MEMORANDUM **October 5, 2011**

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***

The Office of Assessment, Research, and Data Analysis is introducing a new vehicle for transmitting summaries of Program Evaluation reports and data findings called ***Evaluation Matters***, which provides the highlights of detailed data analyses in a timely fashion.

Attached is a copy of the first of these transmissions, ***Links to Learning Applications: An Analysis of Usage and Impact***. This first edition of ***Evaluation Matters*** summarizes the extent to which M-DCPS students used three Links to Learning Applications, including *Reading Plus*, *Destination*, and *Odyssey*, and that of *Successmaker* which is being explored for use as a companion application. It also provides preliminary findings on the effectiveness of these programs in improving students' reading and/or mathematics achievement during the 2010-2011 school year.

If you need further information, please call Dr. Richard H. Hinds, Associate Superintendent and Chief Financial Officer, Financial Services, at 305-995-1225, 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

Evaluation Matters

Volume 1, Number 1 October 2011 Steven Urdegar, Ph.D, Director

Links to Learning Applications:
An Analysis of Usage and Impact – Year 1

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, which is being explored for use as a companion application. 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

Reading							
Grade	Odyssey[a]	Reading Plus[a]	Destination[b]	Odyssey[a]	Reading Plus[a]	Destination[b]	Ticket to Read[ac]
3		x	x		x	x	x
4		x	x		x	x	x
5		x	x		x	x	x
6	x	x	x	x	x	x	
7	x	x	x	x	x	x	
8	x	x	x	x	x	x	
9		x	x		x	x	
10		x	x		x	x	

Mathematics						
Grade	Odyssey[a]	Gizmos[ac]	Destination[b]	Odyssey[a]	Gizmos[a]	Destination[b]
3			x			x
4		x	x		x	x
5		x	x		x	x
6	x	x	x	x	x	x
7	x	x	x	x	x	x
8	x	x	x	x	x	x
9		x	x		x	x
10		x	x		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.

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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 L2L applications or Successmaker during the 2010-11 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?

Data used in the usage analysis were obtained from software vendors supplemented by data from the student data-base system and student assessment records. Data from Gizmos were not usable and data from Ticket to Read were not available. Usage patterns were examined through descriptive statistics. The impact of each application was analyzed based on total student usage, by means of a statistical procedure using test scores that were adjusted beforehand to remove the influence of demographic differences.

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

A large number 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. Only certain kinds of data, as noted below, were available from some vendors. Tables 2 and 3 provide the hours used by the "middle" student (50th percentile) and by a "high-usage" student (95th percentile).

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

	Links to Learning											
	Reading Plus			Destination			Odyssey			Successmaker		
		Percentiles			Percentiles			Percentiles			Percentiles	
Grade	N	50	95	n	50	95	n	50	95	n	50	95
3	13,020	11.38	47.51	1,887	0.68	6.35	--	--	--	15,991	10.70	44.63
4	12,445	9.47	43.07	1,217	0.72	3.96	--	--	--	15,817	7.55	39.63
5	13,173	9.45	40.27	1,115	0.65	5.77	--	--	--	15,564	7.90	35.47
6	14,574	9.17	43.76	222	1.05	8.56	1,878	1.26	9.57	--	--	--
7	13,607	8.13	36.83	254	1.04	6.48	2,028	1.37	23.60	--	--	--
8	13,330	8.30	34.97	167	1.75	11.08	2,122	2.31	26.94	--	--	--
9	11,689	8.57	41.63	509	2.03	8.15	--	--	--	--	--	--
10	9,407	10.38	44.43	456	1.42	4.60	--	--	--	--	--	--

- Reading Plus was used by over 10,000 students per grade at most grade levels during the 2010-11 school year. However, half of the students used the software for fewer than 10 hours all year (or about one hour per month), and 95% used it for fewer than 40 hours (or about one hour per week).

- Destination Learning offered support in both reading and mathematics. However, usage data were only available for students whose activities were assigned by their teachers. Based on the data that were provided:
  - In reading, the software was used by 1,000 - 1,500 students per grade in the lower grades during the 2010-11 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 two hours all year to complete teacher assigned tasks, and 95% of the students used the software for fewer than eight hours all year for that purpose.
  - The mathematics software was used about twice as often as the reading software.

