children's institute

STRENGTHENING SOCIAL AND EMOTIONAL HEALTH

Greater Rochester Summer Learning Association 2018 Kindergarten – 8th Grade Summer Program STAR Assessment Results

BOHDAN S. LOTYCZEWSKI

NOVEMBER, 2018

Greater Rochester Summer Learning Association
2018 Kindergarten – 8th Grade Summer Program
STAR Assessment Results

BOHDAN S. LOTYCZEWSKI

NOVEMBER, 2018

children's institute

www.childrensinstitute.net

Table of Contents

Acknowledgements

Children's Institute is grateful to the Greater Rochester Summer Learning Association (GRSLA) and the summer program administrators for summerLEAP at Allendale-Columbia, summerLEAP at the College at Brockport, Horizons at Harley, Horizons at Monroe Community College, Horizons at Warner, summerLEAP at Volunteers of America, summerLEAP at West Irondequoit, and summerLEAP at YMCA for providing the information and assistance required for the preparation of this report. We appreciate the efforts of the teachers and providers who participated in the 2018 summerLEAP effort.

We note with gratitude the assistance of GRSLA's Gretchen Smith in providing identifying and assessment information for program participants.

Introduction

This report summarizes results from STAR assessments of 952 children who participated in summerLEAP, a 6-week summer program offered at eight program sites under the auspices of the Greater Rochester Summer Learning Association (GRSLA), during June, July, and August of 2018. The goal of GRSLA's educational programs is to maintain or enhance students' cognitive and non-cognitive school skills over the course of the summer when schools are not in session. Without such opportunities, low-income students have been shown to experience two months of summer learning loss (Cooper & Harris, 2003, McCombs et al., 2011).

Sample and Procedure Description

The sample included 952 children with complete (*i.e.*, both pre-test and post-test) STAR assessment scores.

Three versions of the computer-administered STAR tests, designed for repeated administration throughout a school year, were used.

The 27-item STAR Early Literacy™ assessment (Renaissance Learning, 2015a) measures the early literacy skills of beginning readers, and tracks development in the areas of word facility and skills, comprehension strategies and constructing meaning, and numbers and operations. It was designed for use with grades K-2 and has satisfactorily been used with pre-K through grade 3. This assessment was administered to one student in grade 4 and another in grade 6 in the current sample. These students' scores will not be used in the analyses.

The 24-item STAR Math™ assessment (Renaissance Learning, 2015b), used with students in grades 1-12, addresses mathematics achievement in the domains of numbers and operations, algebra, geometry and measurement, and data analysis, analysis, and probability.

The 34-item STAR Reading™ test (Renaissance Learning, 2015c) assesses reading comprehension and skills in the areas of word knowledge and skills, comprehension strategies and constructing meaning, analyzing literary test, understanding the author's craft, and analyzing argument and evaluating text. It is appropriate for use through grade 12.

Assessments were typically administered near the beginning and again near the end of the summer session. The median number of days between the two assessments was 30 days, ranging from 2 to 38 days. For the purposes of this evaluation, the two students with assessments less than 14 days apart are excluded from the analyses.

Outcome Analyses – Overall Group and by Program Site

Pre-test, post-test, and change scale score descriptive statistics, t-test results, and effect sizes for the overall sample are presented in Table 1.

Table 1. STAR assessment results for all K-8 summerLEAP students.

		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	288	646.28	120.04	710.65	106.52	64.38	68.81	15.88[a]	0.54
Mathematics	312	623.06	142.19	621.74	144.14	-1.32	85.76	< 1	-0.01
Reading	347	474.64	250.19	484.81	254.57	10.17	100.19	1.89	0.04

[a] $p < .001$

Table 2 presents similar information, arranged by anonymized program site.

