Measuring the Effectiveness of BPS K1 Programs
Using Dynamic Indicators of Basic Early Literacy Skills (DIBELS)
Fall 2013 Assessment (Beginning of Year) – Grade K2

OVERVIEW

This brief presents the results of the fall 2013 DIBELS assessment. BPS administers the DIBELS district-wide in grades K2, 1 and 2 three times per year. This analysis is limited to K2 results obtained from the beginning-of-year assessment. The DIBELS assesses the acquisition of early literacy and reading skills. It is designed to be a formative assessment tool to evaluate the effectiveness of interventions and to make changes when indicated in order to maximize student learning and growth. Importantly, DIBELS are **not** designed to be the sole measure of a child's performance.

The DIBELS is conducted by the district to measure a child's readiness for reading. The results provided in this brief should be considered as only one of several important predictors of later academic success. Other important outcome measures, such as language development, vocabulary and social emotional indicators should be used to produce a more comprehensive measure of school readiness. Moreover, child outcomes are directly related with quality classroom measures that enhance literacy and reading. The district conducts bi-annual evaluation of classroom quality to measure the impact of literacy environment and instructional techniques that also play a role in a child's academic success.

Two specific skills were measured in the beginning-of-year DIBELS assessment: First Sound Fluency (FSF), and Letter Naming Fluency (LNF). The following descriptions of the DIBELS Next subtests are from the DIBELS Next website.

The DIBELS FSF is a standardized test of phonological awareness, designed to assess a child's ability to recognize and produce the initial sound in an orally presented word. Using standardized directions, the assessor says a series of words one at a time to the student and asks the student to say the first sound in the word. On the mobile device, the assessor marks the corresponding sound or group of sounds the student says. Students receive two points for saying the initial phoneme of a word (e.g., saying the /s/ sound as the first sound in the word *street*) and one point for saying the initial consonant blend, consonant plus vowel, or consonant blend plus vowel (e.g., /st/, /str/, or /strea/ for *street*). A response is scored as correct as long as the student provides any of the correct responses listed for the word. The total score is based on the number of correct one- and two-point responses the student says in 1 minute.[1]

Letter Naming Fluency (LNF) is a brief, direct measure of a student's fluency in naming letters. LNF assesses a student's ability to recognize individual letters and say their letter names. The assessor presents a page of upper- and lower-case letters arranged in random order and asks the

[1] From https://www.mclasshome.com/wgenhelp/reporting/Reporting_By_Assessment/mCLASS_DIBELS_Next/First_Sound_Fluency.htm

student to name the letters. The assessor marks letters that are named incorrectly or skipped. The total score is the number of correct letter names that the student says in 1 minute. [2]

Based on these two measures, each student receives one of three support recommendations: benchmark, below benchmark, or well below benchmark. These support recommendations indicate the probability of the need for additional instructional support for the student in order to meet the next benchmark goal.[3]

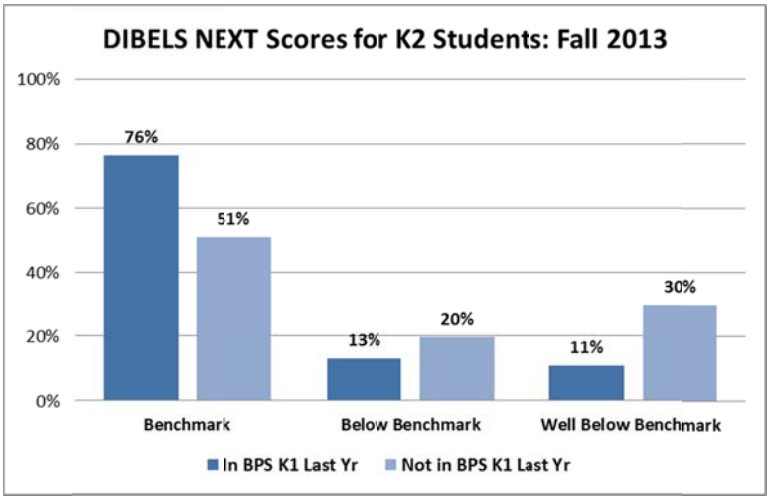
RESULTS:

Table 1 shows that of the 3,909 students with scores from the beginning-of-year DIBELS assessment, a majority of BPS students in K2 (62.9%) received a "benchmark" support recommendation, suggesting that this majority of students has a high probability (80%) of achieving subsequent reading goals. Less than one quarter of students in K2 were identified as "well below benchmark (21.3%): without intensive instructional support, these students have a low probability (10%-20%) of achieving subsequent goals. Roughly one-sixth of the students (16.6%) were identified as "below benchmark": without additional, strategic, instructional support, students in this group have a 40%-60% probability of achieving the next goal.

Table 1: K2 Student Scores – All Students

	SUPPORT RECOMMENDATION			**Mean FSF Score (max-min)**	**Mean LNF Score (max-min)**
	Benchmark	Below Benchmark	Well Below Benchmark		
All Students (3,909)	62.9% (2,426)	16.6% (651)	21.3% (832)	13.4 (0-59)	23.0 (0-97)

Table 1 also shows the average scores for all K2 students on the First Sound Fluency (13.4) and Letter Naming Fluency (23.0) tests.



The data in Table 2 indicates that K2 students who were in K1 classes in BPS in 2012-2013 are much less at risk of not meeting subsequent benchmarks: 76.4% of students who were served in BPS K1 classes last year met the beginning-of-year benchmark, compared to 50.8% of

[2] From https://www.mclasshome.com/wgenhelp/reporting/Reporting_By_Assessment/mCLASS_DIBELS_Next/Letter_Naming_Fluency.htm

[3] https://dibels.uoregon.edu/docs/DIBELSNextFormerBenchmarkGoals.pdf

students who entered BPS for the first time in K2.

Table 2: K2 Students: Students Served in BPS K1 Classrooms vs. Students not in BPS K1 Last Year

	BPS K1 Last YR			Not in BPS K1 Last YR		
All Students	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark
	76.4% (1,313)	12.9% (221)	10.7% (184)	50.8% (1,112)	19.6% (430)	29.6% (648)

Table 3a and 3b show that on both measures tested in the beginning-of-year assessment, students who were served in BPS K1 classrooms last year outperformed their peers who are new to BPS. The mean First Sound Fluency score for students who were in BPS in K1 was 6.1 points higher than their peers. Similarly, the mean Letter Naming Fluency score was substantially higher for students who had been in BPS K1 classrooms last year: on average, these students were able to name 28.5 letters in one minute, compared to 18.8 letters correctly identified by students who are new to BPS.

Table 3a: Mean FSF Scores: Students Served in BPS K1 Classrooms vs. Students not in BPS K1 Last Year

	BPS K1 Last YR	Not in BPS K1 Last YR
All Students	16.8	10.7

Table 3b: Mean LNF Scores: Students Served in BPS K1 Classrooms vs. Students not in BPS K1 Last Year

	BPS K1 Last YR	Not in BPS K1 Last YR
All Students	28.5	18.8

Table 4 provides student support recommendations as well as mean scores by racial/ethnic group. The results indicate that proportionally fewer White students were identified for additional interventions, with 76.1% identified at the "benchmark" level. By contrast, only 64.4% of African American/Black students, 70.4% of Asian students, and 53.4% of Hispanic students met the benchmark recommendation.

BPS enrollment in K1 resulted in higher percentages of students receiving a benchmark support recommendation for every racial/ethnic group. For example, 79.6% of African American students who were enrolled in BPS in K1 obtained a benchmark support recommendation compared to just 55.9% of African American students who were not enrolled in BPS in K1. For Hispanic students who were enrolled in a BPS K1 class, 70.4% reached the Benchmark level, whereas only 38.6% of Hispanic students who were not enrolled in BPS in K1 received the same recommendation. Importantly, African American and Hispanic students who were in a BPS K1 program reached Benchmark levels at a higher rate than White students who did not participate in the K1 program.

