



Service-Learning

Schools of Success Evaluation Update

Education Commission of the States

www.ecs.org

700 Broadway, Suite 810 • Denver, CO 80203-3442 • 303.299.3600 • Fax: 303.296.8332

NCLC Schools of Success Network Shows that Service-Learning Quality Matters

By Paul Baumann

October 2012

INTRODUCTION

In 2010, the National Center for Learning and Citizenship (NCLC) established the Schools of Success, a national network of 19 schools that use service-learning as an instructional strategy.¹ Thanks to funding from the State Farm Companies Foundation and Learn and Serve America, the schools were part of a three-year project to examine how the elements of service-learning enhance student performance on key outcomes. Through this project, the NCLC has gathered robust data to support the notion that high-quality service-learning has a statistically significant and positive relationship with students' academic engagement, educational aspirations, acquisition of 21st century skills, and community engagement.

Key Findings:

- Student participation in high-quality service-learning is positively related to gains in the following key outcomes at statistically significant levels:
 - Academic engagement
 - Educational aspirations
 - Acquisition of 21st century skills
 - Community engagement.

- Teachers, administrators, and policymakers should to pay close attention to the *K-12 Service-Learning Standards for Quality Practice*² when creating and implementing service-learning programs; these standards appear to offer critical guidance in the “how to” of service-learning, particularly when student outcomes are a key concern.



National Center for Learning and Citizenship

BACKGROUND

The NCLC selected participating schools for the Schools of Success network based on their support of five elements critical to the successful, school-based integration of service-learning shown to lead to student achievement and success:

- 1) Vision and leadership
- 2) Curriculum and assessment
- 3) Professional development
- 4) Community-school partnerships
- 5) Continuous improvement.³

Each school received funding over three years (\$5,000 per year), on- and off-site professional development opportunities, and ongoing technical assistance to expand and deepen existing service-learning initiatives and build greater capacity within their school and district. In return, the NCLC asked schools to test and learn from leadership strategies that integrate and sustain quality service-learning for all students to succeed in school and in their communities.

The Schools of Success network had two funders—the State Farm Companies Foundation and the Corporation for National and Community Service/Learn and Serve America. Both required their own evaluation, so each year the NCLC completed two separate evaluations of the participating schools in the program, according to the funder for that school (see Table 1, below). State Farm-funded schools included 10 schools that ranged from preschool to high school. These schools could implement service-learning in any school subject area. Learn and Serve-funded schools included nine middle schools, all of which were designated as Title I schools (high poverty) during the time of this program. In addition, service-learning projects in the Learn and Serve-funded schools required a STEM focus.⁴

Exhibit 1: Schools of Success Network Participating Schools, by Funder

State Farm Funded (service-learning in any subject area)			Learn and Serve Funded (STEM-focused service-learning)		
duPont Manual High School	Louisville, KY	9-12 Magnate High School	Christian County Middle School	Hopkinsville, KY	6-8 Middle School
Grant's Lick Elementary School	Alexandria, KY	K-5 Elementary School	Detroit Edison Public School Academy	Detroit, MI	P-10 Public Charter School (only grades 6-8 participated)
Greendale Middle School	Greendale, WI	6-8 Middle School	Hopkinsville Middle School	Hopkinsville, KY	6-8 Middle School
Liberty High School	Louisville, KY	9-12 Alternative High School	MS 442	Brooklyn, NY	6-8 Middle School
Malcolm Shabazz City High School	Madison, WI	9-12 Alternative High School	New Foundations Charter School	Philadelphia, PA	P-10 Public Charter School (only grades 6-8 participated)
Montpelier High School	Montpelier, VT	9-12 High School	North Drive Middle School	Hopkinsville, KY	6-8 Middle School
Park Forest Elementary School	State College, PA	K-5 Elementary School	School for Global Leaders	New York, NY	6-8 Middle School
Patriot Academy	Madison, AL	9-12 Alternative High School	Sutter Middle School	Fowler, CA	6-8 Middle School
Raymond School District	Franksville, WI	K-8 School	Tupelo Middle School	Tupelo, MS	6-8 Middle School
Waterford High School	Waterford, CT	9-12 High School			

RESEARCH METHODS

The NCLC contracted with RMC Research Denver⁵ to examine the Schools of Success program’s effects on schools, community conditions, and students’ academic and civic engagement. While the evaluation was wide ranging, here we report on a subset of data gathered from a quasi-experimental assessment of the relationship between service-learning and key student outcomes. Participating students (those in classes that took part in service-learning activities) and matched-comparison students (those in classes that did not take part in service-learning activities) took surveys at the beginning and end of the school year. The results reported below are based on data gathered from these pre- and posttest surveys administered during the 2010-11 and 2011-12 school years.

