children's institute

STRENGTHENING SOCIAL AND EMOTIONAL HEALTH

RECAP & Greater Rochester Summer Learning Association Special Report: 2016 Prek Go K Summer Program Outcomes

STAŚ LOTYCZEWSKI
A. DIRK HIGHTOWER, PH.D.

OCTOBER, 2016

2016 UPK Summer Program Outcome Summary | October, 2016 | Number T16-016

RECAP & Greater Rochester Summer Learning Association Special Report:
2016 Prek Go K Summer Program Outcomes

STAŚ LOTYCZEWSKI
A. DIRK HIGHTOWER, PH.D.

OCTOBER, 2016

children's institute

www.childrensinstitute.net

2016 UPK Summer Program Outcome Summary | October, 2016 | Number T16-016

Table of Contents

Acknowledgements

Children's Institute is grateful to the Rochester City School District, the Greater Rochester Summer Learning Association (GRSLA), Baden Street Settlement Alvin Wesley Child Development Center, Caring and Sharing Child Care Center, Community Child Care Center, Creative Beginnings Child Care, Friendship Children's Center, Ibero-American Action League Early Childhood Services, Rochester Childfirst Network, and the Volunteers of America Children's Center 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 2016 summerLeap effort.

Introduction

This report summarizes results from assessments of 176 children, pre-kindergarteners going into kindergarten (prek go k) and participated in summerLeap, a 6-week summer program offered by eight community-based organizations under the auspices of the Greater Rochester Summer Learning Association (GRSLA), during July and August of 2016. The goal of the program is to maintain or enhance students' cognitive and non-cognitive school skills over the course of the summer, thus negating the erosion of these skills during the months school is not in session.

Sample and Procedure Description

The sample included 79 girls (45%) and 97 boys (55%), 44 Hispanics (25%), 6 Asians (3%), 26 whites (15%), 108 blacks (61%), and 1 multiracial child. More than one ethnicity could be selected. Children's ages, as of June 30, 2016, ranged from 4.6 to 6.5 years, with a median of 5.0 years. Recorded attendance ranged from 1 to 29 days, with a median of 25 days out of a possible 29. Generally, teachers did not complete assessments for children with very low attendance rates.

Classroom Observation Record (COR Advantage) information (see below) was collected at four points: Fall 2015, Winter 2016, Spring 2016, and Summer 2016, near the end of the summer program. Only the 161 children with summer COR Advantage data were included in the analyses for this report.

Child Observation Record (COR Advantage)

The COR Advantage is a developmentally appropriate, standards-based measure that assesses children's academic (language, literacy, mathematics, & science), social, and motor competencies. This new iteration of the COR is aligned with the Common Core Learning Standards. Teachers record their observations of students' functioning using 34 items (plus two additional items for English Language Learners). Items are scored on 7-point developmentally sequenced scales in which each point represents a specific level of children's growth along a developmental continuum.

Teachers completed the COR Advantage in the fall, winter, and spring of prekindergarten and near the end of the summer program. By administering the COR Advantage at these times, the growth of individual students can be assessed.

COR Advantage subscales include:

- Approaches to Learning (*e.g.*, Initiative and Planning; Reflection)

- Social and Emotional Development (*e.g.*, Emotions; Conflict Resolution)
- Physical Development and Health (*e.g.*, Gross-motor skills; Personal Care and Healthy Behavior)
- Language, Literacy, and Communication (*e.g.*, Speaking; Alphabetic Knowledge)
- Mathematics (*e.g.*, Measurement; Patterns)
- Creative Arts (*e.g.*, Art; Music)
- Science and Technology (*e.g.*, Observing and Classifying; Natural and Physical World)
- Social Studies (*e.g.*, Geography; History)

An overall score is based on all 34 items. HighScope, the publisher of the COR Advantage, suggests kindergarten readiness is indicated if a student is rated at least 3.75 on each subscale and scores at least 4.0 overall.