Table 2. STAR assessment results by K-8 summerLEAP program site

Site A		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	63	666.87	137.69	736.08	110.28	69.21	68.38	8.03[a]	0.50
Mathematics	60	555.70	120.64	520.03	127.98	-35.67	96.70	2.86[b]	-0.30
Reading	36	417.47	152.64	409.86	150.13	-7.61	73.45	< 1	-0.05

Site B		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	36	673.08	111.12	740.39	96.26	67.31	55.65	7.26[a]	0.61
Mathematics	25	616.00	135.34	626.28	123.61	10.28	54.60	< 1	0.08
Reading	25	502.96	254.51	505.76	257.25	2.80	78.28	< 1	0.01

Site C		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	33	691.52	112.57	732.76	98.75	41.24	57.61	4.11[a]	0.37
Mathematics	74	670.68	141.71	665.86	142.09	-4.81	58.50	< 1	-0.03
Reading	89	506.55	257.32	536.73	268.65	30.18	92.50	3.08[b]	0.12

Table 2. STAR assessment results by K-8 summerLEAP program site (continued)

Site D		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	34	660.03	119.69	736.79	92.37	76.76	108.77	4.12[a]	0.64
Mathematics	76	645.07	135.20	642.08	132.57	-2.99	69.03	< 1	-0.02
Reading	89	512.07	263.32	515.49	251.15	3.43	111.50	< 1	0.01

Site E		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	23	628.91	111.42	682.91	105.57	54.00	87.76	2.95[b]	0.48
Mathematics	77	610.36	147.89	637.03	141.48	26.66	110.08	2.13[c]	0.18
Reading	95	454.73	255.28	461.45	267.54	6.73	109.89	< 1	0.03

Site F		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	43	601.86	103.79	659.56	101.90	57.70	43.50	8.70[a]	0.56
Mathematics	--	--	--	--	--	--	--	--	--
Reading	13	249.31	123.66	257.15	113.03	7.85	92.13	< 1	0.06

Site G		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	26	584.27	92.13	634.38	103.06	50.12	34.28	7.46[a]	0.54
Mathematics	--	--	--	--	--	--	--	--	--
Reading	--	--	--	--	--	--	--	--	--

Site H		Pre-test		Post-test		Change			
	n	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t	ES
Early Literacy	30	636.23	116.13	728.23	90.06	92.00	66.52	7.57[a]	0.79
Mathematics	--	--	--	--	--	--	--	--	--
Reading	--	--	--	--	--	--	--	--	--

[a] $p < .001$; [b] $p < .01$; [c] $p < .05$

Conclusion and Recommendations

STAR assessment outcomes were presented for the combined K-8 group and separately for each program site. Overall positive change was noted for the early literacy measure, administered to K go 1, 1 go 2, 2 go 3, and 3 go 4 students. A moderate effect size of approximately one half standard deviation was observed. For older students, tested with the STAR Math and Reading assessments, no meaningful changes in either score were found.

The early literacy finding was replicated at each of the eight program sites. In addition, two of the sites (A and E) showed statistically significant but relatively small changes in the mathematics score, with site A's change being negative and site E's being positive. Only one site (C) showed statistically significant change in the reading score, to a small extent but in the positive direction.

Strong positive results such as were observed with the younger students are desirable, but we note that a goal of summer learning programs is to minimize the erosion of academic skills. Only one statistically significant skill decline was found (mathematics at site A). Other mathematics and reading outcomes were either constant from pre-test to post-test or, in a few cases, small but statistically significant. With the single noted exception, reading and mathematics skills were maintained or slightly enhanced, where otherwise they might reasonably be expected to markedly decline.

The strong early literacy results indicate that substantial skill enhancement over the summer is possible. We recommend a review of the curricula and program practices used with 2 go 3 and older students to strengthen effective aspects of the summer intervention and eliminate ineffective elements, to maintain the rate of skill acquisition over the summer period.

Limitations

These results are based upon a sample that was not randomly selected from the population of K-8th graders, and the design of the evaluation did not allow use of a comparison group. It is possible that the sample, and therefore the results presented, is not representative of the overall Rochester student population. Students' outcomes were based solely upon ratings from a single source (STAR assessments), without controlling for any of a variety of possible moderating or mediating variables.

References

Cooper, H. (2003). Summer learning loss: The problem and some solutions. ERIC Clearinghouse on Elementary and Early Childhood Education.

McCombs, J.S., Augustine, C.H., Schwartz, H.L., Bodilly, S.J., McInnis, B., Lichter, D.S., Cross, A.B. (2011). Making summer learning count: How summer programs can boost children's learning. Rand Corporation.

Renaissance Learning, Inc. (2015a). STAR Early Literacy Technical Manual. http://www.renaissance.com.

Renaissance Learning, Inc. (2015b). STAR Math Technical Manual. http://www.renaissance.com.

Renaissance Learning, Inc. (2015c). STAR Reading Technical Manual. http://www.renaissance.com.