School Librarians' Teacher Self-Efficacy: A Predictor of Reading Scores?

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Abstract

Teacher self-efficacy, the belief teachers have that they can make a difference for their students or have a positive impact on their students' academic careers, has been studied for years. Very little is known about teacher self-efficacy in school librarians, however. The following study examined the difference in school librarians' teacher self-efficacy among those who worked in elementary, middle, and high schools. The study also attempted to determine if elementary school librarians' self-efficacy could be a predictor of reading scores for the schools' overall average rates on the Virginia Standards of Learning assessment. This quantitative study addre

Sarah Clark and Melissa Newberry stated that preservice programs that focus on teacher self-efficacy may improve and prevent the loss of teacher self-efficacy throughout a career (2019). Programs that include meaningful experiences, vicarious experiences, and social persuasion can help universities graduate school librarians with higher levels of teacher self-efficacy (Pfitzner-Eden 2016; Wang et al. 2017). In research specific to preservice school librarians, Marcia A. Mardis studied how well-prepared school librarians felt after completing their degrees. Transfer of learning and meaningful experiences helped to build self-efficacy (2013), supporting Bandura's belief of the mastery of experiences (2012). Programs such as the model presented by Sue C. Kimmel, Jody K. Howard, and Bree Ruzzi in 2016 may help build self-efficacy in preservice librarians, as they were given the task of planning, implementing, and evaluating a community service project. Programs such as this may encourage "authentic and meaningful leadership development experiences" (Kimmel, Howard, and Ruzzi 2016, 185) for future school librarians.

Methods and Data Analysis

OVERVIEW

This quantitative study employed two approaches, causal comparative for Research Question 1 (RQ1) and correlational for Research Question 2 (RQ2). RQ1 used an analysis of variance (ANOVA) to examine the differences in teacher self-efficacy levels among school librarians in elementary, middle, and high schools. RQ2 used bivariate linear regression to determine if there was a predictive relationship between elementary school librarians' teacher self-efficacy levels and the schools' overall average pass rates on the 2018–2019 Virginia Standards of Learning (SOL) Reading assessment.

PARTICIPANTS

The study's random sample came from members of the Virginia Association of School Librarians (VAASL) contact list. The participants were a convenience sample, as the researcher had access to those members through a connection to VAASL. The contact list was sent an e-mail requesting participation. Those that chose to respond completed the long form version of the Teacher Sense of Self-Efficacy Scale (TSES) created by Megan Tschannen-Moran and Anita W. Hoy (2001). Out of 1,200 contacted, 234 members responded. Not all respondents qualified; some were not school librarians, some did not fill out the TSES in its entirety, while others did not fit into the required school level categories. After excluding those respondents, a random sample was pulled, using a random number generator, for RQ1, to include 46 participants from elementary, middle, and high schools. For RQ2, all 111 who met the criteria for having been an elementary school librarian were included.

SURVEY INSTRUMENT

The long-form TSES includes twenty-four questions, and participants respond using a nine-point Likert scale. Respondents assessed their abilities in a number of areas, including making difficult concepts clear for struggling students, inspiring critical thinking, handling disruptive behavior, and fostering creativity. There were also questions relating to crafting good questions, gauging

student comprehension, and responding to students that may be defiant (Tschannen-Moran and Hoy 2001). In gathering the data, elementary school librarians who participated were asked for the name of the district and school in which they worked during the 2018–2019 school year so that average pass rates for their schools could be collected.

ADDITIONAL DATA SOURCE

The Virginia Department of Education's School Quality Profile's website (VDOE n.d.) was accessed to collect archival data of the elementary schools' overall average pass rates on the 2018–2019 reading assessments.

Findings

RESEARCH QUESTION 1

RQ1 asked if teacher self-efficacy levels differ among elementary, middle, and high school librarians. A total of $N = 234$ responded to the survey, and seventeen were immediately excluded as they did not fit the criteria needed. (Some were not school librarians in the previous school year. Others were university instructors, and some librarians were in schools that did not fit the traditional grade groupings of K–5, 6–8, and 9–12.) Forty-six middle school librarians responded, the lowest number of the three school levels, so for the ANOVA forty-six each from elementary and high school respondents were randomly selected for a total of $N = 138$. A box and whiskers plot (figure 1) was used to check for extreme outliers; none were found.

Figure 1. Box and whiskers plot for participants' TSES scores and school level.

A Shapiro-Wilk test (see table 1) was run to test for normality, and while a violation was found for the high school group, the ANOVA test is robust and can stand up to this assumption when the sample size is large and all groups are the same size (Warner 2013).

Table 1. Shapiro-Wilk assumption of normality test for TSES and school level.

School Level	Statistic	df	Sig.
Elementary	.972	46	.329
Middle	.959	46	.100
High	.919	46	.004

Levene's Test of Equality of Error Variances was used to examine the assumption of homogeneity, and no violation was found where $p = .212$ and the assumption of homogeneity of variance was met as seen in table 2. The ANOVA results were $F(2, 135) = .337$, $p = .715$, $\eta_p^2 = .005$ (see table 3), thus failing to reject the null hypothesis at a 95 percent confidence level.

No statistically significant difference was found in the levels of teacher self-efficacy among elementary, middle, and high school librarians.

Table 2. Levene's Test of Equality of Error Variances for TSES and school level.

		Levene Statistic	df1	df2	Sig.
Total TSES Score	Based on Mean	1.570	2	135	.212

Table 3. ANOVA tests of between-subjects effects for TSES and school level.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	307.928	2	153.964	.337	.715	.005
Intercept	3747815.681	1	3747815.681	8202.852	.000	.984
School Level	307.928	2	153.964	.337	.715	.005
Error	61680.391	135	456.892			
Total	3809804.000	138				
Corrected Total	61988.319	137				

RESEARCH QUESTION 2

RQ2 asked if teacher self-efficacy levels of elementary school librarians can predict school overall average pass rates of the Virginia Standards of Learning Reading assessments. There were 111 elementary school librarians that fit the criteria and were included in the study. A scatterplot (figure 2) was used to test assumptions of bivariate outliers, linearity, and bivariate normal distributions, all of which were tenable.

Table 6. ANOVA for TSES and VA Reading SOL Pass Rates.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5558.292	1	5558.292	11.398	.001
	Residual	53641.199	110	487.647		
	Total	59199.491	111			

Discussion

While the study by Ryan, Kuussinen, and Bedoya-Skoog indicated teacher self-efficacy levels

Lance, Keith Curry, and Linda Hofschire. 2012. *Change in School Librarians Staffing Linked with Change in CSAP Reading Performance, 2005–2011.* Colorado State Library,