RMC Research Denver developed two sets of pre- and posttest surveys: one for students in grades 3-5 and another for students in grades 6-12. The grades 6-12 survey included measures that are parallel to those in the grades 3-5 version. Measures included subscales with high reliabilities that assessed students’ academic engagement, acquisition of 21st century skills, and community engagement. In addition to these common measures, the grades 6-12 student survey included educational aspirations, and the survey administered to Learn and Serve-funded schools included STEM skills and interest. All items in the subscales were measured on a four-point scale with the following response categories: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. Exhibit 2 provides sample survey items for the measures we discuss in this analysis.

Exhibit 2: Definition of Survey Measures for Student Outcomes

Measure	Definition	Sample Item(s) from Grades 6-12 survey	Number of Items in Grades 6-12 survey
Academic engagement	Affective, behavioral, and cognitive engagement in classes and schoolwork	* I feel that the schoolwork I am assigned is meaningful and important. * My classes are interesting to me.	9
Educational aspirations	Aspirations for graduation and postsecondary education / career	* I am likely to graduate from high school. * I am likely to continue my education beyond high school.	6
Acquisition of 21st century skills	Problem-solving skills, decision-making skills, ability to work on teams, communication skills, and leadership skills	* I am good at working as part of a team. * I am good at taking on different roles and responsibilities.	14
Community engagement	Awareness of community issues, involvement in the community, encouraging others to be involved in their community	* I am aware of the important needs in my neighborhood or community. * I talk with my friends about my neighborhood or community.	6

Participating students’ posttest surveys also included questions that allowed RMC to generate a measure of quality for the service-learning projects in which participating students engaged. RMC used the National Youth Leadership Council’s *K-12 Service-Learning Standards for Quality Practice*⁶ as the basis for its construction of student survey items related to service-learning quality. In a series of questions, students were asked to assess the extent to which their service-learning experiences: (1) provided opportunities for students to engage in meaningful service; (2) were explicitly linked to the curriculum; (3) provided multiple opportunities for student reflection; (4) promoted understanding of diversity and mutual respect; (5) emphasized youth voice in planning, implementation, and evaluation; (6) included partnerships between the school and community; (7) included ongoing progress monitoring; and (8) had sufficient duration and intensity.

RMC then used these student ratings of service-learning quality to separate the participating students into a group that participated in “higher-quality” service-learning and a group that participated in “lower-quality” service-learning.⁷ Throughout the course of ongoing conversations, technical assistance, and site visits, NCLC staff members noted the varying extent to which the participating schools were implementing service-learning according to the *K-12 Service-Learning Standards for Quality Practice*. RMC’s classification of students’ service-learning experience according to quality helps to account for this variation in implementation. The classification also allows for more fine-grained analysis between the pre- and posttest scores of various groups of students, including:

- Participant (service-learning) and comparison (no service-learning)
- Higher-quality service-learning and lower-quality service-learning
- Higher-quality service-learning and comparison (no service-learning).

RESULTS: ACADEMIC ENGAGEMENT⁸

As shown in Exhibits 3, 4, 5, and 6, service-learning is related positively at statistically significant levels with students' academic engagement.

- Exhibit 3 shows an instance in which participant students' academic engagement scores went up while comparison students' academic engagement scores declined.

Exhibit 3: Student Differences over Time on Academic Engagement for Service-Learning and Comparison Groups