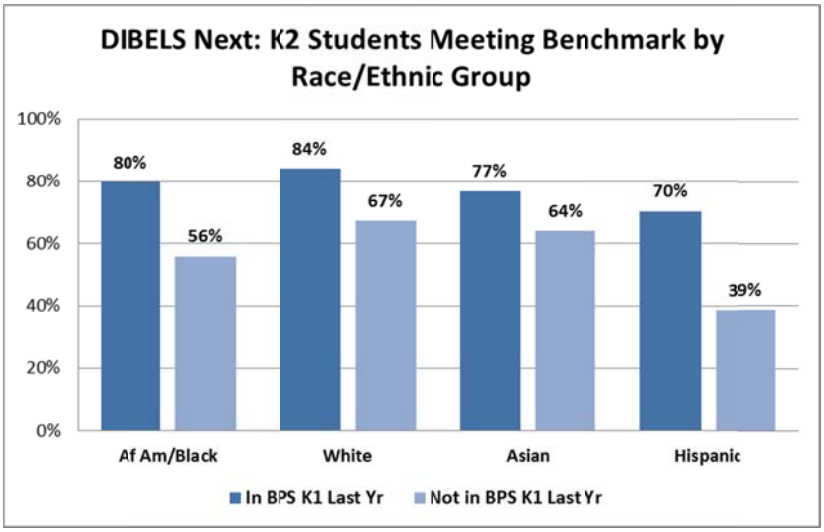


Table 4: K2 Students Scores by Racial/Ethnic Group

	All Students			BPS K1 Last Year			Not BPS K1		
	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark
Af Am/Black	818	211	242	363	58	35	455	153	207
	64.4%	16.6.%	19.0%	79.6%	12.7%	7.7%	55.9%	18.8%	25.4%
White	430	74	61	249	27	20	181	47	41
	76.1%	13.1%	10.8%	84.1%	9.1%	6.8%	67.3%	17.5%	15.2
Asian	192	43	38	103	15	16	89	28	22
	70.4%	15.8%	13.9%	76.9%	11.2%	11.9%	64%	20.1%	15.8%
Hispanic	884	305	465	544	118	111	340	187	354
	53.4%	18.4%	28.1%	70.4%	15.3%	14.4%	38.6%	21.2%	40.2%

The racial differences observed in the support recommendations are also reflected in the mean First Sound Fluency scores as depicted in Table 5, where White students correctly identified 17 sounds on average, compared to 13 for Black students, 12 for Asian students, and 11 for Hispanic students. Table 5 also shows that Black, Asian, and Hispanic students who were in

BPS in the prior year (as K1 students), significantly out-performed their racial peers who were not served in BPS last year.

Table 5: Mean FSF Scores by Race

	All Students	BPS K1 Last Year	Not BPS K1
Af Am/Black	13	16	11
White	17	19	15
Asian	12	15	9
Hispanic	11	15	8

On the Letter Naming Fluency test, Asian students had the highest average score (29), followed by White (27), Black (23), and Hispanic (19) students. However, on this measure too, Black, Hispanic and White students who spent the prior year in BPS were at a significant advantage: on average, Black students coming from K1 correctly identified at least 9 more letters than Black students who had not been in BPS last year. Hispanic students in BPS for the second year correctly identified at least 11 more letters than their racial peers who enrolled in BPS for the first time that year.

Table 6: Mean LNF Scores by Race

	All Students	BPS K1 Last Year	Not BPS K1
Af Am/Black	23	29	20
White	27	30	24
Asian	29	31	26
Hispanic	19	25	14

In addition to racial differences in scores, there are significant differences in DIBELS scores based on gender, low-income status, disability, and English language learner status. Table 7 shows that a higher percentage of male students who did not attend BPS K1 need intensive intervention (49.2%) compared to female students who did not attend BPS K1 (52.4%). Female students also have higher FSF scores compared to males (as seen in Table 8; Table 9 shows approximately even LNF scores by gender). However, for both males and females, those students who were enrolled in BPS K1 had higher scores on the FSF and LNF tests, as well as higher rates of Benchmark attainment.

