Library Journal Articles | Library

2008

The impact of school library services on student achievement and the implications for advocacy: A review of the literature

Christopher Chan
Hong Kong Baptist University, chancp@hkbu.edu.hk

This document is the authors' final version of the published article.

The impact of school library services on student achievement and the implications for advocacy

A review of the literature

Christopher Chan

<u>Abstract</u>

This review critically examines the literature relating to the impact that school libraries have on student achievement, and what implications this impact has had for school library advocacy. A number of studies examining this issue, using both quantitative and qualitative methodologies, have been conducted. Almost all of the studies considered endorse the view that school library services have a positive impact on student achievement. The literature further indicates that this evidence has not had much impact on the development of school libraries, mainly because of the entrenched views of educators and administrators that see the school library as being peripheral to teaching and learning. It is suggested that the arguments for school libraries need to be better articulated and communicated, and the literature suggests some possibilities for achieving this.

Over the past thirty years, an extensive body of evidence has been built up by researchers worldwide indicating that good school library programmes are linked to higher academic achievement in students. Yet in spite   this, it is evident that libraries are often viewed as non-essential, optional, or even luxury expenditures for schools (Lonsdale, 2003). They are among the first school services to be targeted for cuts when funding is reduced. It can be concluded that those that make decisions regarding the staffing and funding of school libraries are either unaware that such evidence exists, or that they are not convinced by it.

This should be of concern to library and information science professionals everywhere. How can the profession better advocate for the school libraries? An important first step is to ensure that school librarians themselves have a clear understanding of the benefits school library programmes bring. Williams and Wavell (2001a, p. 4) have stated that such an understanding is necessary to demonstrate the value of the school library, and for gaining appropriate recognition for its work. This review will cover the major findings and consider what the implications for advocacy are.

Quantitative approaches

The dominant approach used by researchers seeking to establish the benefits of school libraries on student academic achievement is to link the provision of more and better library services to higher test scores. A seminal study using this methodology was conducted by Lance, Welborn and Hamilton-Pennell (1994) in Colorado. Their results showed that library collection and staff size was the second-best predictor of student achievement on standardised tests. Only at-risk conditions, such as poverty, had a greater impact on test scores.

The authors of the Colorado study replicated their methodology in different states across the US. In a study performed in Alaska, it was found   9 in 10 schools with a full-time librarian performed at average or above levels on standardised tests, compared with 5 in 10 schools that had no librarian at all (Lance, Hamilton-Pennell & Rodney, 2000, p. 29). The same researchers found that students in Illinois were likely to

achieve higher test scores when they had access to a well-resourced, well-staffed library (Lance, Hamilton-Pennell & Rodney, 2005, p. 122).

Other researchers also engaged in similar studies, in   cases borrowing and adapting the survey instruments used by Lance et al. (1994), for example Smith (2001) and Burgin and Bracy (2003). By 2005, studies similar to the 1994 Colorado study had been completed in ten US states (Tarr & Sinclair-Tarr, 2005). All of them showed a positive, statistically significant relationship between school library services and student academic achievement. The fact that so many studies, encompassing thousands of schools, all point in the same direction would appear to provide compelling evidence of the value of school libraries.

The studies cited so far attempted to show the benefits of school libraries by contrasting the test results of schools with good libraries with those of schools where library services are non-existent or lacking in some areas. Todd (2003) took a different approach in an Ohio study that asked students directly about their views on the school library. Thirty-nine schools that provided an outstanding library serv   e were identified based on state guidelines that were validated by an ex   panel. It was found that 52.5% of students rated the library as 'most helpful'   'quite helpful' in getting better grades in projects and assignments. Only 11.5% said the library did not help them at all in this regard. This suggests that students themselves endorse the idea that good school libraries have an impact on their academic achievement. Such results complement the findings of studies that correlate test scores with library services.

Qualitative approaches

Qualitative research provides an essential complement to the findings of studies that focus heavily on statistical analysis. One such study was conducted by Small, Snyder and Parker (2007) in New York State. Their preliminary results suggest support for a strong relationship between school libraries and achievement. Participants, including students and classroom teachers, were asked to write descriptive comments on how their school library helped them. Although the survey covered a wide range of topics, academic achievement was specifically addressed by some of the responses, for

example: "Thanks to [the librarian's] help, I got a 100 on my project" and "Without my librarian's help, I would not have received the good grade that I did on the project" (Small et al., 2007, p. 9). This type of evidence reinforces the results of quantitative analysis. Another study using qualitative methodologies was conducted in Scotland by Williams and Wavell (2001a). Focus groups and case studies were used to investigate the impact of the school library on learning. Many different curriculum subjects were examined, and the researchers concluded that the school library can potentially positively impact upon a wide range of learning experiences.

