A Report to the

Dayton Area Chamber of Commerce

on

Pupil Achievement in Dayton Area Charter Schools,

2001-2002 Academic Year

Prepared in Fulfillment of a Project Supported by the

Thomas B. Fordham Foundation

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Background

This report presents a summary of the administration and results of annual pre- and post-testing of pupils enrolled in charter schools in Dayton and Springfield, Ohio during the 2001-2002 school year. The assessment activities were a project of the Education Resource Center of the Dayton Area Chamber of Commerce (DACC). The efforts of the DACC were supported in part via philanthropic gifts from the Thomas B. Fordham Foundation and other sources.

The primary purposes of the assessment project were: 1) to help classroom teachers monitor individual student achievement and adapt instruction to promote learning; 2) to provide data for schools to assist them in gauging and improving their overall effectiveness; and 3) to foster public accountability and model the use of data to inform educational decision making.

Data

Data were available from nine participating schools in the Dayton area. Each school administered a standardized, norm-referenced test at the grade levels covered by the school. Table 1 lists the schools that participated in the assessment project during the 2001-2002 school year, the grades within those schools for which testing was conducted, and the test used.

Table 1
Participating Charter Schools, Grades Served, and Test Used

School	Grades	Test*
Colin Powell Leadership Academy	K-5	SAT-9
Dayton Academy	K-8	SAT-9
Dayton View Academy	K-7	SAT-9
New Choices School	5-6	SAT-9
Omega School of Excellence	5-7	SAT-9
Richard Allen Academy	K-8	ITBS
Richard Allen Prep	K-9	ITBS
Springfield Academy	K-3	SAT-9
World of Wonder School	1-4	SAT-9

Notes: 1) SAT-9 = Stanford Achievement Test, 9th Edition;
ITBS = Iowa Tests of Basic Skills
2) In some cases, schools differed on whether the complete battery or a survey edition/partial battery of a test was administered.

Norm-referenced tests (NRTs) are designed to describe how pupils compare to a national comparison group. Typically, NRTs yield scores such as percentile ranks (PRs), that can range from 1 to 99. Percentile rank scores indicate the percentage of the national norm group that a student performed better than. For example, a PR of 37 would indicate that the student's score was better than 37% of the students in the national comparison group. A PR of 50 is interpreted as performance at exactly the average of the national group. Some commonly used NRTs include the *Iowa Tests of Basic Skills* and the *Stanford Achievement Test*.

NRTs differ from criterion-referenced tests (CRTs) which are designed to assess a student's specific strengths and weaknesses vis à vis a specific criterion or set of content standards. Typically, CRTs yield classifications such as Pass/Fail or Basic/Proficient/Advanced. In Ohio, the state system of student proficiency testing is an example of a CRT. It is important to note that NRTs and CRTs may assess somewhat different sets of knowledge and skills, and that they are designed to address different questions about student achievement. For example, a student may be successful on a state competency test in a given year (i.e., he or she may "Pass" or be classified as "Proficient," yet the student may not be making expected progress at his or her grade level, or may in fact be losing ground. Conversely, a student may be classified as "Failing" or "Below Basic" on a proficiency test, despite his or her having made extraordinary progress over the course of a year.

The NRT data collected for this project were analyzed to compare changes in students' percentile rankings from the beginning of the 2001-2002 school year (i.e., data from a Fall test administration) to the end of the school year (using data from a Spring test administration). From the nine participating schools, a total of 196 Fall-to-Spring comparisons were conducted, with a comparison defined as the change in mean performance for a single group (i.e., a classroom) of students.

Results

Results for the 2001-2002 academic year were markedly positive. Of the 196 Fall-to-Spring comparisons, 97 student groups demonstrated achievement beyond the expected one year's growth; only four comparisons showed students losing ground; 95 of the comparisons showed students progressing at a rate that was not significantly different from what would be expected if they were achieving in line with their grade level peers nationally.

Results for the nine schools as a whole were also encouraging. These results (provided in detail in Table 2 appended to this report) revealed that:

- six of the nine schools made significant progress over the academic year in reading;
- seven of the nine made saw significant increases in mathematics; and
- seven of nine had significant increases in partial/complete battery scores.

In all cases where significant increases were not noted, average performance remained constant from pre- to post-testing; that is students made approximately the amount of expected growth in achievement relative to their national peers over the course of the 2001-2002 school year. No significant decreases were found for any school.

Clearly, however, the results are not entirely positive. Despite nearly uniform improvement, a large proportion of students achieve scores below the national average (i.e., below the 50th percentile)--in many cases well below it. This suggests that, while pupils in the Dayton area charter schools are, on average, making "greater than expected" academic gains during the school year, there remains a considerable gap between them and their national grade-level peers. Further analyses seem warranted regarding the extent to which students who enroll in charter schools apparently begin their educational experiences at a disadvantage and regarding appropriate methods and expectations for the resources and time line for assisting such students to close the gap.

Conclusions

The individual schools that participated in the Dayton area charter school assessment project invested considerable effort in measuring and bearing specific responsibility for the academic achievement of their students. Similarly, the Dayton Area Chamber of Commerce and the philanthropic foundations that sponsored the assessment project have made investments in the lives of individual students and in the communities in which they reside. Both groups deserve commendations for their efforts and for their willingness to be held publicly accountable. The results of these investments are evident in the positive achievement outcomes observed for the 2001-2002 academic year.

