M E M O R A N D U M   **September 28, 2012**

TO: The Honorable Chair and Members of The School Board of Miami-Dade County, Florida

FROM: Alberto M. Carvalho, Superintendent of Schools

SUBJECT: TRANSMITTAL OF EVALUATION MATTERS: *LINKS TO LEARNING APPLICATIONS: AN ANALYSIS OF USAGE AND IMPACT, 2011-12*

Attached is a copy of *Evaluation Matters: Links to Learning Applications: An Analysis of Usage and Impact, 2011-12*. This brief report summarizes the extent to which Miami-Dade County Public Schools' students used the three Links to Learning Applications (i.e., *Reading Plus*, *Destination*, and *Odyssey*) as well as the recently incorporated *Successmaker* application during the 2011-12 school year. The report also provides findings on the effectiveness of these programs in improving students' reading and/or mathematics achievement during that time frame.

If you need further information, please call Ms. Milagros R. Fornell, Chief Innovation and Accountability Officer, Office of Innovation and Accountability, at 305 995-1451, or Ms. Gisela Feild, Administrative Director, Assessment, Research, and Data Analysis, at 305 995-2943.

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Attachment

cc: School Board Attorney
       Superintendent's Cabinet
       Ms. Deborah Karcher
       Ms. Gisela Feild
       Dr. Sally A. Shay
       Selected Administrators

Links to Learning Applications:
An Analysis of Usage and Impact, 2011-12

1. What is the purpose of this report?

This report examines the usage and impact of the three Links to Learning (L2L) applications and that of Successmaker, a similar program, in 2011-12 which is scheduled to be included in L2L during the 2012-13 school year. L2L provides supplemental access to online curriculum content via the student portal to support student learning beyond the school day. Individualized student learning paths are updated each grading period. Tailored instruction is provided through different applications for reading and mathematics (see Table 1). Applications for science and social studies, though also available, do not have routine assessments with which to gauge their outcomes.

Table 1. Availability of Links to Learning (L2L) Applications and Successmaker

Reading				
Grade	Reading Plus[a]	Destination[b]	Odyssey[a]	Successmaker[a]
3	x	x		x
4	x	x		x
5	x	x		x
6	x	x	x	
7	x	x	x	
8	x	x	x	
9	x	x		
10	x	x		
mathematics				
Grade	Gizmos[ac]	Destination[b]	Odyssey[a]	Successmaker[a]
3		x		x
4	x	x		x
5	x	x		x
6	x	x	x	
7	x	x	x	
8	x	x	x	
9	x	x		
10	x	x		

Note. Practice level is determined, by each application, based on students' prior performance. Successmaker is available to students in Grades 3 through 5, for additional reading and/or mathematics instruction and is included in these analyses along with L2L applications.
[a]Applications are available to all students.
[b]Only made available to students who are proficient, and intended for enrichment only
[c]Usage data were not available or not usable.

2. Which populations were targeted in this report?

The sample for the study included all students in grades 3 through 10 who used any of the identified applications during the 2011-12 school year. Students who were not active at the end of the school year, or did not have valid pre- and post- test scores at consecutive grades, were excluded from the analysis.

3. How were the data for this report collected and analyzed?

Usage data were obtained from software vendors, supplemented by student demographic and assessment data. Usage time was not collected by the developers of Gizmos. Usage patterns were examined through descriptive statistics. The impact of each application was analyzed by statistical procedures, which adjusted the test scores of students to remove the influence of initial ability and demographic differences, and then compared the adjusted means at different levels of usage.

4. To what extent were L2L and Successmaker used by M-DCPS students?

Large numbers of students used some of the applications, but the number of students that used any given application decreased sharply as the hours of use increased. One vendor did not collect usage data, as noted above. Tables 2 and 3 provide the hours used by the "typical" student (50th percentile of usage) and by a "high-usage" student (95th percentile of usage).