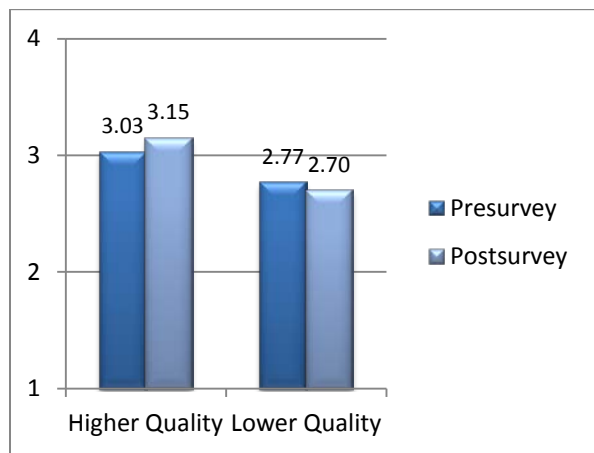
	Service-Learning			Comparison			Significance
	N	Pretest Mean	Posttest Mean	N	Pretest Mean	Posttest Mean	
State Farm Funded							
SY 2011-12	414	2.96	3.00	160	2.96	2.90	.047*
Grades 6-12							

* $p \leq .05$

Note: For all questions, responses were rated on a four-point scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree.

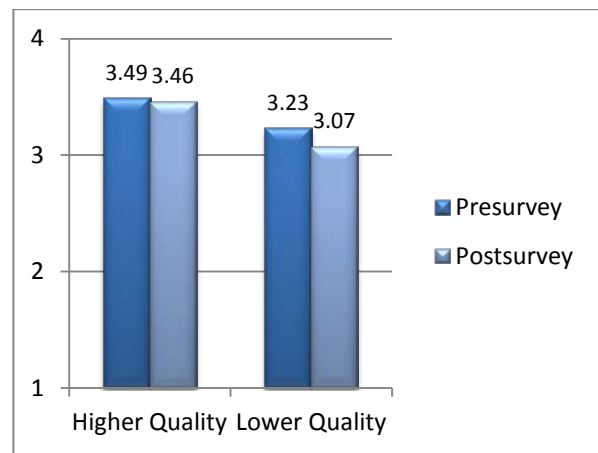
- Exhibits 4 and 5 show academic engagement score changes over time for two sets of higher-quality and lower-quality service-learning students. In Exhibit 4, higher-quality service-learning students experienced a gain in academic engagement while lower-quality service-learning students experienced a drop in academic engagement. Although all students represented in Exhibit 5 experienced a drop in academic engagement, students who participated in higher-quality service-learning experienced a much smaller drop than did students who experienced lower-quality service-learning.

Exhibit 4: Service-Learning Quality as a Moderator for Academic Engagement (Learn & Serve Funded, SY 2010-11, Grades 6-8)



$p = .000$

Exhibit 5: Service-Learning Quality as a Moderator for Academic Engagement (State Farm Funded, SY 2011-12, Grades 3-5)



$p = .000$

- Exhibit 6 shows difference between two groups of higher-quality service-learning students' and comparison (no service-learning) students' pre- and posttest scores for academic engagement. In both instances shown, higher-quality service-learning students experience a gain in academic engagement while comparison students experience a decline in academic engagement, all at statistically significant levels.

Exhibit 6: *Group Differences over Time on Academic Engagement When Comparing Students in High-Quality Programs with Comparison Students*

	High-Quality Service-Learning			Comparison			Significance
	N	Pretest Mean	Posttest Mean	N	Pretest Mean	Posttest Mean	
State Farm Funded SY 2010-11 Grades 6-12	245	3.09	3.13	166	2.95	2.89	.028*
State Farm Funded SY 2011-12 Grades 6-12	205	3.12	3.19	160	3.04	2.94	.002**

* $p \leq .05$, ** $p \leq .01$

RESULTS: EDUCATIONAL ASPIRATIONS

Exhibits 7 and 8 display evidence demonstrating that service-learning is positively correlated to students' gain in educational aspirations at statistically significant levels.

- Exhibit 7 shows the differences in pre- and posttest scores for a set of service-learning and comparison (no service-learning) students.

Exhibit 7: *Student Differences over Time on Educational Aspirations for Service-Learning and Comparison Groups*

	Service-Learning			Comparison			Significance
	N	Pretest Mean	Posttest Mean	N	Pretest Mean	Posttest Mean	
State Farm Funded							
SY 2010-11	505	3.72	3.76	166	3.73	3.70	.05*
Grades 6-12							

* $p \leq .05$

- Exhibit 8 shows this difference for a set of higher-quality service-learning and comparison students.