Much work remains to be done, though. Some examples of this work might include:

- longitudinal analyses to investigate longer-term effects of charter schools on student achievement;

- matched-subject studies (particularly involving low-achieving students) in which charter school students are paired with equivalent groups of students enrolled in comparable Dayton-area public schools. Such studies can be used to answer the question of how the progress of charter school students compares to their traditional-setting peers; and

- finer-grained analysis of charter school students' achievement to determine specific areas of strength and weakness for the purpose of assisting teachers to focus instruction appropriately.

Overall, there is ample reason for encouragement, and perhaps equally abundant opportunities for the future. Maintaining and improving the Dayton-area charter schools' instructional and assessment programs will require continuing investment and inquiry so that the expectations of every parent--a solid education and promising future for their children--are realized.

Table 2
School-Wide Results, 2001-2002 Academic Year

1) Colin Powell Academy, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	22.63	97	22.02	2.24	+
reading percentile spring 02	27.75	97	28.31	2.87	
math percentile fall 01	24.21	137	20.15	1.72	
math percentile spring 02	23.66	137	26.38	2.25	
partial battery percentile fall 01	22.94	66	21.49	2.65	
partial battery percentile spring 02	26.55	66	26.75	3.29	

2) Dayton Academy, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	36.03	667	27.17	1.05	
reading percentile spring 02	36.42	667	26.23	1.02	
math percentile fall 01	33.74	735	25.89	.95	+
math percentile spring 02	43.00	735	27.80	1.03	
partial battery percentile fall 01	35.72	634	24.17	.96	+
partial battery percentile spring 02	40.36	634	24.87	.99	

3) Dayton View, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	32.37	572	24.68	1.03	+
reading percentile spring 02	41.08	572	27.58	1.15	
math percentile fall 01	31.27	607	25.58	1.04	+
math percentile spring 02	41.79	607	29.42	1.19	
partial battery percentile fall 01	33.06	533	23.05	1.00	+
partial battery percentile spring 02	41.94	533	25.94	1.12	

4) New Choices, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	13.72	18	21.50	5.07	
reading percentile spring 02	19.44	18	21.82	5.14	
math percentile fall 01	15.83	18	24.20	5.70	
math percentile spring 02	18.61	18	22.53	5.31	
partial battery percentile fall 01	12.89	18	20.58	4.85	
partial battery percentile spring 02	17.56	18	18.76	4.42	

5) Omega School of Excellence, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	34.88	117	22.87	2.11	
reading percentile spring 02	36.21	117	23.93	2.21	
math percentile fall 01	26.48	124	21.75	1.95	+
math percentile spring 02	32.27	124	22.57	2.03	
partial battery percentile fall 01	34.21	112	20.36	1.92	+
partial battery percentile spring 02	40.86	112	20.60	1.95	
complete battery percentile fall 01	34.06	112	19.88	1.88	+
complete battery percentile spring 02	40.97	112	20.40	1.93	

6) Richard Allen Academy, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	41.85	155	24.79	1.99	+
reading percentile spring 02	48.28	155	27.00	2.17	
math percentile fall 01	45.41	187	26.30	1.92	+
math percentile spring 02	53.47	187	28.80	2.11	
core battery percentile fall 01	40.70	176	22.87	1.72	+
core battery percentile spring 02	51.60	176	28.67	2.16	

7) Richard Allen Prep, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	38.82	170	26.60	2.04	+
reading percentile spring 02	41.77	170	27.23	2.09	
math percentile fall 01	38.49	193	26.17	1.88	+
math percentile spring 02	42.68	193	31.42	2.26	
core battery percentile fall 01	38.30	185	24.94	1.83	+
core battery percentile spring 02	43.44	185	31.05	2.28	

8) Springfield Academy, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	13.67	86	20.01	2.16	+
reading percentile spring 02	38.90	86	25.50	2.75	
math percentile fall 01	9.74	107	12.47	1.21	+
math percentile spring 02	35.39	107	26.79	2.59	
partial battery percentile fall 01	12.91	70	15.38	1.84	+
partial battery percentile spring 02	37.23	70	23.24	2.78	

9) World of Wonder, 2001-2002

	Mean	N	SD	SE	Sig
reading percentile fall 01	35.62	196	25.44	1.82	+
reading percentile spring 02	42.83	196	25.66	1.83	
math percentile fall 01	30.49	206	25.50	1.78	+
math percentile spring 02	38.56	206	27.86	1.94	
partial battery percentile fall 01	34.13	184	22.45	1.66	+
partial battery percentile spring 02	41.61	184	24.28	1.79	

Notes:

Mean = the group's average percentile rank

N = the number of students upon which the results are based

SD = the standard deviation of the scores (a way of describing how spread out the group's scores are, with the larger the value the greater the degree of spread)

SE = the standard error of the mean (a way of describing how much the sample mean is likely to differ from its "true " value)

Sig = the statistical significance, if any, of the comparison of pre- and post-test means. Again, the symbols +, -, and (blank) are used to indicate, respectively, a significant increase, a significant decrease, or no significant increase or decrease in pupils' performance.