Table 2. Links to Learning/Successmaker Applications
Reading: Annual Hours of Usage

	Links to Learning									Successmaker		
	Reading Plus			Destination			Odyssey					
		Percentiles			Percentiles			Percentiles			Percentiles	
Grade	n	50	95	n	50	95	n	50	95	N	50	95
3	18,519	15.4	55.9	4,793	0.68	4.95	--	--	--	6,666	5.27	26.30
4	16,806	13.5	52.2	3,001	0.67	5.62	--	--	--	5,864	3.30	18.03
5	17,140	14.9	49.3	3,264	0.73	6.23	--	--	--	6,037	3.10	19.22
6	19,642	12.6	49.1	955	0.50	5.05	295	1.30	8.43	--	--	--
7	17,798	10.0	41.7	390	1.00	8.82	177	4.09	8.76	--	--	--
8	17,751	10.7	41.7	383	1.78	9.20	115	5.97	12.79	--	--	--
9	15,650	12.0	44.8	807	1.40	6.81	--	--	--	--	--	--
10	13,624	12.4	45.3	714	1.50	7.59	--	--	--	--	--	--
Total	136,930	12.6	48.2	14,307	0.77	6.13	587	2.60	10.59	18,567	3.72	21.80

- Reading Plus was used by over 15,000 students per grade at most grade levels during the 2011-12 school year. However, half of the students used the software for less than 15 hours all year (or about 1½ hours per month), and 95% used it for fewer than 55 hours (or about 1½ hour per week).
- Destination Learning offered applications in both reading and mathematics. Based on the data that were provided:
  - In reading, the software was used by 3,000 - 4,500 students per grade in the lower grades during the 2011-12 school year. Far fewer students used Destination Learning in the middle and upper grades.

- ♦ Half of the students used the reading software for fewer than 1¾ hours all year (or about 2¾ minutes per week) to complete teacher assigned tasks, and 95% of the students used the software for fewer than nine hours all year (or about 13¾ minutes per week) for that purpose.
- ♦ The mathematics software was used more than twice as often as the reading software, but still only for less than 3 hours all year (or about 4½ minutes per week) by half of the students and for less than 35 hours all year (or about 1 hour per week) by 95% of the students .

Table 3. Links to Learning/Successmaker Applications
Mathematics: Annual Hours of Usage

	Links to Learning						Successmaker		
	Destination			Odyssey					
		Percentiles			Percentiles			Percentiles	
Grade	n	50	95	n	50	95	n	50	95
3	4,636	0.98	10.47	--	--	--	6,593	3.35	17.73
4	2,948	0.72	13.46	--	--	--	6,027	2.58	12.58
5	2,186	0.60	16.86	--	--	--	5,905	2.53	14.88
6	1,395	1.37	16.42	2,755	1.17	7.83	--	--	--
7	1,325	2.35	23.17	2,890	1.59	6.89	--	--	--
8	1,109	2.23	34.93	3,040	1.74	9.11	--	--	--
9	394	2.24	7.03	--	--	--	--	--	--
10	42	3.01	18.07	--	--	--	--	--	--
Total	14,035	1.08	18.19	8,685	1.50	7.85	18,525	2.87	15.48

- • Odyssey also provided support in both reading and mathematics.
    - ♦ In reading, fewer than 300 students in each grade 6-8 used the software during the 2011-12 school year. Half of the 6th graders used the software for fewer 1½ hours all year, and 95% used the software for fewer than 8 hours all year. Half of the 7th and 8th graders used the software for 4 or 6 hours all year, respectively, and 95% used the software for less than 9 or 13 hours all year, respectively.
    - ♦ In mathematics, about 3,000 students per grade used the software during the 2011-12 school year. Half of the students used the software for fewer than 2 hours all year, and 95% of the students used the software for fewer than 9 hours all year.
- • Successmaker, which is being added to Links to Learning, also provided support in both reading and mathematics.
    - ♦ In reading, around 6,000 students per grade used the software during the 2011-12 school year, less than half of the number that used the software during the 2010-11 school year.[1] Half of the students used the software for fewer than 4 hours all year, and 95% of the students used the software for fewer than 25 hours all year.
    - ♦ In mathematics, around 6,000 students per grade used the software during the 2011-12 school year, less than half of the number that used the software during the 2010-11 school year.[1] Half