The Rochester City School District (RCSD) used the COR Advantage during the 2015-2016 school year to assess students participating in the Universal Prekindergarten (UPK) program. Teachers completed the instrument in the fall, winter, and spring to monitor student progress and document outcomes. GRSLA used the COR Advantage to be able to compare prekindergarten scores collected by RCSD with summer program scores. GRSLA did not have access to individual prekindergarten student scores, and RCSD did not have access to individual summerLeap student scores. Children's Institute had permission to access both datasets. Only aggregated results will be reported to protect students' privacy.

COR Advantage Outcome Analyses

COR Advantage results from all four times of testing were available for 105 summerLeap students. Table 1 and Figures 1-9 show results for each time of assessment for this group.

Table 1. Prekindergarten and summer COR Advantage results for summerLeap students with complete data (n=105).

	Fall 2015 (T1)		Winter 2016 (T2)		Spring 2016 (T3)		Summer 2016 (T4)	
COR Score	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Approaches to learning	3.14	0.52	3.81	0.67	4.48	0.60	4.77	0.65
Social emotional development	3.11	0.63	3.90	0.63	4.54	0.66	4.85	0.63
Physical development & health	3.53	0.58	4.35	0.67	5.32	0.73	5.55	0.63
Language, literacy, communication	2.90	0.51	3.59	0.66	4.14	0.62	4.41	0.69
Mathematics	2.87	0.59	3.76	0.64	4.54	0.66	4.67	0.67
Creative arts	3.18	0.74	4.04	0.61	4.59	0.65	4.77	0.59
Science & technology	2.96	0.54	3.75	0.63	4.54	0.71	4.70	0.69
Social studies	2.82	0.38	3.86	0.66	4.48	0.69	4.84	0.59
Overall score	3.06	0.45	3.88	0.54	4.57	0.55	4.82	0.54

Figure 1. Approaches to Learning results for Summer Leap students.

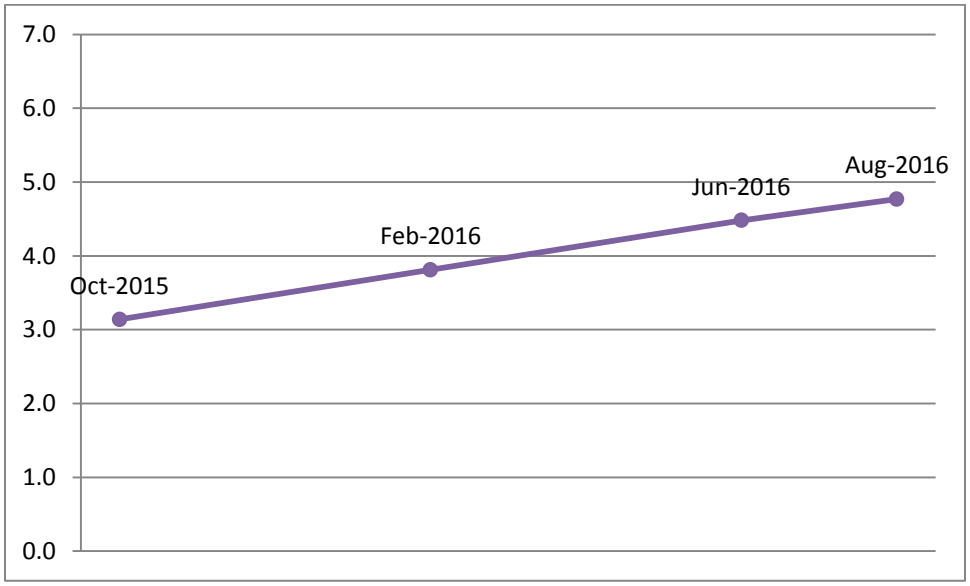


Figure 2. Social Emotional Development results for Summer Leap students.