Methodological evaluation

If school library professionals are to use the evidence of the literature for advocacy, the soundness of the methodologies used by the various studies must be assured. Most researchers in the field have a vested interest in showing that school libraries are valuable, so it is vital to demonstrate that the validity of the methods used is above reproach.

In the Colorado study, Lance et al. (1994, pp. 98-99) were aware of possible methodological issues. They identified the use of norm-referenced tests to operationalise academic achievement as a weakness. Additionally, in their critical analysis of the Lance studies, Williams and Wavell (2001b, p. 15) also expressed their concern that the sample sizes used were relatively sma   when compared to the population being investigated. In particular, they highlighted the limitations of the sampling and data collection of the first Colorado study, however they also noted that the research of the later studies using modified methodologies are sound and that the results provide compelling evidence for the benefits of school libraries (Williams & Wavell, 2001b, p. 14). Lonsdale (2003, p. 12) similarly states that the Lance studies are important because of the number of times they have been replicated with similar results.

Most of the studies make great efforts to ensure the validity of their results. For example, Smith (2001, pp. 32-33) uses tests of statistical significance, bivariate correlation, partial correlation, factor analysis, and multiple regression analysis to determine the validity of results. Smith (p. 184) also notes that although library

variables are confounded with socio-economic variables, the use of such analyses shows that library variables are responsible for a significant amount of the impact on student achievement. When this is coupled with the number of times such studies have been replicated in different geographical areas, some confidence can be expressed regarding the overall consensus of these types of study. The remote possibility of the results of all these studies being attributed to faulty methodology or statistical artefacts is further decreased by the supportive results of quantitative studies using alternate methodologies, such as Todd (2003), and by qualitative studies such as Small et al. (2007), which together provide a degree of triangulation.

Lance et al. (1994) noted that the best way to assuage fears over the reliability and validity of the Colorado study would be its replication, and subsequently their study has indeed been extensively and successfully duplicated. In 2005 (p. 2), Lance et al. expressed their strong conviction that their basic methodology has been sufficiently tested. Credible research on this topic exists in such quantity that the existence of a positive link between school library services and academic achievement is a practically inescapable conclusion. One caveat is the fact that most of the studies covered in this review were conducted in the United States, where most research, especially large-scale quantitative studies, appears to be concentrated. However, Lonsdale (2003, p.27), writing about the possibility of replicating these quantitative methodologies in Australia, echoed the sentiment that it was unlikely that such replication would yield any further insights.

Going against the consensus

Although the vast majority of studies support the case for linking school libraries with academic achievement, it would be negligent to ignore those that do not. One such study conducted by Tarr and Sinclair-Tarr (2006) in California did not show that libraries had a clear positive impact. There were only small statistically significant effects, both positive and negative, suggesting that the overall effect of school librar was negligible.

It is possible to explain Tarr and Sinclair-Tarr's results by positing the existence of systemic and widespread problems with school librar   in California. Such speculations are supported by a survey of Californian district curriculum leaders conducted by Siminitus (2002, pp. 14-16). Participants reported that the top issue for school libraries was staffing, as the ratio of TLs to   nts in California is 1:2000-4000+. The nationwide average is 1:953, suggesting a significant staffing problem. The second most important issue was a lack of collaboration between teachers and TLs, a factor which is strongly linked with test scores. Another issue is that textbook management is being passed on to TLs, and this clerical task is cutting into the time they could use for activities that would positively impact test scores. These factors, specific to California school libraries, could plausibly explain the study's findings.

A few other studies that find a negative or non-existent relationship between school libraries and academic achievement exist, but their number is tiny when compared with the number of studies that find a positive connection. Furthermore, as with the California study, there are usually possible circumstantial or methodological explanations for the results.