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

	Links to Learning								
	Destination			Odyssey			Successmaker		
		Percentiles			Percentiles			Percentiles	
Grade	n	50	95	n	50	95	n	50	95
3	2,261	1.08	11.50	--	--	--	13,860	9.78	40.88
4	1,804	1.20	20.38	--	--	--	14,642	9.08	41.90
5	1,450	1.38	9.79	--	--	--	14,473	8.20	37.03
6	726	2.29	15.50	4,158	1.67	15.44	--	--	--
7	993	2.78	17.57	4,648	2.10	28.95	--	--	--
8	684	2.70	37.61	4,146	1.99	34.39	--	--	--
9	188	9.92	21.76	--	--	--	--	--	--
10	36	0.79	7.70	--	--	--	--	--	--

- Odyssey also provided support in both reading and mathematics.
  - In reading, about 2,000 students, in each grade, 6-8, used the software during the 2010-11 school year. Half of the students used the software for fewer than 1.5 hours all year, and 95% of the students used the software for fewer than 20 hours all year.
  - In mathematics, over 4,000 students per grade used the software during the 2010-11 school year. Half of the students used the software for fewer than two hours all year, and 95% of the students used the software for fewer than 40 hours all year.
- Successmaker, which is being considered as a supplement to Links to Learning, also provided support in both reading and mathematics.
  - In reading, nearly 16,000 students per grade used the software during the 2010-11 school year. Half of the students used the software for fewer than 10 hours all year, and 95% of the students used the software for fewer than 40 hours all year.
  - In mathematics, 14,000 - 15,000 students, per grade, used the software during the 2010-11 school year. Half of the students used the software for fewer than 10 hours all year, and 95% of the students used the software for fewer than 40 hours all year.

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

Impact was examined by conducting separate regression analyses for each application by grade. Each regression predicted each student's posttest (FCAT-NGSSS) score based on his or her usage and pretest (FCAT-SSS) score.

- Reading impact is summarized in Table 4.
  - Reading Plus had a significant positive effect at all levels of ability, at each grade, except third. In third grade, it had a significant positive effect for average students (55th percentile on the SAT-10 pretest), which increased for below average students, decreased for above average students, and became non-significant for advanced students (85th percentile and above on the SAT-10 pretest).
  - Destination Learning had a significant positive effect for fourth and fifth grade students, across ability levels, but no impact in grades 6 – 10.
  - Odyssey had a significant positive effect for eight grade students, across ability levels, but no impact in grades 6 and 7.
  - Successmaker had a significant positive effect for average third grade students (55th percentile on the SAT-10 pretest), which increased for above average students, decreased for below average students (41st – 54th percentile on the SAT-10 pretest), and became non-significant for students who scored below the 40th percentile on the SAT-10 pretest.

Table 4. Links to Learning/Successmaker Applications:
Reading Impact Summary

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

Note. 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, and "N/A" when the program was unavailable at that grade level. Cells labeled "ALL " represent grades for which an application has a statistically significant impact for all students. Cells labeled "BELOW AVERAGE-AVERAGE" (1st to 55th percentile on the SAT-10) and/or "AVERAGE-ABOVE AVERAGE"(55th – 99th percentile on the SAT-10) indicate the application only has a statistically significant impact for such students.

[a]Students' ability level, as measured by their pretest score.

- Mathematics impact is summarized in Table 5.
  - Destination Learning had a small significant positive effect for third and fourth grade students across ability levels and no impact in grades 5 – 9. In grade 10, Destination Learning had a significant positive effect for students whose developmental scale scores, on the FCAT pretest, were within the bottom third of level 3.
  - Odyssey had a significant positive effect for sixth and seventh grade students, across all ability levels, and no impact at grade 8.
  - Successmaker had a significant positive effect for third, fourth and fifth grade students, across all ability levels.

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

	Links to Learning		Successmaker
	Destination Mathematics	Odyssey	
3	ALL	N/A	ALL
4	ALL	N/A	ALL
5	NONE	N/A	ALL
6	NONE	ALL	N/A
7	NONE	ALL	N/A
8	NONE	NONE	N/A
9	NONE	N/A	N/A
10	BELOW AVERAGE- AVERAGE[a]	N/A	N/A

Note. 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, and "N/A" when the program was unavailable at that grade level. Cells labeled "ALL " represent grades for which an application has a statistically significant impact for all students. Cells labeled "BELOW AVERAGE-AVERAGE" indicate the application only has a statistically significant impact for students whose developmental scale scores on the FCAT pretest were within the bottom third of level 3.

[a]Students' ability level, as measured by their pretest score.

5. What are the principal conclusions of this report?

Reading Plus and Successmaker Mathematics each had a consistent beneficial impact on the achievement of the students who used them. The other programs had a positive impact at some, but not all grade levels, which may have been shown to be more pervasive, if full usage data had been available.

Overall, while the results for the inaugural year of the Links to Learning applications varied across grade levels, student achievement appears to have benefitted from the availability of these tools, provided as supplemental resources made available outside of traditional classroom instruction.