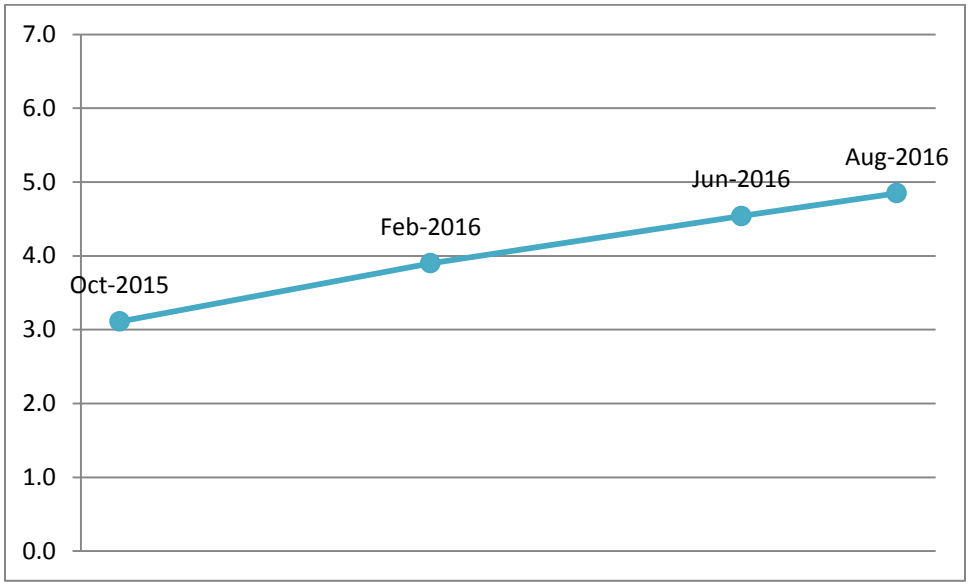


Figure 3. Physical Development and Health results for Summer Leap students.

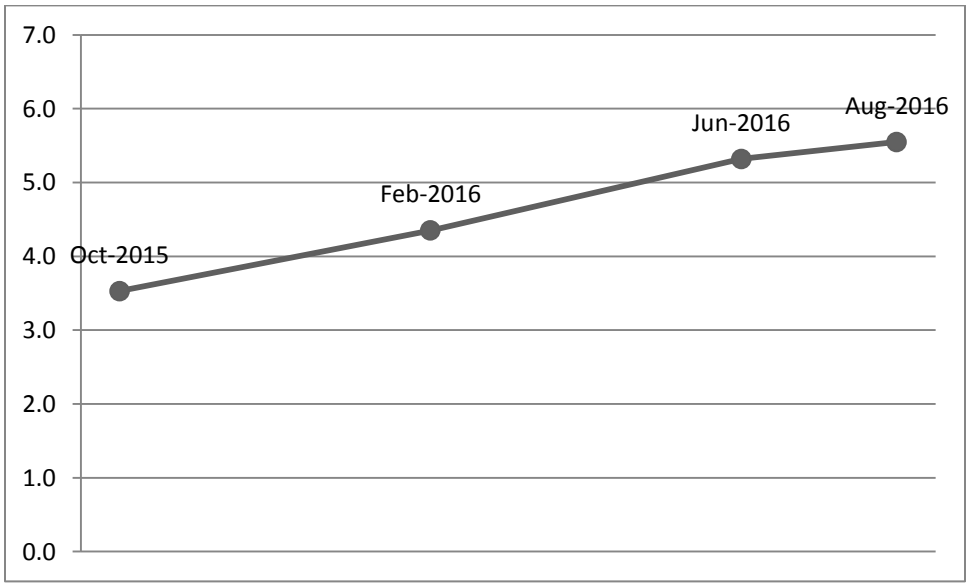


Figure 4. Language, Literacy, Communications results for Summer Leap students.