Explaining the impact of school library factors

One of the most consistent findings across the studies is the relationship between library staffing and student achievement. In their North Carolina study, Burgin and Bracy (2003, p. 36) found that high-performing schools had a third as many library staff hours compared to low-performing schools. A link between larger collections and student achievement is also repeatedly made (Baughman, 2000; Burgin & Bracy 2003 Lance et al., 2000; Yoo, 1998). Additionally, in the Illinois study, Lance et al. (2005, p. viii), note that collection currency is just as important as collection size. They found that schools with newer collections performed significantly better than those with older ones. The literature also indicates that the instructional role of the librarian is an excellent predictor of student academic achievement. For example, in Texas, Smith (2001, p. 181) found that library staff in top-performing high schools spent more time on leadership and collaboration activities than did library staff at bottom-performing schools. Similar conclusions were reached by other studies.

The literature thus links specific school library factors to student achievement. However, the mainly quantitative studies that do this arguably fail to adequately explain *why* such links exist. Although identifying those library factors that are statistically the most beneficial is clearly important, Smith (2001, p. 158) admits that causal relationships cannot be established solely on the basis of statistical analysis. Advocacy of school libraries is made more difficult if the sole source of evidence is dry statistics. Yet macro-studies that take thousands of students as their subjects must necessarily take a statistical approach. According to Scott and Plourde (2007, p. 421) the research now needs to move on from examining the positive impact of school libraries and into studying exactly what a quality school library programme looks like.

Small-scale studies could be one way to go about this, as they could potentially provide a deeper understanding of the mechanisms of important school library factors isolated by large-scale studies. For example, although the instructional role of library staff is identified as important by most large studies, a small but detailed research project conducted by Twomey (2007) indicates that the time of a teacher librarian is best spent on collaborative curriculum planning with colleagues rather than teaching information literacy skills. Such nuances are often lost in larger statistical studies. Additionally, Oberg (2001, p. 17) notes that people often respond strongly to data in narrative form, suggesting that smaller, qualitative studies may be more useful for advocacy.

Current perceptions of school library programmes

In spite of the extensive and wide-ranging literature on the positive impact of school libraries on students, there is little evidence of any signficant impact on the importance placed on libraries by school administrators. Reynolds and Carroll (2001) conducted a survey in Melbourne and found that only 12% of school libraries were managed by a fully-qualified teacher librarian. Of particular concern was the finding that it was common for a school to have up to three qualified teacher librarians on staff, yet none were used to manage the library. In some cases the library was run by someone with no formal qualifications of any kind. This suggests that principals place very little

value on school libraries, preferring to deploy their ified staff in other areas. In many affluent U.S states, investment in libraries is poor. Baughman (2001, p. 3) states that Massachusetts is experiencing a "school library depression [that] has compromised the quality of education in our state". California school libraries are chronically understaffed (Simintus, 2002). There is a widespread perception among school administrators of the library being a cost, not an investment (Hartzell, 2002a). In England, there is no statutory requirement for schools to have a library, or for local education authorities to provide school library services (Gildersleeves, 2005). The research appears to have generated little appreciation for school libraries among school adminstrators.

A survey conducted by Roberson (2005) suggests that the attitudes of teachers and principals are a potential impediment to the development of school libraries. Despite research showing that collaboration between teachers and librarians is particularly important in supporting academic achievement (Lance et al., 2000), it was found that teachers especially were reluctant to engage in such activities. A further finding was that a large majority (76%) of teachers had not received instruction on the role of school libraries during their teacher education programmes. In New Zealand, a study by Asselin (as cited in Lindsay, 2005) similarly found that 70% of teachers were uninformed or only somewhat informed about the role of the TL and the school library. Church (2003, p. 34) notes that it is often "foreign for [teachers] to think of [their] library media specialist as a teacher". It appears that many educators are simply not aware of the research, hence the common misconception that school librarians are mere book custodians instead of potential pedagogical partners.

Another possible explanation is put forward by Oberg (2001), who argues that research findings are not persuasive in and of themselves. She suggests that many educators approach research findings sceptically, which explains why the research has had a limited impact in changing perspectives of school library programmes.

