

The 9 Essential Skills for the Love and Logic Classroom
Supporting Theory and Research
Updated December 2011

Is Love and Logic research based? Listed below is a sampling of some supporting theory and research:

Neutralizing Student Arguing

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Delayed Consequences

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The Recovery Process

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Developing Positive Teacher/Student Relationships

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Data on the 9 Essential Skills Program

Is there any empirical data supporting the effectiveness of the *9 Essential Skills for the Love and Logic Classroom* teacher training curriculum? The answer is yes:

Spencer (2008) observed that teachers trained in the program believed that it:

- Had a positive impact on their school's learning environment
- Had a positive impact on student achievement
- Allowed them to maximize instructional time
- Enabled them to spend less time dealing with student misbehavior
- Prepared them to deal more effectively with this misbehavior

Spencer, P. (2008). *A logical choice? Perceived impacts of love and logic*. (Doctoral dissertation, Capella University).

Bullock (2011) observed similar findings, with teachers indicating that the program:

- Helped them remain calmer and more positive
- Enabled them to avoid arguing with students
- Allowed them to spend more time teaching
- Helped them gain more cooperation from students
- Improved their relationships with students

Bullock, D. (2011). *Early childhood teachers' perceptions of student behavior after implementing love and logic classroom management and discipline program*. (Doctoral dissertation, Walden University)

Our Own Research

We've also been conducting our own research. Beginning in 2002, when the curricula first became available to schools, we've collected data on teacher's perceptions of: (1) how the 9 Essential Skills affected student behavior; and (2) how these skills affected their own level of stress and confidence as educators. At the time of this printing, we've analyzed 1,426 questionnaires completed by educators around the United States.

Tabulated below are basic data describing this sample:

Characteristic	N	Percent or Mean	Standard Deviation
Job Title	1426	61.4% Regular Teacher; 11.5% Special Educator; 3.0% Counselor/Social Worker/Psychologist; 1.8% Administrator; 8.4% Paraprofessional; 13.9% Other	
Grade Level	1416	4.25	2.89
Years of experience	1420	12.61	11.32

Prior to receiving training in the *9 Essential Skills* curricula, participants in this study were asked to rate on a scale of 1-5 how much they agreed with a series of statements pertaining to the behavior of their students, as well as their own perceptions of their experience as educators. (A rating of "1" indicated "Strongly Disagree" whereas a rating of 5 indicated "Strongly Agree") Participants were also asked to complete these ratings after receiving the training. Pre and Post mean scores for each scale are tabulated below:

Statement	Pre training mean	Post training mean
<i>The most behaviorally challenging students...</i>		
<i>...argue with me.</i>	3.17	2.28
<i>...interrupt me when I am teaching.</i>	3.80	3.00
<i>...cooperate with me.</i>	2.89	3.42
<i>...take responsibility for their decisions.</i>	2.29	3.00
<i>...refuse to do their work.</i>	3.04	2.53
<i>...solve their own problems with guidance.</i>	2.80	3.40
<i>I find myself...</i>		
<i>...having fun with students.</i>	4.15	4.34
<i>...feeling really stressed-out and exhausted.</i>	2.85	2.42
<i>...confident that I can handle discipline problems.</i>	3.60	4.11
<i>...enjoying good relationships with challenging students.</i>	3.61	4.00

To further analyze these data, we first, grouped the 10 survey items into two theoretically distinct subscales: The Student Misbehavior Scale (first 6 items) and the Educator Stress Scale (last 4 items). Items were reverse coded as appropriate (e.g., “The most behaviorally challenging students take responsibility for their poor decisions”) so that the final subscale scores provided an indicator of the extent of student misbehavior (ranging from 6 to 30) and educator stress (ranging from 4 to 20) respectively. We employed paired samples t tests for all mean comparisons to examine whether there were any significant pre-post differences in the survey items and subscales. We also tested the normality assumptions—i.e., homogeneity of variance, skewness, and kurtosis—underlying the use of the t test (Katz, Restori, & Lee, 2009). We then performed Wilcoxon's signed-ranks test, a non-parametric test that is not sensitive to normality violations (Blair & Higgins, 1985), for any subscale mean comparison that violated one or more of the normality assumptions. We set alpha at .05 for all primary analyses.

Whenever possible, we included r as an indicator of effect size to reflect the proportion of variance that taking the *Nine Essential Skills for the Love & Logic Classroom* training accounted for in the outcome variables (student misbehavior and/or educator stress). We used values of $r = .10, .24,$ and $.37$ as indicators of small, medium, and large effect sizes respectively as per Cohen's (1992) classification.

Blair, R. C., & Higgins, J. J. (1985). Comparison of the power of the paired samples t test to that of Wilcoxon's signed-ranks test under various population shapes. *Psychological Bulletin, 97,* 119-128.

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Student Misbehavior Scale

As tabulated below, educator-reported student misbehavior declined significantly from pre- to post-training ($t(1360) = 28.63, p < .001$), with subscale scores reduced by 3.67 points (out of 30) on average, a large effect ($r > .37$). Although the distribution was virtually symmetric (skew = .02), it was leptokurtic (kurtosis = .35); thus, further non-parametric analyses were performed. We ran a Wilcoxon's signed-ranks test, which showed that the mean pre-post difference was still statistically significant at $p < .001$. In terms of individual items, all showed significant pre-post reductions ($p < .001$); the two largest pre-post decreases following completion of the *Love & Logic* curriculum for the classroom were that educators reported their students misbehaving less often (item 2) as well as taking more responsibility for their own poor decisions (item 4).

Educator Stress Scale

In the table below, you will also see that self-reported teacher/educator stress also declined significantly from pre- to post-training ($t(1394) = 18.75, p < .001$), with subscale scores reduced by 1.49 points (out of 20) on average, a medium effect ($r > .24$). The distribution was both highly positively skewed (skew = 3.05) and highly leptokurtic (kurtosis = 45.15), indicating that further non-parametric analyses were warranted. We therefore conducted a Wilcoxon's signed-ranks test, which showed that the mean pre-post difference was still statistically significant at $p < .001$. With regard to individual subscale items, all showed significant pre-post changes in the predicted direction at $p < .001$, with the exception of "As an educator, I find myself having fun with my students," which decreased significantly at $p = .012$, but only by .11 points on average. Educators reported the largest increases in their confidence for handling classroom discipline after having taken the *Nine Essential Skills for the Love & Logic Classroom* training.

Subscale	N	Pre-test (Mean, SD)	Post-test (Mean, SD)	Paired Samples <i>t</i> statistic	Pre-Post Significance (<i>p</i> value)	Effect size (<i>r</i>)
Student Misbehavior	1361	20.08 (3.92)	16.41 (4.35)	28.63	.000	.40
Educator Stress	1395	9.54 (2.66)	8.05 (2.65)	18.75	.000	.27

Note. Possible score range on the Student Misbehavior Subscale was 6 to 30; possible score range on the Educator Stress subscale was 4 to 20. Higher scores reflect more educator-reported student misbehavior or educator/teacher stress.

To inquire about updates to supporting research, please phone us at 1-800-338-4065. One of our friendly customer care representatives will be happy to assist you.

If you are interested in conducting research on this curriculum, please contact us as well!