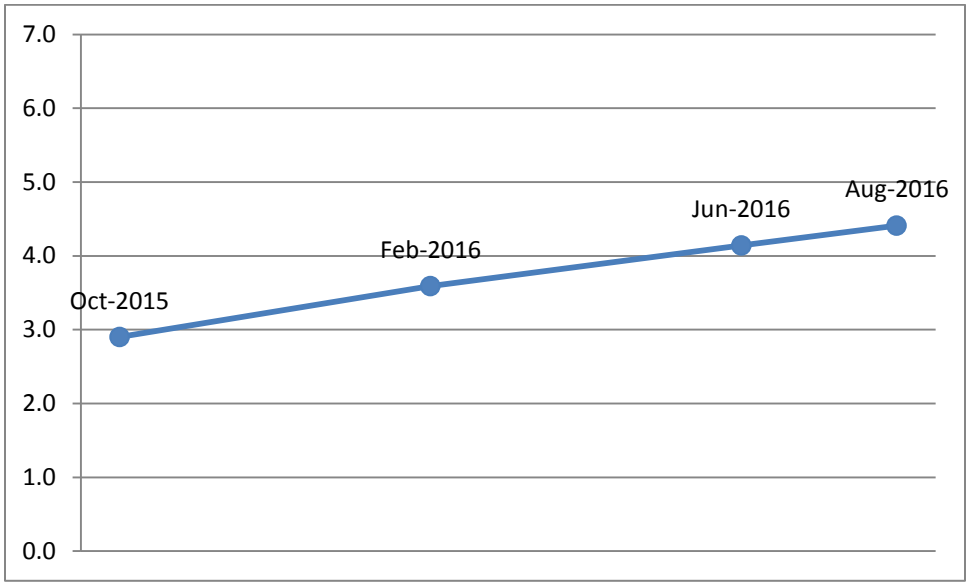


Figure 5. Mathematics results for Summer Leap students.

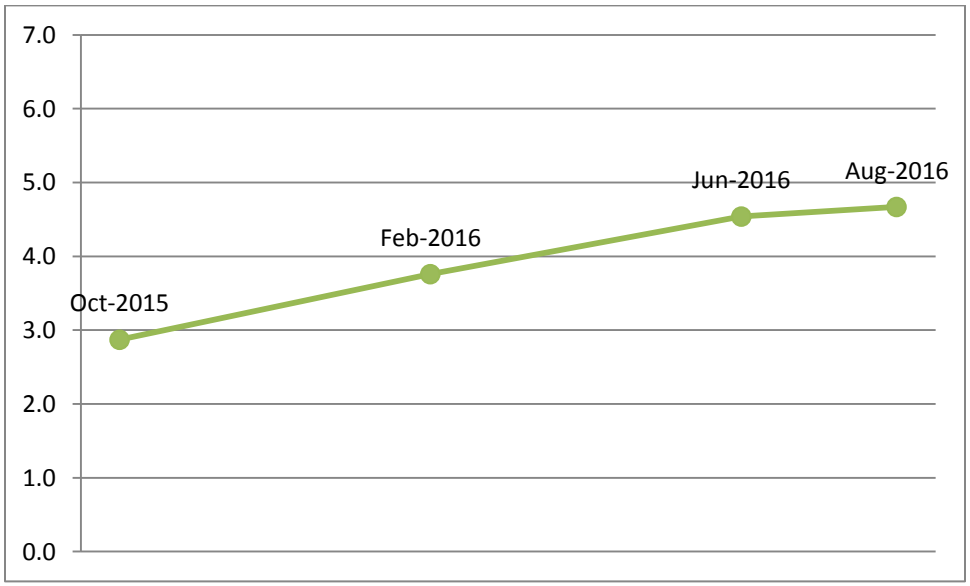


Figure 6. Creative Arts results for Summer Leap students.