Table 7: K2 Students Scores by Gender

	All Students			BPS K1 Last Year			Not BPS K1		
	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark
Female	1230	325	356	662	96	69	568	229	287
	64.4%	17%	18.6%	80%	11.6%	8.3%	52.4%	21.1%	26.5%
Male	1195	326	476	651	125	115	544	201	361
	59.8%	16.3%	23.8%	73%	14%	12.9%	49.2%	18.2%	32.6%

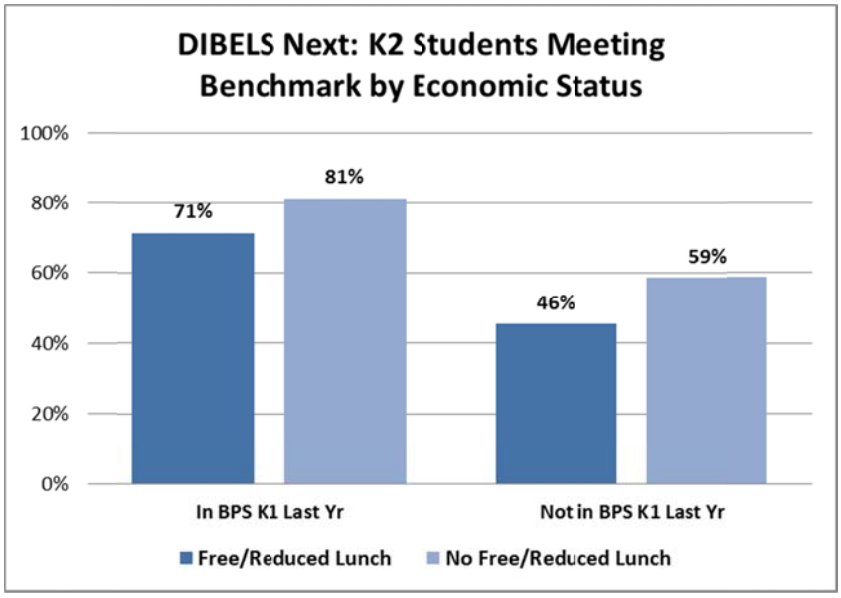
Table 8: Mean FSF Scores by Gender

	All Students	BPS K1 Last Year	Not BPS K1
Female	14	18	11
Male	12	15	9

Table 9: Mean LNF Scores by Gender

	All Students	BPS K1 Last Year	Not BPS K1
Female	23	29	19
Male	22	27	18

There are also significant disparities between low-income and non-low income students: 69.9% of students who do not receive free or reduced lunch are at the benchmark level compared to 55.6% of students who are on free or reduced lunch plans. Similarly, both FSF and LNF measures show that free/reduced lunch students are more at risk



The BPS K1 program is helping to close achievement gaps.

BPS K2 Students in the Free/Reduced Lunch program are performing better than their non-low income peers if they attended BPS K1.

of being struggling readers than non-free lunch students as the gaps are 4 (FSF) and 6 (LNF) points respectively for these two groups. Again, for both economic groups, those students who were enrolled in BPS K1 had higher scores on FSF and LNF tests, and had a higher percentage of students receive benchmark support recommendations than those who did not attend BPS K1.

