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

Jessica Thompson
Michelle Barthlow
Kelly Paynter

Follow this and additional works at: https://digitalcommons.jsu.edu/fac_res

Part of the Education Commons
School Librarians’ Teacher Self-Efficacy: A Predictor of Reading Scores?

Dr. Jessica Thompson, School Librarian/Adjunct Instructor, Tye River Elementary School and Old Dominion University

Dr. Michelle Barthlow, Assistant Professor Director of Quantitative Research, Liberty University

Dr. Kelly Paynter, Associate Professor of Instructional Technology, Jacksonville State University

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 addressed the gaps in the literature by indicating that there is no difference in the levels of teacher self-efficacy among elementary, middle, and high school librarians, and found a weak but positive predictive relationship between the self-efficacy levels and the schools’ overall average pass rates on standardized testing. The researchers noted the need for an instrument designed strictly for measuring the self-efficacy of school librarians, based on the myriad tasks they perform beyond the teaching role.

Introduction

School librarians are typically aware of the research that indicates that they and their programs have a positive relationship with student achievement. However, it is also important that they know that their self-efficacy levels can have an impact on student achievement. Teacher self-efficacy is the belief in one’s ability to have a positive impact on student achievement (Coker 2015). Very little research has been done specifically on school librarians’ self-efficacy and how it can directly influence student achievement. This study used an instrument that measured teacher self-efficacy, as none could be found that measured school librarians’ self-efficacy. This
was appropriate because in Virginia, as in many other states, school librarians must work as teachers for a set number of years before obtaining their school librarian certifications.

Studies have been conducted that indicated teachers with high teacher self-efficacy can have a positive impact on standardized test scores (Coker 2015) and overall student achievement (Schiefele and Schaffner 2015). Kristina J. Weber has stated that school librarians need high teacher self-efficacy for all that they do, such as curating quality collections, advocating for the library program, collaborating with teachers, planning events, teaching information literacy, offering technology support, and so much more (2017). Our study looked at how efficacious school librarians feel when it comes to making an impact on the students they serve.

Research Questions

The purpose of this study was to address the gaps in the literature on school librarians’ self-efficacy and examine librarians’ impact on school achievement in the context of their self-efficacy levels. The research questions were:

1. Is there a difference in teacher self-efficacy among school librarians in elementary, middle, and high schools?
2. How well do teacher self-efficacy levels of elementary school librarians predict school overall average pass rates on the Virginia Standards of Learning Reading assessment?

Theoretical Framework

Marjolein Zee and Helma M. Y. Koomen (2016) believed that the root of teacher self-efficacy lies in Julian B. Rotter’s 1966 theory of the locus of control, which describes how individuals have control over how they act and how they react to their environments. When individuals’ actions are reinforced by something rewarding, their internal locus of control becomes further developed and efficacy, or belief in one’s effectiveness, rises. Albert Bandura’s social cognitive theory is very similar in that he believed people have agency over their own actions and the way they react to different experiences. People can create change based on the task at hand, which allows them to be flexible, intentional, and reflective (2001). Bandura also felt that teacher self-efficacy is developed through mastery experiences, social modeling, social persuasion, and through social and emotional states (2012).

Related Literature

TEACHER SELF-EFFICACY

Teachers with higher self-efficacy believe they make a difference in their students’ lives; are confident their students will learn; exhibit effective classroom management skills; and believe they can reach the most-resistant students (Klassen and Tze 2014; Tschannen-Moran, Hoy, and Hoy 1998). High teacher self-efficacy has been linked to high student achievement (Klassen and Tze 2014; Perera, Calkins, and Part 2019) and teacher satisfaction (Zee and Koomen 2016). Harsha N. Perera, Celeste Calkins, and Rachel Part did not find that teacher self-efficacy was linked to job satisfaction, but rather related to classroom management skills, the school climate, collaborations, and student engagement, regardless of the grade level taught (2019). Allison M. Ryan, Colleen M. Kuusinen, and Alexandra Bedoya-Skoog discovered that elementary school
teachers had higher self-efficacy than middle or high school teachers (2015). Tori L. Shoulders and Melinda Scott Krei found that achieving an education beyond a Master’s degree and having more than five years of teaching experience had a positive impact on self-efficacy (2015).

Zee and Koomen conducted a meta-analysis covering studies as far back as the 1970s and found that personalities, personal accomplishments, and good classroom management skills result in higher teacher self-efficacy, which in turn resulted in positive classroom environments and higher student achievement (2016). Bandura suggested that mastery experiences heighten self-efficacy, and struggles in the classroom reduce self-efficacy (2012).