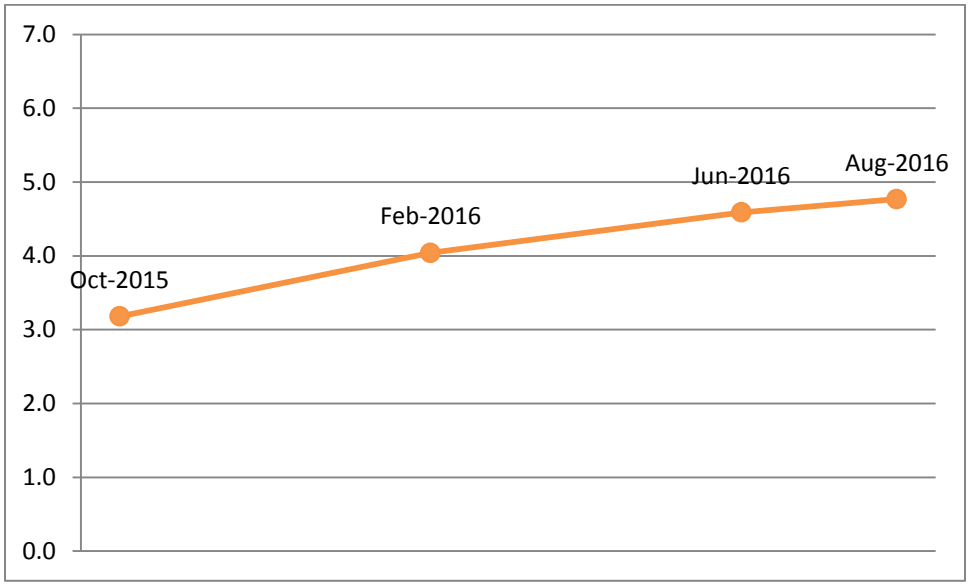


Figure 7. Science and Technology results for Summer Leap students.

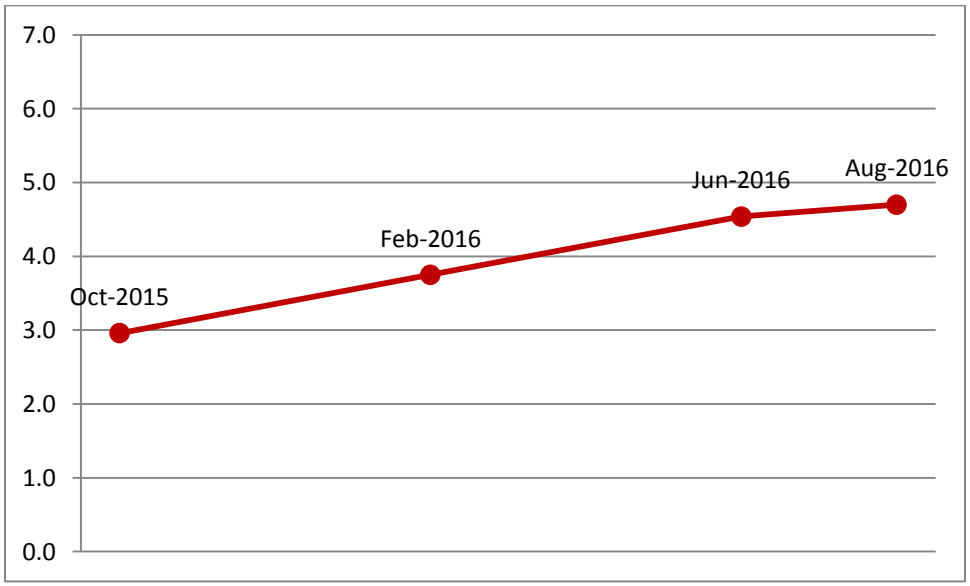


Figure 8. Social Studies results for Summer Leap students.