Table 10: K2 Students Scores by Economic Status

	All Students			BPS K1 Last Year			Not BPS K1		
	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark
Free/Reduced Lunch	1,194	408	546	595	122	116	599	286	430
	55.6%	19%	25.4%	71.4%	14.6%	13.9%	45.5%	21.7%	32.7%
No Free/Reduced Lunch	1231	243	286	718	99	68	513	144	218
	69.9%	13.8%	16.3%	81.1%	11.2%	7.7%	58.6%	16.5%	24.9%

Table 11: Mean FSF Scores by Economic Status

	All Students	BPS K1 Last Year	Not BPS K1
Free/Reduced Lunch	11	14	9
No Free/Reduced Lunch	15	18	12

Table 12: Mean LNF Scores by Economic Status

	All Students	BPS K1 Last Year	Not BPS K1
Free/Reduced Lunch	20	25	17
No Free/Reduced Lunch	26	31	21

Table 13 indicates that students with disabilities also had lower scores on beginning-of-year measures compared to their non-disabled peers: 29.5% of students with disabilities were identified as needing intensive support (i.e. scored "well below benchmark") in order to meet the next benchmark goal, compared to 20.4% of non-disabled students. Likewise, both FSF and LNF measures show that students with disabilities are more at risk of being struggling readers than non-disabled students as the gaps are 5 (FSF) and 3 (LNF) points for these two groups. However, prior BPS enrollment also improves the outcomes for both students with disabilities and their non-disabled peers.

Table 13: K2 Students Scores by Disability Status

	All Students			BPS K1 Last Year			Not BPS K1		
	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark
With a Disability	204	76	117	149	50	64	55	26	53
	51.4%	19.1%	29.5%	56.7%	19%	24.3%	41%	19.4%	39.5%
Without a Disability	2220	575	715	1164	171	120	1056	404	595
	63.2%	16.4%	20.4%	80%	11.7%	8.2%	51.4%	19.7%	29%

Table 14: Mean FSF Scores by Disability Status

	All Students	BPS K1 Last Year	Not BPS K1
With a Disability	8	9	7
Without a Disability	13	18	10

Table 15: Mean LNF Scores by Disability Status

	All Students	BPS K1 Last Year	Not BPS K1
With a Disability	20	22	15
Without a Disability	23	29	18

Tables 16 - 18 demonstrate significant gaps in scores for English Language Learners (ELL) compared to non-ELL students: while 67.7% of non-ELL students met the beginning-of-year benchmark, only 52.5% of ELL students met this same goal. As with the other student groups, ELLs who attended a BPS K1 program show much stronger outcomes at the start of K2 (67.2% at Benchmark) than their peers who did not receive a BPS K1 experience (37.6% at Benchmark).

Table 16: K2 Students Scores by ELL Status

	All Students			BPS K1 Last Year			Not BPS K1		
	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark	Benchmark	Below Benchmark	Well Below Benchmark
ELL	763	260	429	493	122	119	270	138	310
	52.5%	17.9%	29.5%	67.2%	16.6%	16.2%	37.6%	19.2%	43.2%
Not ELL	1662	391	403	820	99	65	842	292	338
	67.7%	15.9%	16.4%	83.3%	10%	6.6%	57.2%	19.8%	23%

Table 17: Mean FSF Scores by ELL Status

	All Students	BPS K1 Last Year	Not BPS K1
ELL	10	13	7
Not ELL	14	18	12

Table 18: Mean LNF Scores by ELL Status

	All Students	BPS K1 Last Year	Not BPS K1
ELL	19	25	14
Not ELL	24	30	20

Conclusion

The majority of BPS students in K2 received a support recommendation of benchmark for the beginning-of-year DIBELS assessment in the Fall of 2013. Therefore, the majority of K2 students have a high probability of achieving subsequent goals in reading. However, 21.3% of BPS K2 students are in need of intensive instructional support. African American, Hispanic, free/reduced lunch, students with disabilities, and ELL students struggled the most on the beginning-of-year DIBELS assessments. However all students, regardless of demographic characteristics, showed much better outcomes at the start of K2 if they had been served in a BPS K1 program the year before. Enrolling in BPS earlier than K2 seems to have a strong effect on readiness for reading at the start of kindergarten.