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[1] Urdegar, S.M. (2011). Links to Learning applications: An analysis of usage and impact. *Evaluation Matters, 1*(1).

of the students used the software for fewer than 3 hours all year, and 95% of the students used the software for fewer than 15 hours all year.

5. What is the impact of the L2L and Successmaker programs?

Impact was gauged by comparing students' posttest scores at two levels of usage (50th and 95th) percentiles, controlling for their initial ability and demographic differences. In the two tables that follow, cells shaded in green represent grades at which an application had a statistically significant impact. Unshaded cells labeled "NONE" represent grades for which an application did not have a statistically significant impact for any students. Cells filled with dashes "--" represent grades in which an application was not available. Cells labeled "ALL " represent grades for which an application has a statistically significant impact for all students. Cells labeled "BELOW AVERAGE" and/or "LOW ACHIEVING" indicate the application only has a statistically significant impact for such students.

- Reading: Impact is summarized in Table 4.
    - ◆ Reading Plus had a significant positive effect at all levels of ability at all grades.
    - ◆ Destination Learning had a significant positive effect for below average fifth grade students.
    - ◆ Odyssey did not have a significant effect at any grade.
    - ◆ Successmaker did not have a significant effect at any grade.

Table 4. Links to Learning/Successmaker Applications:

Reading Impact Summary

	Links to Learning			Successmaker
	Reading Plus	Destination Reading	Odyssey	Successmaker
3	ALL	NONE	--	NONE
4	ALL	NONE	--	NONE
5	ALL	BELOW AVERAGE [a]	--	NONE
6	ALL	NONE	NONE	--
7	ALL	NONE	NONE	--
8	ALL	NONE	NONE	--
9	ALL	NONE	--	--
10	ALL	NONE	--	--

Note. Cells shaded in green represents grades at which an application had a statistically significant impact for the group noted.
[a]Students' ability levels, as measured by their pretest score, which are at or below a developmental scale score of 207 (level 2).

- Mathematics: Impact is summarized in Table 5, with significant findings indicated as described above for Reading.
    - ◆ Destination Learning had a positive effect for third and fourth grade students at all levels of ability, but did not have an effect at other grades.
    - ◆ Odyssey did not have a significant effect at any grade.

♦ Successmaker had a significant positive effect at all levels of ability and at all grades at which it was available.

Table 5. Links to Learning/Successmaker Applications:
Mathematics Impact Summary

	Links to Learning		Successmaker
	Destination Mathematics	Odyssey	
3	ALL	--	ALL
4	ALL	--	ALL
5	NONE	--	ALL
6	NONE	LOW ACHIEVING [a]	--
7	NONE	NONE	--
8	NONE	NONE	--
9	NONE	--	--
10	NONE	--	--

Note. Cells shaded in green represents grades at which an application had a statistically significant impact for the group noted.
[a]Students' ability levels, as measured by their pretest score, which are at or below a developmental score of 204 (level 1).

6. What are the principal conclusions of this report?

The results for the 2011-12 school year of the Links to Learning application support those found in the inaugural year of the program in that Reading Plus and Successmaker Mathematics were both found to have a consistent beneficial impact on the achievement of the students who used them. Destination Learning was also found to be partially effective for some grades and for some groups of students. Overall, while the results of the applications were found to vary across grade levels, student achievement appears to have benefitted from the availability of several of these tools, provided as supplemental resources to traditional classroom instruction, despite low levels of usage for some of the components.