The Impact of School Library Programs on Student Achievement

Saskatchewan School Library Association

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Introduction

Studies investigating the impact of school library programs and student achievement began approximately sixty years ago. Early studies were typically limited in location and time and focused on a small test sample, such as a city or occasionally a state, for a limited period of time. Even as early as 1965, studies showed that elementary school students with access to a school library and a professional librarian perform better on standardized tests (Lance, Welborn, & Hamilton-Pennell, 1992, p. 3). Studies which considered the impact of a professional librarian also showed improved learning outcomes. For example, Hale's 1969 study found that students who receive support from a professional teacher-librarian achieve higher results on their SAT scores (p. 4). Why, then, is it necessary to continue to research the importance of school library programs on student achievement? With the reality of fiscal limitations and increased emphasis on student results, school divisions are challenged to account for spending decisions and to make choices regarding where to put limited resources. Unfortunately, some are choosing to decrease spending for school library programs. Just last year the Prairie Spirit School Division in Saskatchewan eliminated teacher-librarian positions due to financial constraints (Gazette staff, 2015, ¶4). Therefore, it is imperative that we consider the literature and understand the relationship between school library programs and enhanced student achievement.

The following literature review shares the progression of school library research as researchers strive to understand more fully the relationship between school library programs and student achievement. Though comprehensive research has been accomplished on this topic since 1963, the 1993 Colorado Study initiated the current focus of study on this topic within the context of fiscal restraint in education

and an increased concern for educational accountability (Lance, Rodney, & Hamilton-Pennell, 2005, p. 1). This literature review begins with a closer look at the pivotal Colorado Study (1993) and considers, with the findings of additional studies, the advancement in our understanding of the connection between school library programs and student achievement. The included studies identify the correlation of student achievement with (a) resources and funding, (b) perceptions of school library programs, and (c) the importance of a certified teacher-librarian.

Colorado Study (1993)

Lance, Welborn & Hamilton-Pennell (1992) studied the effect of library media centers on academic achievement in Colorado's public schools. This influential study provided a literature review of similar work completed prior to 1992, which amounted to fewer than 40 research studies, the majority occurring between 1959 and 1979 (p. 1). Known as the Colorado Study (1993) Lance et al. studied key issues that continue to be relevant in our schools today and are the basis of future studies, such as

- the relationship between school library funding and student achievement (p. 2);
- characteristics of school libraries that explain the relationship between funding and student achievement (p. 2);
- whether certified teacher-librarians or the number of resources correlate to student achievement (p. 2);
- the impact of instructional support by teacher-librarians on student achievement (p. 2);
- how collaboration between teacher-librarians and their teacher colleagues affect student achievement (p. 2).

The Colorado Study employed a mixed-method research approach. Researchers gathered data from either the Iowa Tests of Basic skills (ITBS) or Tests of Achievement and Proficiency (TAP) and consulted the 1988-1989 survey of Colorado library media centers (p. 98). Results from 221 schools were considered, and schools, rather than students, were used as units of analysis (p. 98). Research findings indicate that the size of a library media's staff and collection is the best predictor of academic achievement. In fact,

students who score higher on norm-referenced tests attend schools with increased library staff and library collection resources. It can be argued, then, that expenditures on staff and collection size impact academic achievement (p. 96). Researchers recommend that future studies consider correlating school library program information with "authentic assessments," a new testing practice that began at that time. Additionally, comparative studies in other jurisdictions would increase sample size and help confirm the validity of the findings (p. 98).

The Framework for Additional Studies: Mixed Method Research

The Colorado Study (1993) created a framework on which much future study of this topic was based. Many studies of library media programs and student achievement, such as the Colorado Study (1993), employ a mixed-method approach, which combines both quantitative and qualitative research. Qualitative data around school library programs, gathered through surveys, interviews, and observations, is correlated with quantitative data regarding student achievement, typically a standardized test result. Findings are determined based on the correlation, or relationship, between school library services and student achievement results (Gorard, 2012, p. 120). This mixed-method approach acknowledges that both research paradigms have strengths, and, by using the best of both strategies, hopes to find a more accurate understanding of the research question (Biesta, 2012, p. 147). While relationships between improved student achievement and school library funding, resources, and trained teacher-librarians are consistently found, the weakness of this research paradigm is that only the strength of the relationship, and not causality, can be identified.