**SCHOOL LIBRARIANS’ SELF-EFFICACY**

As far as school librarians’ teacher self-efficacy, there is a gap in the literature that directly relates to teacher self-efficacy and a lack of instruments designed specifically for school librarians’ self-efficacy. School librarians with high teacher self-efficacy regarding their leadership skills were found more likely to collaborate with classroom teachers (Ash-Argyle and Shoham 2012, 2014; Cansoy and Parlar 2018). Cristina Sacco Ritchie found that most school librarians in her study reported high self-perceived status and felt as if they were valued members of their school community. It was also noted that those in the role of librarian who were not licensed had lower leadership self-efficacy than fully certified and licensed school librarians (2011). Little research has examined the teacher self-efficacy of school librarians in the context of how it directly impacts student achievement or if the levels of self-efficacy differ based on the school level in which librarians work.

**SCHOOL LIBRARIANS AND ACADEMIC ACHIEVEMENT**

Elizabeth Coker’s 2015 study in Washington state pointed to links between school librarians and reading scores. Keith Curry Lance and Linda Hofschire concluded that previous studies, as well as their own, linked student achievement and school librarians: “Regardless of how rich or poor a community is, students tend to perform better on reading tests where, and when, their library programs are in the hands of endorsed librarians” (2012, 9). In 2016 Scholastic Library Publishing compiled numerous studies on the effectiveness of school libraries that concluded school librarians, collection size, collaborations, and technology access all supported student learning.

**DEVELOPING TEACHER SELF-EFFICACY**

Franziska Pfitzner-Eden (2016) examined the development and improvement of teacher self-efficacy and discovered that preservice programs can help future educators gain higher levels of teacher self-efficacy, based on Bandura’s (2012) four sources of efficacy: mastery experiences, vicarious experiences, social persuasion, and physiological and affective states. Numerous studies have indicated preservice programs that incorporate mentoring, practicums, student teaching, micro-teaching, and positive role models can improve teacher self-efficacy (Arsal 2014; Clark and Newberry 2019; Pfitzner-Eden 2016; Rogers-Haverback and Mee 2015; Trendowski, Ellison, and Woods 2016). Rita Reinsel Soulen conducted a study to examine the difference in resiliency among new teachers when paired with a school librarian for their first year of teaching. The school librarians and the teachers stated that they valued the relationship, collaborations, and positive effect on resilience that resulted in the mentorship (2020).
DEVELOPING SELF-EFFICACY WITH PRESERVICE SCHOOL LIBRARIANS

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.

<table>
<thead>
<tr>
<th>School Level</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>.972</td>
<td>46</td>
<td>.329</td>
</tr>
<tr>
<td>Middle</td>
<td>.959</td>
<td>46</td>
<td>.100</td>
</tr>
<tr>
<td>High</td>
<td>.919</td>
<td>46</td>
<td>.004</td>
</tr>
</tbody>
</table>

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 $F(2, 135) = .337, p = .715, \eta^2_p = .005$ (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.

<table>
<thead>
<tr>
<th></th>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TSES Score</td>
<td>Based on Mean</td>
<td>1.570</td>
<td>2</td>
<td>135</td>
</tr>
</tbody>
</table>

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

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

**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.
The regression equation for predicting overall pass rate is $Y = 0.761X_{\text{pass rate}} + 103.21$ (see table 4). The 95 percent confidence interval of this slope was 66.272 to 140.148, and 9.4 percent of the variance of pass rate indicates a very low relationship in predicting scores, as seen in table 5. TSES scores ($M = 165.74, SD = 23.094$), as seen in table 6, did predict elementary schools’ pass rates ($M = 82.17, SD = 9.299$), $F(1, 110) = 11.398, p = .001$, with an $R^2$ of .094. Therefore, the null hypothesis was rejected. The results indicated that there is a predictive relationship between elementary school librarians’ teacher self-efficacy levels and schools’ overall average pass rates on the reading SOL assessment.

### Table 4. Coefficients for TSES and VA Reading SOL pass rates.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>95% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>Constant</td>
<td>103.210</td>
<td>18.639</td>
</tr>
<tr>
<td></td>
<td>Pass Rate</td>
<td>.761</td>
<td>.225</td>
</tr>
</tbody>
</table>

### Table 5. Model Summary for TSES and VA Reading SOL Pass Rates.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.306</td>
<td>.094</td>
<td>.086</td>
<td>22.083</td>
</tr>
</tbody>
</table>
Table 6. ANOVA for TSES and VA Reading SOL Pass Rates.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>5558.292</td>
<td>1</td>
<td>5558.292</td>
<td>11.398</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>53641.199</td>
<td>110</td>
<td>487.647</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>59199.491</td>
<td>111</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussion

While the study by Ryan, Kuussinen, and Bedoya-Skoog indicated teacher self-efficacy levels may be higher or lower, depending on the grade level in which the teacher works (2015), this claim was not supported by the results of this study, which indicated that regardless of school level, school librarians have similar levels of teacher self-efficacy. Similar results were found by Perera, Calkins, and Part, who found that those with higher teacher self-efficacy, regardless of grade level, had better classroom management skills, collaborations, and student engagement. School librarians make an impact on the entire school community, regardless of the school level in which they work, through collaborations, engaging lessons, building collections, and various other tasks (Lo and Chiu 2015). Most school librarians have had similar training, have been informed during their coursework of the importance of the school librarian, and understand the impact they can make, so the result that there was no difference in efficacy levels based on the grade level in which they work was not surprising.