Strategies for more effective evidence-based advocacy

The current body of evidence on the impact of school libraries has not had the effect of a general increase in investment, nor has the status of school library programmes been enhanced. As research suggesting that this would significantly increase student achievement is extensive, two possibilities can be inferred. Either the message is not reaching the right people, or it is not convincing to them. In addressing the first possibility, there have been recent efforts   appeal directly to school administrators and principals about the value of school libraries (Anderson, 2007; Church, 2003; Hartzell, 2002b). Targeting these key members of staff will potentially be effective in promoting the school's library programme to all staff. Hartzell (2002b) suggests that the principal is important not just in allocating funding to the library, but also in creating an environment where student library   and staff–TL collaboration is valued and promoted. Another strategy is to reform preparation programs for educators (including librarians) to emphasise the importance of school library programmes (Roberson, 2005).

If such measures are successful in making decision-makers aware of the research, it must be ensured that the research is convincing. Todd (2002) suggests that a different approach to research will help in overcoming apathy towards school libraries. He argues that the hallmark of the 21st century school library is not the teacher librarian, its collections, its technology, or its staffing, rather:

It is *actions and evidences* that show what makes a real difference to student learning, and that the teacher-librarian contributes in tangible and significant ways to the development of human understanding, meaning making and constructing knowledge. (p. 2)

Instead of focusing mainly on inputs, as most large-scale quantitative studies have done, research should focus more on highlighting the positive outcomes produced by school library programmes.

Oberg (2001) asserts that research carried out closer to home is more likely to be considered. This could be accomplished through action research. For example, Loertscher (2006) has suggested a design for an action research study gauging the effectiveness of collaboration between librarians and classroom teachers. Similarly, Gildersleeves (2005) looked at the use of library self-evaluation toolkits in English schools, and has suggested that their use may help improve library visibility. Theoretically, if more school library professionals engage in research and evaluation of their own school library programmes, support from teachers and administrators could rise as they see tangible benefits that relate directly to their own practice. Whether this works in practice is an area for future study.

Conclusion

Research over the past few decades has proven the link between school libraries and student academic achievement beyond a reasonable doubt. Study after study has shown that good school library programmes have a significant impact on student learning. The methodologies of the various studies are sound, and the fact that the results are consistent across disparate geographical areas enables considerable confidence to be placed in their results.

Despite this evidence and the potential for school improvement, the enthusiasm for and funding of such development is lacking. According to the literature considered in this review, this is because teachers and administrators are for the most part unaware of the potential of school libraries. It is also suggested that even when they are made aware of this potential, the research used to back this argument up is unpersuasive to them. Some suggestions have been made about how teacher and adminstrator preparation programmes could be reformed, and about how school library research in the future could be designed to be more convincing, mainly by focusing on smaller scale studies using predmoninantly qualitative methodologies to provide a greater emotive impact to findings. Such an approach will ultimately require the widespread involvement of school library professionals in carrying out research and self-evaluation.

There have been efforts to provide frameworks to enable this, but it is yet to be seen whether these will meet with success.

REFERENCES:

Anderson, C 2007, 'Adequate yearly progress (AYP) at your library media centre', *Library Media Connection*, vol. 25, no. 4, pp. 22-24.

Baughman, J 2000, *School libraries and MCAS scores*, Simmons College, Boston, MA, viewed 25 February 2008, <http://web.simmons.edu/~baughman/mcas-school-libraries/>.

Burgin, R & Bracy, P 2003, *An essential connection: How quality school library media centres improve student achievement in North Carolina*, RB Software & Consulting, Inc., viewed 1 March 2008, <www.rburgin.com/NCschools2003/NCSchoolStudy.pdf>

Church, A 2003, *Leverage your library program to help raise test scores: A guide for library media specialists, principals, teachers, and parents*, Linworth Publishing, Columbus, OH.

Gildersleeves, L 2005, 'Evaluating evaluation', *Aslib Proceedings: New Information Perspectives*, vol. 58, pp. 73-88.

Hartzell, G 2002a, *What's it take?*, Paper presented at the White House Conference on School Libraries, Washington, DC.

Hartzell, G 2002b, *Why Should Principals Support School Libraries?*, ERIC Digests, viewed 25 March 2008, <http://http://www.ericdigests.org/2003-3/libraries.htm>.

Lance, K, Hamilton-Pennell, C & Rodney, M 2000, *Information empowered: The school librarian as an agent of academic achievement in Alaska* schools, Educational Resources Information Center, viewed 13 April 2008, <http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/16/55/0b.pdf>.

Lance, K, Hamilton-Pennell, C & Rodney, M 2005, *Powerful libraries make powerful learners: The Illinois study*, Illinois School Library Media Association, viewed 8 January 2008, <http://www.islma.org/pdf/ILStudy2.pdf>.