School Library Resources and Student Achievement

Can increased student achievement scores be attributed to the school library collection itself? According to current research, better-funded and well-equipped school libraries can be correlated with higher student achievement results.   A 2005 study in Illinois found that school libraries contribute to academic achievement. Test scores increased where school libraries were fully staffed, and educational

technology and larger collections were available (Lance, Rodney, & Hamilton-Pennell, 2005, p. ii). Francis, Lance, and Lietzau (2010) revisited Colorado to consider the impact of libraries and librarians on low-performing and high-performing students, based on Colorado Student Assessment Program (CSAP) tests (p. 1). Test results correlating library use and resources found that elementary schools that had better-funded libraries averaged better CSAP reading performance (p. iii). Farmer (2006) questioned the relationship between student achievement and the degree to which schools implement national standards for library media programs (p. 22). This research considered California State standardized test scores and school library program assessments (p. 24). One key indicator within the library program that positively impacted academic achievement was access to good library facilities and resources (p. 21). Haycock (2011) took this finding one step further and explored the components of the school library and achievement in schools in British Columbia (BC), Canada (¶2). Haycock considered BC Ministry of Education Foundation Skills Assessment (FSA) achievement and library survey data (¶10). In particular, Haycock wondered how local control over funding decisions might impact student achievement at both top and bottom ranked schools (¶9 & 10). Haycock's findings reinforce previous research suggesting that "easily accessed, well-staffed, well-managed, well-stocked, integrated and heavily used school libraries correlate to higher student achievement" (¶18). These studies indicate, then, that libraries that are well-funded and well-stocked with excellent resources have a direct relationship to improving student learning outcomes and achievement.

Perceptions of School Library Programs and Student Achievement

Other studies consider the relationship between perceptions of school library programs and student achievement, for example, the work of Lance and Kachel (2013) in their study of Pennsylvania school administrators and school library programs. Researchers surveyed almost three hundred school administrators regarding library practices and academic standards (¶2). Administrator responses were compared with Pennsylvania System of School Assessment (PSSA) reading and writing scores. The relationship between the two were correlated with library staffing, budget, and collections (¶4). Data

analysis indicates that more students score advanced on reading and writing when administrators rate as "Excellent" the library program's teaching of all four American Association School Librarians (AASL) 21st Century Learner standards (¶7). Small & Snyder (2009) investigated the impact of New York States school library media centers and school library media specialists on learning achievement and motivation (p.1). A representative sample of more than 1600 classroom teachers, students, and teacher librarians from 47 schools participated in a survey (p. 1). Results from this study indicate that fifth and eighth grade students' perceptions of the impact of the school library and teacher-librarian on their learning and motivation were greater than the perception of eleventh graders on all scales except technology use (p. 37). Lance, Rodney, & Schwarz (2010) examined how the value and perception of school librarians by administrators and teachers impacted student achievement in Idaho (p. i). Student academic performance levels as measured by Idaho Standard Achievement Test (ISAT) reading and language arts scores were correlated with the perceptions of libraries and librarians (p. i). High school students were more likely to earn advanced ISAT reading and language scores when teachers regarded librarians as curricular resource managers, technology troubleshooters, and teachers (p.v). In 2014 Lance continued this research in South Carolina studying the impact of school libraries and librarians in their state (Lance, Shwarz, & Rodney, 2014, p. 3). Respondents were asked to consider how highly they valued policies and practices of the library programs, how often they engaged in library-related activities, and which roles were most important for teacher-librarians (p. 4). Results were correlated with Palmetto Assessment of State Standards (PASS) data which indicates percentages of students not exceeding or even meeting state standards (p. 4). Teacher-librarian self-assessments of their contributions to standards teaching were consistent with ELA results, while administrators' perceptions of the contribution of their school library program to teaching standards were consistent with both PASS Writing and ELA results. The implications of studying perceptions of school library programs indicate the importance that administrators must value libraries and librarians at the center of teaching and learning (Lance & Kachel, 2013, ¶29).

Library Media Specialist and Improved Reading

Other studies have considered the relationship between a certified teacher-librarian and improved reading scores, in particular. An Ontario (2006) study queried if school library resources and staff have an impact on students' attitudes toward reading and on improved standardized test results (Queen's University & People for Education, 2006, p. 4). The Education Quality and Accountability Office (EQAO) annual assessments of grade 3 and 6 students which measure achievement in reading, writing, and mathematics were considered along with student surveys which explored student attitudes toward reading. Results indicate that the presence of a teacher-librarian was the single strongest predictor of reading enjoyment (p. 7). A follow-up study of Ontario school library programs in 2009 found that there is an association between school library staff and student reading achievement (Klinger, Lee, Stephenson, Deluca, & Luu, 2009, p. 5). Small, Shanahan, & Stasak (2010) found that school library programs and teacher-librarians in New York positively influence students' research-skills development, motivation for research, reading skills, and reading interests (p. 29). Finally, a study in Colorado (2012) showed that students at schools that gained or maintained a certified librarian to manage the library program averaged higher Colorado Student Assessment Program (CSAP) reading scores than students at schools where library programs were run by either non-endorsed librarians or library assistants (Lance & Hofschire, 2012, p. 7).