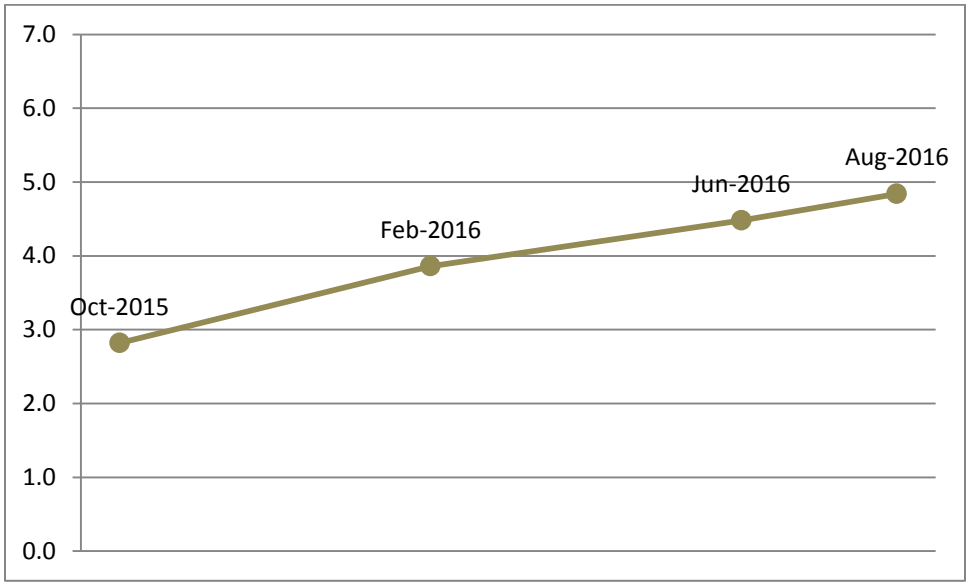
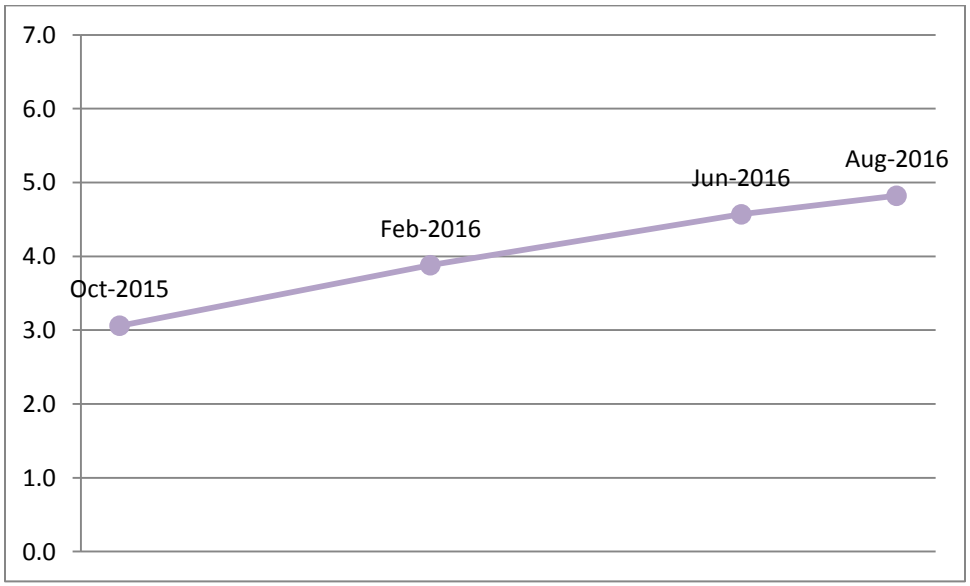


Figure 9. COR Overall results for Summer Leap students.



Of the 161 Summer Leap students with summer COR data, 141 were also rated at the end of the prekindergarten session. We calculated a change score to assess the extent of growth as measured by the COR during the summer program. Table 2 shows these results.

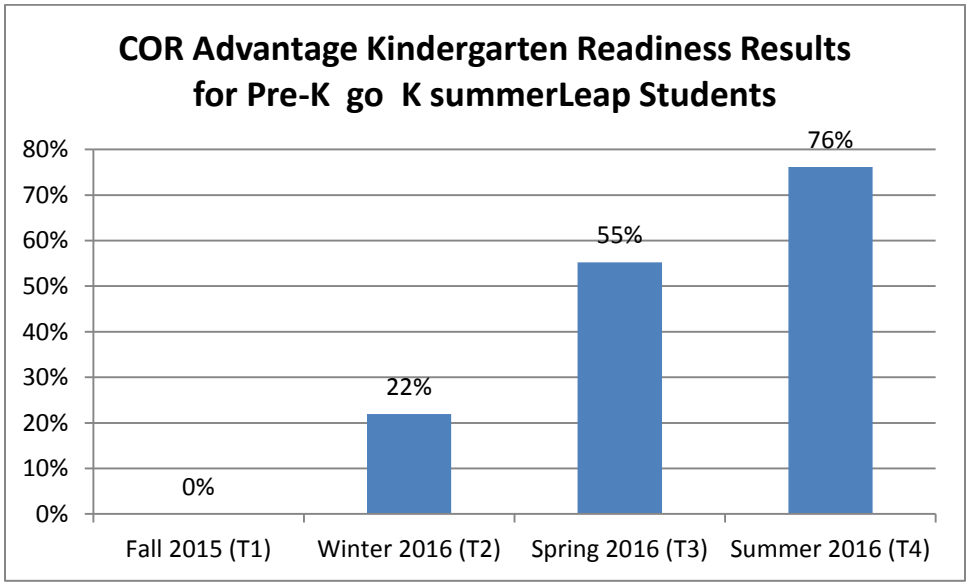
Table 2. Spring to summer change scores for summerLeap students.