The present study also examined whether elementary school librarians’ self-efficacy levels could predict reading scores and uncovered a weak but positive predictive relationship. While correlation is not causation, and the study did not address the confounding variables that almost certainly exist, such as years of teaching experience, classroom management style, quality of librarian preparation, and so on, there is evidence of a predictive, correlational relationship between the variables of school librarians’ self-efficacy and children’s reading scores. The study used a teacher self-efficacy instrument, which did not allow for differentiation of the many different tasks that librarians perform to create a robust school library program.

Keith Curry Lance, Bill Schwarz, and Marcia J. Rodney found that students in schools with full-time school librarians and either a part-time or full-time assistant performed better on state standardized tests (2014). As Keith Curry Lance, Marcia J. Rodney, and Christine Hamilton-Pennell indicated, reading scores are directly linked to staffing in school libraries and as staffing increases, so do reading scores (2000). A three-year study in New York also indicated that school librarians have positive impacts on reading skills, test scores, and reading interests (Small, Shanahan, and Stasak 2010).

Fully certified school librarians are more likely to support students and teachers in core content areas and to teach using up-to-date library curriculum (Coker 2015). Students from varying ethnicities, financial backgrounds, and family compositions all benefited academically from schools with fully certified, full-time school librarians (Lance, Schwarz, and Rodney 2014; Park and Yau 2014). Ash-Arghyle and Shoham stated that school librarians with high teacher self-efficacy are more likely to collaborate with classroom teachers than those with lower teacher self-efficacy (2014). In the American Association of School Librarians National School Library...
Standards, Collaborate is one of the Shared Foundations for both librarians and learners (AASL 2018). AASL believes that school librarians should collaborate and share knowledge with teachers and establish good working relationships with faculty (2018). The study reported here adds to the literature indicating that elementary school librarians’ teacher self-efficacy levels can be a predictor of reading scores.

Implications and Recommendations

The results of this study can be used to inform school librarians, principals, school divisions or districts, and other stakeholders that school librarians have similar levels of teacher self-efficacy, regardless of the school level, and that their teacher self-efficacy may be a predictor of their students’ reading scores. The results of this study address a gap in the literature on school librarians’ teacher self-efficacy levels and the relationship to reading scores. Reminding current school librarians at professional conferences and through professional development of the impact they can make on student achievement is recommended.

It is important that school librarian preparatory programs provide opportunities for growth in confidence and teacher self-efficacy with the goal of effectively supporting student achievement. Providing learning opportunities, such as additional practicums in the school library, requirements for participating in leadership activities, and simulated teaching practice, for preservice school librarians is important to build self-efficacy and to inform them of the impact that they can have on student achievement. This study could be used to encourage school library preparatory programs to enhance those learning opportunities.

Limitations

The potential participants were limited to around 1,200 members on the VAASL contact list and ultimately depended on those that chose to respond to the participation request. The instrument that was used was created for classroom teachers and did not completely align with school librarianship. One school librarian stated so and declined to participate for that reason. The week after the initial request for participants, schools in Virginia started to close due to the COVID-19 pandemic, and ultimately closed for the year at the end of the collection period. This circumstance may have impacted the responses that school librarians gave when participating. Many of the questions ask about feelings of making an impact on students, when at that time, no one knew exactly what schools were going to be doing for the rest of the year. Therefore, this uncertainty may have resulted in some librarians feeling like they were currently not making much of an impact. Some may have been too busy to participate because of the transition to remote learning.

Future Research

The following are recommendations for future research on the topic of school librarians’ self-efficacy:

- Design an instrument that aligns with school librarians and their self-efficacy based on the myriad of tasks they perform and roles they enact.
• Conduct a qualitative study with interviews and focus groups to give a more in-depth view of school librarians who feel efficacious and those who do not, and explore the reasons behind those feelings and any commonalities among them.

• Expand the participant pool beyond those on the VAASL contact list.

• Collect and examine further demographics, such as years of service, the library preparatory program from which librarians graduated, and certification status.

• Expand the research to explore middle and high school librarians possible impact on their schools’ overall average pass rates on reading assessments.
Works Cited


Virginia Department of Education. n.d. “Virginia School Quality Profiles.”  


School Library Research (ISSN: 2165-1019) is an official journal of the American Association of School Librarians. It is the successor to School Library Media Quarterly Online and School Library Media Research. The purpose of School Library Research is to promote and publish high quality original research concerning the management, implementation, and evaluation of school libraries. The journal will also emphasize research on instructional theory, teaching methods, and critical issues relevant to school libraries. Visit the SLR website for more information.

The American Association of School Librarians empowers leaders to transform teaching and learning. Visit the AASL website for more information.