Library Media Specialist and Student Achievement

Numerous studies clearly indicate that students who have access to a full-time certified teacher-librarian have improved achievement scores. Achterman (2008) studied student achievement in California and found that at middle and high schools, professional staff levels are directly related to student achievement (p. 190). In a study of the impact of New York's school libraries on student achievement and motivation, Small, Shanahan, & Stasak (2010) found that elementary students in schools with certified school librarians are more likely to have higher English Language Arts scores than those at schools with noncertified school librarians (p.2). Also in 2010, Francis et al. revisited Colorado to

consider the impact of school libraries and librarians on student test performance and found that elementary schools with at least one full-time trained librarian averaged better Colorado Student Assessment Program (CSAP) performance than those with less than one full-time endorsed librarian (p. ii). In 2012 Dow, Lakin, & Court published a study exploring school librarian staffing levels and student achievement in Kansas from 2006 – 2009.   The purpose of this study was to investigate the effects of Kansas library staffing levels on student achievement in reading, math, science, history, and writing. This study tested the hypothesis that greater levels of support provided by library staff will improve student proficiency. Findings show that schools with a library media specialist outperform schools that lack a library media specialist. In fact, a library media specialist results in higher proficiency rates in all five subject areas. Finally, in 2015 Coker evaluated the relationship between quality school library programs staffed by certified teacher-librarians and student achievement (p. 5). Results of this study indicate that students who attend schools with certified teacher-librarians and quality library facilities perform better on standardized tests and are more likely to graduate, even after controlling for school size and student income level (p. 5). Based on this evidence it seems clear that there is a strong correlation between the support of a certified teacher-librarian and student achievement. But, which specific educational activities of a certified teacher-librarian directly impact improved student outcomes?

Library Media Specialist Educational Activities

A study of the impact of school librarians on academic achievement in Alaska public schools (2000) questioned the direct relationship between the activities of the library media staff and test scores (Lance, Hamilton-Pennell, Rodney, Petersen, & Sitter, 2000, p. 5). Researchers hoped to discover how school librarians make a difference (p. 8). School library media centers in twenty-one Alaska public schools were surveyed regarding staffing levels, usage, and staff activities (p. 5). This information was compared to the results on their state achievement tests in reading, language arts, and mathematics at the grade four, eight, and eleven level (p. 5). Results indicate that the activities of professionally trained librarians that positively impact student outcomes include (a) teaching information literacy, (b) planning

cooperatively with teachers, (c) providing in-service training to teachers, and (d) fostering a working relationship with the local public library (p. 65). Additional findings regarding specific activities of teacher-librarians that support learning outcomes focus on two primary categories: collaboration with teachers and information literacy instruction.

Collaboration with Teachers

A study of Illinois school libraries (2005) which considered library staff, collection, and activities found that Illinois school libraries contribute positively to academic achievement. Test scores were found to be higher when teacher-librarians and classroom teachers engage in collaboration (Lance, Rodney, & Hamilton-Pennell, 2005, p.xiii). A 2006 study of California schools considered the relationship between student academic achievement and the degree to which schools fully implement national standards for library media programs (Farmer, 2006, p. 22). Student academic achievement was identified through California State standardized test scores. One result of this study was the identification of the importance of collaboration between professional library staff and classroom teachers (p. 21). Small et al.'s (2010) New York study describes frequent librarian-teacher collaborations (p. 3). Finally, Lance et al. (2010) found that at middle schools where teachers identified librarians as instructional support, students are consistently more likely to earn advanced scores on the Idaho Standards Achievement Test (ISAT) reading and language arts tests (p. iv). Based on these research findings, evidence suggests a correlation between collaboration and improved student achievement.

Educational Technology and Information Literacy Instruction

Other studies indicate that school library programs that provide information literacy instruction and access to educational technology improve student achievement scores. A study of Illinois school libraries (2005) found that test scores were higher when educational technology is available to augment the physical collection and to extend learning (Lance, Rodney, & Hamilton-Pennell, 2005, p.xiii). Achterman's 2008 California study confirmed that English Language Arts (ELA) California Standard

Test (CST) scores significantly related to total technology available when controlling for school and community variables (p. 187). Small et al. (2010) indicated that the frequent use of technology and resources in multiple formats helped students find information they needed for assignments (p. 3). Accordingly, librarians and library programs positively influence students' research-skills development and motivation for research. Implications include a recognition of the extensive influence of school librarians on students' development of twenty-first-century learning skills (p. 29 & 30). Todd's 2012 study considered the status of school libraries in New Jersey studying, in particular, instructional programs, information technology, and personnel. The data from this study indicates that school librarians engage in the development of numerous information and technical literacies which ultimately contributes to the development of the whole child (p. 22 & 24).

Conclusion

According to the Canadian Library Association (2014), research continues to demonstrate that student achievement improves with the support of professionally staffed and well-funded school libraries. Therefore, students should expect good school library programs in all Canadian schools. (p. 4). In particular, access to school library resources and current technology and information literacy skills, accompanied by collaborative support from a teacher-librarian are key components of an exemplary school library program. Continuing research needs include additional large-scale studies, identification of causality, and further determination of the activities of teacher-librarians that directly correlate to increased student achievement, such as flexible scheduling, in-service training, and a working relationship with public libraries. With the reality of fiscal restraint in education today, students, teachers, parents, and administrators need to unify their voices and advocate for the continued staffing and funding of school library programs as our best chance to continue to support student learning outcomes. School library research is indisputable: school library programs staffed by qualified teacher-librarians have a significant impact on student achievement.

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