COR Score	N	Mean Change	Std. Dev.	*t*	*p*	Effect Size
Approaches to learning	141	0.33	0.63	6.25	<.0001	0.49
Social emotional development	141	0.37	0.61	7.15	<.0001	0.54
Physical development & health	141	0.26	0.67	4.69	<.0001	0.33
Language, literacy, communication	141	0.27	0.52	6.28	<.0001	0.45
Mathematics	136	0.18	0.64	3.28	.001	0.20
Creative arts	138	0.20	0.61	3.92	<.0001	0.33
Science & technology	137	0.27	0.71	4.47	<.0001	0.30
Social studies	138	0.46	0.67	8.05	<.0001	0.57
Overall score	141	0.29	0.48	7.12	<.0001	0.47

Student growth during the summerLeap program was statistically significant ($p \leq .001$) for each of the eight COR Advantage subscales and for the Overall score. Moreover, calculated effect sizes were robust, ranging from .20 (Mathematics) to .57 (Social Studies) of a standard deviation, with a median effect size of .45. The effect size for the language, literacy, and communication subscale, the program outcome of greatest interest, was .45. These are very strong results.

Kindergarten readiness was assessed for the summerLeap students at each of the four time points. These results are shown in Figure 10.

Figure 10. COR Kindergarten readiness assessment at 4 time points for Summer Leap students.



Kindergarten readiness for the summerLeap group increased from 55% at the end of pre-k to 76% at the end of the summer.

We compared Time 4 COR scores of the subgroup with at least 80% attendance with those having less than 80% attendance and found no statistically significant differences. Results appear in Table 3.

Table 3. Time 4 COR results comparisons for low and high attendance groups.

	< 80% Attendance (N=51)		80% + Attendance (N=110)			
COR Score	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**t**	**p**
Approaches to learning	4.59	0.74	4.71	0.69	< 1	ns
Social emotional development	4.74	0.63	4.77	0.67	< 1	ns
Physical development & health	5.41	0.69	5.39	0.68	< 1	ns
Language, literacy, communication	4.19	0.76	4.40	0.74	1.65	0.10
Mathematics	4.46	0.82	4.63	0.70	1.35	0.18
Creative arts	4.64	0.72	4.78	0.58	1.29	0.20
Science & technology	4.49	0.87	4.64	0.77	1.15	ns
Social studies	4.64	0.86	4.73	0.72	< 1	ns
Overall score	4.65	0.67	4.76	0.59	1.06	ns

Conclusion

We conclude that, as measured by the COR Advantage, participation in summerLeap programs prior to entry into kindergarten is associated not merely with maintaining cognitive and non-cognitive school-related skills, but with a substantial increase in students' academic, social emotional, and physical development, and with an increase in the proportion of students who will enter kindergarten prepared to learn. No systematic summer learning loss, characterized by a decline in the group's COR Advantage score, was noted for any subscale.

At this time, we have no data to determine the extent of erosion between the end of the summer program and the beginning of kindergarten. It is reasonable to expect that there will be some, but that it was less than it would have been without the summer activities, since less time elapsed until the beginning of kindergarten classes for those children receiving the summer program. We anticipate receiving permission to compare fall 2016 kindergarten academic ratings of the summer program participants and other 2015-2016 prekindergarten students to assess their status at and after kindergarten entry.

Limitations

These results are based upon a sample that was not randomly selected from the population of prekindergarten participants, 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 prekindergarten population. Students' outcomes were based solely upon ratings from a single source (classroom teachers), who were, in a sense, rating their own performance as they rated that of their students.