercial corridor.

Herring Run Watershed Association

\$3,000

For support of the Annual Spring Migration Walk-a-thon and Festival in Herring Run Park.

Institutes for Behavior Resources

\$119,339

For the purchase of a mobile health services vehicle for disbursement of methadone, primary health services and counseling for heroin addicts.

Maryland Disability Law Center

\$20,000

In support of the Citywide Special Education Advocacy Project to provide disabled children with appropriate educational services.

Peabody Institute of The Johns Hopkins

\$500,000

A ten-year grant for scholarships and a longitudinal study to measure the impact of an intensive after-school arts education program on students' academic success for at-risk students.

Teach for America

\$50,000

Toward recruitment, selection, training and sustaining an ongoing support network for Teach for America/Baltimore corps members placed in Baltimore City Public Schools.

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