EXHIBIT 8: *Group Differences over Time on Educational Aspirations When Comparing Students in High-Quality Programs to Comparison Students*

	High-Quality Service-Learning			Comparison			Significance
	N	Pretest Mean	Posttest Mean	N	Pretest Mean	Posttest Mean	
Learn & Serve Funded							
SY 2010-11	203	3.69	3.78	142	3.72	3.68	.017*
Grades 6-8							

* $p \leq .05$

In both instances, those students who participated service-learning/higher-quality service-learning showed an increase in educational aspirations while comparison students showed a decrease in educational aspirations.

RESULTS: 21st CENTURY SKILLS

The data arrayed in Exhibits 9, 10, 11, and 12 demonstrate that participation in service-learning is positively correlated at statistically significant levels with students' acquisition of 21st century skills.

- As shown in Exhibits 9, 10, and 11, students who participated in higher-quality service-learning experienced a gain in acquisition of 21st century skills while students who participated in lower-quality service-learning experienced a slight decline in acquisition of 21st century skills.

Exhibit 9: Service-Learning Quality as a Moderator for Acquisition of 21st Century Skills
(State Farm Funded, SY 2010-11, Grades 3-5)

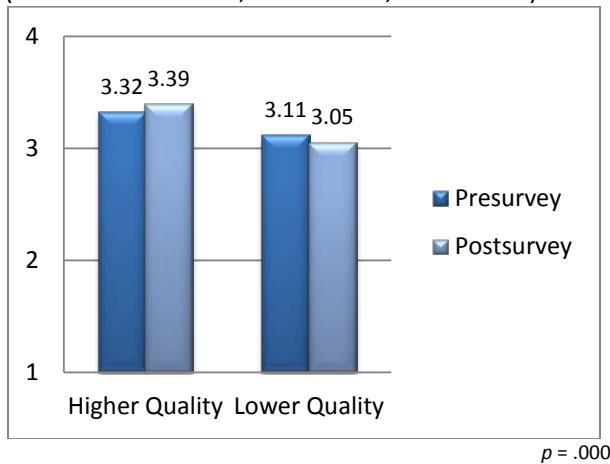


Exhibit 10: Service-Learning Quality as a Moderator for 21st Century Skills
(Learn & Serve Funded, SY 2010-11, Grades 6-8)

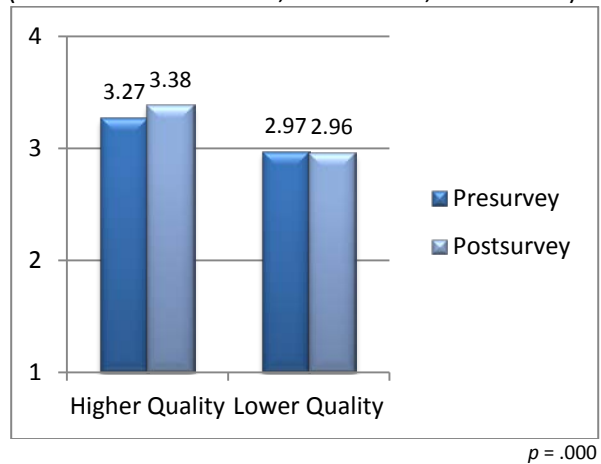
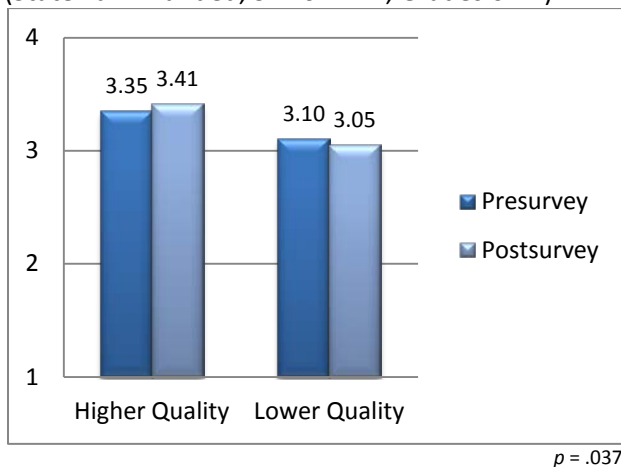


Exhibit 11: Service-Learning Quality as a Moderator for 21st Century Skills
(State Farm Funded, SY 2011-12, Grades 6-12)



- Exhibit 12 shows difference between two groups of higher-quality service-learning students' and comparison (no service-learning) students' pre- and posttest scores for acquisition of 21st century skills.