Lance, K, Welborn, L & Hamilton-Pennell, C 1994, *The impact of school library media centers on academic achievement*, American Association of School Librarians, viewed 23 February 2008, <http://www.ala.org/ala/aasl/aaslpubsandjournals/slmrb/editorschoiceb/infopower/select lancehtml.cfm>.

Lindsay, K 2005, 'Teacher/Teacher-Librarian Collaboration - A Review of the Literature', *School Libraries in Canada*, vol. 25, no. 2, pp. 3-17.

Loertscher, D 2006, 'Gauging the impact of teacher and teacher-librarian collaboration' *Teacher Librarian*, vol. 34, no. 2, p. 41.

Lonsdale, M 2003, *Impact of school libraries on student achievement: A review of the research*, Australian School Library Association, viewed 28 March 2008, <http://www.asla.org.au/research/research.pdf>.

Oberg, D 2001, 'Demonstrating that school libraries improve student achievement', *Access,* vol. 15, no. 1, pp. 15-17.

Reynolds, S & Carroll, M 2001, 'Where have all the teacher librarians gone?', Access, vol. 15, no. 2, pp. 30-34.

Roberson, T, Applin, M & Schweinle, W 2005, 'School libraries' impact upon student achievement and school professionals' attitudes that influence use of library programs', *Research for Educational Reform*, vol. 10, no. 1, pp. 45-52.

Scott, K & Plourde, L 2007, 'School libraries and increased student achievement: What's the big idea?' *Education*, vol. 127, no. 3, pp. 419-429.

Simintus, J 2002, *California School Library Media Centers and student* achievement, SBC Pacific Bell, viewed 3 April 2008, <http://www.kn.pacbell.com/survey/k12libraries.pdf>.

Small, R, Snyder, J & Parker, K 2007, *New York State's school libraries and library media specialists: An impact study*, New York Library Association, viewed 24 February 2008, <http://www.nyla.org/content/user_1/Preliminary_Report_Small.pdf>.

Smith, E 2001, *Texas school libraries: Standards, resources, services, and students'* performance, Education Resources Information Center, viewed 14 March 2008, <http://www.eric.ed.gov.ezproxy.csu.edu.au/ERICDocs/data/ericdocs2sql/content_stora ge_01/0000019b/80/19/27/00.pdf>.

Tarr, W, & Sinclair-Tarr, S 2006, *Using large-scale assessments to evaluate the effectiveness of school library programs in California*, Edexcellence Consulting, Inc, viewed 23 February 2008, <http://www.edexcellence.com/37_Tarr.pdf>.

Todd, R 2002, *School librarians as teachers: Learning outcomes and evidence-based practice*, Paper presented at the 68th IFLA Council and General Conference, Glasgow.

Todd, R 2003, *Student learning through Ohio school* libraries, Ohio Educational Library Media Association, viewed 24 February 2008, <http://www.oelma.org/StudentLearning/SLFindings.asp>.

Twomey, M 2007, 'Empowering learners: How the teacher librarian, through enactment of the role, empowers learners to shape and enrich a changing world' *Access*, vol. 21, no. 1, pp. 33-29.

Williams, D & Wavell, C 2001a, *The impact of the school library resource centre on learning*, The Robert Gordon University, viewed 4 April 2008, <http://www.rgu.ac.uk/files/SLRCreport.pdf>.

Williams, D & Wavell, C 2001b, *The impact of school library services on achievement and learning*, The Robert Gordon University, viewed 4 April 2008, <http://www.rgu.ac.uk/files/Impact%20of%20School%20Library%20Services1.pdf>.

Yoo, J 1998, *The educational impact of the school library*, Educational Resource Information Center, viewed 25 February 2008, <http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED417736>.

About the author

Mr. Christopher Chan worked for over three years as a school librarian in international schools in Hong Kong, both at the primary and secondary levels. He was also an active member of the Association of Librarians in English Speaking Schools, a professional group that facilitates collaboration and sharing of best practice between school librarians in Hong Kong.

In August 2008 he took up the position of Assistant Librarian (Information Services) at the Hong Kong Baptist University Library.

Mr. Chan holds a Bachelor's degree in politics and history from the University of Durham (UK), and a Master of Applied Science in library and information management from Charles Sturt University (Australia).