Exhibit 12: *Group Differences over Time on Acquisition of 21st Century Skills When Comparing Student in High-Quality Programs with Comparison Students*

	High-Quality Service-Learning			Comparison			Significance
	N	Pretest Mean	Posttest Mean	N	Pretest Mean	Posttest Mean	
State Farm Funded SY 2011-12 Grades 3-5	105	3.38	3.40	154	3.31	3.17	.015*
State Farm Funded SY 2011-12 Grades 6-12	202	3.35	3.41	160	3.25	3.22	.048*

* $p \leq .05$

In all instances shown, high-quality service-learning students show a gain in acquisition of 21st century skills while comparison students show a decline in acquisition of 21st century skills, both at statistically significant levels.

RESULTS: COMMUNITY ENGAGEMENT

Exhibits 13, 14, 15, and 16 show that students' participation in service-learning has a positive influence on their level of community engagement at statistically significant levels.

- Exhibit 13 shows an instance in which the mean of both service-learning and comparison (no service-learning) students declined in community engagement over the course of a year. The decline for service-learning students, however, was far less severe (.07) than for comparison students (.24).

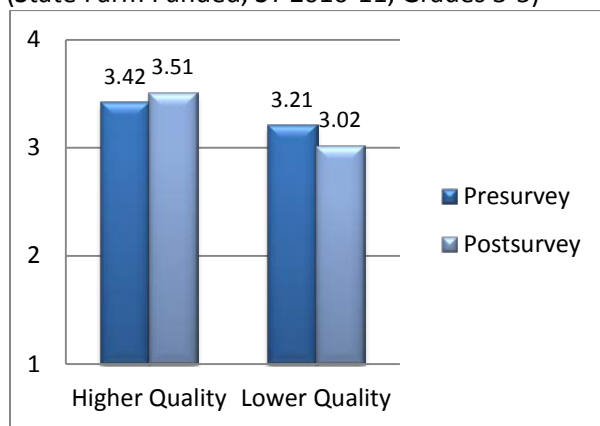
Exhibit 13: Student differences on Community Engagement for Service-Learning and Comparison Groups

	Service-Learning			Comparison			Significance
	N	Pretest Mean	Posttest Mean	N	Pretest Mean	Posttest Mean	
State Farm Funded							
SY 2011-12	401	2.70	2.63	149	2.80	2.56	.003*
Grades 6-12							

* $p \leq .05$

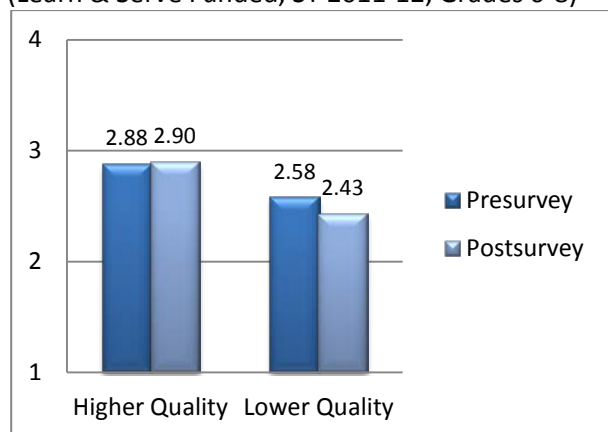
- Exhibits 14, 15, and 16 show a number of instances in which the levels of community engagement increased for students participating in high-quality service-learning while community engagement scores for students participating in lower-quality service-learning or no service-learning simultaneously declined, all at statistically significant levels.

Exhibit 14: Service-Learning Quality as a Moderator for Community Engagement
(State Farm Funded, SY 2010-11, Grades 3-5)



$p = .000$

Exhibit 15: Service-Learning Quality as a Moderator for Community Engagement
(Learn & Serve Funded, SY 2011-12, Grades 6-8)



$p = .024$

Exhibit 16. Group Differences over Time on Community Engagement When Comparing Students in High-Quality Programs with Comparison Students

	High-Quality Service-Learning			Comparison			Significance
	N	Pretest Mean	Posttest Mean	N	Pretest Mean	Posttest Mean	
State Farm Funded SY 2010-2011 Grades 3-5	115	3.43	3.51	35	3.20	2.97	.006**
State Farm Funded SY 2010-2011 Grades 6-12	238	2.88	3.01	150	2.63	2.60	.010**
State Farm Funded SY 2011-2012 Grades 3-5	105	3.38	3.40	154	3.31	3.17	.015*
State Farm Funded SY 2011-2012 Grades 6-12	198	2.88	3.09	149	2.67	2.60	.000**

* $p \leq .05$, ** $p \leq .01$

CONCLUSIONS AND NEXT STEPS

The evaluation findings presented in this analysis show that service-learning has a clear, positive, and statistically significant relationship with students' academic engagement, educational aspirations, acquisition of 21st century skills, and community engagement. The findings of this evaluation clearly point to at least one cross-cutting implication: *quality matters*.

When RMC divided site-level implementation of service-learning into "higher quality" and "lower quality," those students who indicated that they participated in higher-quality service-learning experienced greater gains at higher levels of statistical significance on most key outcomes than did students who participated in lower-quality service-learning or no service-learning. Because RMC used the National Youth Leadership Council's *K-12 Service-Learning Standards for Quality Practice* as the basis for its construction of student survey items related to assessment of quality, these results suggest that teachers, administrators, and policymakers need to pay close attention to the quality standards when creating and implementing service-learning programs. These standards appear to offer critical guidance in the "how to" of service-learning, particularly when student outcomes are a key concern.

Further, the results presented here suggest that students may actually be harmed when service-learning is implemented poorly. The outcome scores for students that participated in lower-quality service-learning didn't remain constant from pretest to posttest. These scores typically declined. In many instances, this decline was actually *larger* than the gain students received from participating in high-quality service-learning.

Nevertheless, the benefits from service-learning may appear to be minor given the small (though consistent) increases service-learning students gained on most outcome measures. (Most gains were less than .25 on a four-point scale, and many were less than .10.) In interpreting these apparently small increases, consideration of the length of the evaluation period (one academic year, or approximately nine months), and how increases may accumulate over time is necessary. For example, a student who participates in several consecutive school years of service-learning may very well accumulate these increases over time (e.g., a .12 gain for a single year may be a much larger gain over four years). As a next step in this line of research, longitudinal studies will be necessary to confirm whether or not this is the case. In addition, analysis of aggregated data from across similar service-learning programs is necessary to further solidify the findings of NCLC's own evaluations.

ENDNOTES

¹ The Schools of Success network was part of a larger evaluation study conducted by RMC Research Denver that used a set of common measures across a cluster of Learn and Serve states (Arizona, Hawaii, Louisiana, Michigan, Minnesota, Missouri, Ohio, and Wisconsin) and national programs (e.g., Youth Service America's STEMester of Service).

² *K-12 Service-Learning Standards for Quality Practice* (Saint Paul, MN: National Youth Leadership Council, 2009).

³ T. Pickeral, T. Lennon, and J. Piscatelli, *Service-Learning Policies and Practices: A Research-Based Advocacy Paper* (Denver, CO: Education Commission of the States, 2008).

⁴ While we did assess the relationship between service-learning and student outcomes related to STEM coursework, we do not provide these data here. Additional reports that address our findings on STEM and service-learning will be forthcoming.

⁵ RMC also conducted evaluations of other states and national programs in our Learn and Serve cluster.

⁶ *K-12 Service-Learning Standards for Quality Practice* (Saint Paul, MN: National Youth Leadership Council, 2009).

⁷ A median split was conducted on the student-rated service-learning program quality subscale. Two categories were created from the split (higher-quality and lower-quality programs).

⁸ In an effort to keep this issue brief concise, we do not provide all evaluation results here. Please contact Paul Baumann, NCLC Director at pbaumann@ecs.org if you wish to receive copies of the complete evaluations.

ACKNOWLEDGEMENTS

The research described in this issue brief was made possible through generous funding from the State Farm Companies Foundation and Learn and Serve America.



Paul Baumann is the Director of the National Center for Learning and Citizenship (NCLC) at the Education Commission of the States. He can be reached at pbaumann@ecs.org.



© 2012 by the Education Commission of the States (ECS). All rights reserved.

ECS is the only nationwide, nonpartisan interstate compact devoted to education.

ECS encourages its readers to share our information with others. To request permission to reprint or excerpt some of our material, please contact the ECS Information Clearinghouse at 303.299.3675 or e-mail ecs@ecs.org.

Equipping Education Leaders, Advancing Ideas