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Revisiting Collaboration Within and Beyond the School Library: New Ways of Measuring Effectiveness

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ABSTRACT

Collaboration in school libraries can be viewed as a supportive and respectful working relationship between participants involved in developing, planning and creating learning opportunities and experiences, as well as to ensure optimal use of the school library resource. While strong collaboration between school library staff and teachers and leadership beyond the school library is a key goal of school libraries, actual levels of collaboration may be lower than desired. There is a paucity of recent research that captures factors relevant to effective collaboration from current and diverse contexts, and limited consideration of how these factors can contribute to measures of effectiveness for school libraries. This article proposes possible measures of effectiveness and a pragmatic research plan that can build the evidence-base for the practice of collaboration both within and beyond the library.

KEYWORDS

School library; school librarian; teacher librarian; collaboration; library workforce; library effectiveness

Introduction

For many years school library professionals have sought to situate themselves as collaborators involved in student learning and engagement (Cooper & Bray, 2011). There has also been increasing emphasis on the use of evidence-based practice in school libraries (DiScala & Subramaniam, 2011; Todd, 2015), and therefore strategies to enact collaboration should be research-supported and related to measurable outcomes. While as noted by Lonsdale (2003) there is research evidence supporting the contention that “collaborative relationships between classroom teachers and school librarians have a significant impact on learning, particularly in relation to the planning of instructional units, resource collection development, and the provision of professional development for teachers” (p. 30), more research is needed to determine:

1. What constitutes collaboration in relation to libraries in contemporary schools?
2. What factors enable and constrain collaboration?

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3. How does collaboration influence the effectiveness of school libraries?

Like others (e.g. Montiel-Overall, 2007) for the purposes of this article, despite the diverse nomenclature that exists both within and between nations, school library professionals are referred to as *librarians* herein.

While collaboration has been studied in relation to school libraries for decades, what it means to collaborate is influenced by time and context. Collaboration as a concept has been defined in many different ways (as reviewed in Montiel-Overall, 2005). Montiel-Overall (2005) concluded that

collaboration is a trusting, working relationship between two or more equal participants involved in *shared thinking, shared planning and shared creation of integrated instruction*. Through a shared vision and shared objectives, student learning opportunities are created that integrate subject content and information literacy by co-planning, co-implementing, and co-evaluating students' progress throughout the instructional process in order to improve student learning in all areas of the curriculum. (p. 5)

However, this definition risks constraining the educative purpose of collaboration to what is privileged in the curriculum at the time, and what pertains explicitly to instruction. This is problematic, because as explored previously, there are often notable omissions in curriculum that yield significant educational benefit.

For example, while the Australian national school curriculum (AC)

aims to build literacy skills, it does not recognise the importance of fostering enjoyment of reading, and reading engagement, in order to promote literacy achievement, despite the robust body of evidence supporting the link between the two. Though the AC gives some very brief cursory attention to the role of enjoyment in reading, it is at best positioned as a minor consideration. (Merga & Gardiner, 2018, p. 39)

Fostering enjoyment of reading or reading for pleasure offers considerable educative benefit, and it is a key facet of the librarian role in schools in Australia (Merga, 2020a) and the UK (Merga, 2020b). Collaborating with teachers to enhance this facet of the role should not be devalued just because it does not necessarily relate to explicit instruction. Framing the contribution of the librarian as being concerned with instruction downplays the other valuable informal learning contributions that librarians may make in collaboration with teachers. For instance, teacher and librarian collaboration to plan and promote an author speaking event in the school is also not about *shared creation of integrated instruction* but that does not make such an opportunity less educative or less valuable. This definition also does not capture collaborative efforts for other valuable purposes, such as to enhance use of the school library resource, and it also does not account for collaboration where participants are not "equal": for example, between the librarian and the school leader. As highlighted further herein, beyond the teacher and librarian dyad, collaborative partners may also include other internal library team members (such as library technicians and library officers) as well as school leadership (Morris & Packard, 2007).

As such, Montiel-Overall's work can be drawn on to reconceptualise what is meant by collaboration as used in this article, though as explored further herein, what constitutes collaboration in relation to libraries in contemporary schools needs to be revisited to ensure currency and applicability of this conceptualization. For the purposes of this

article, collaboration can be seen as a supportive and respectful working relationship between two or more participants involved in developing, planning and creating learning opportunities and experiences, as well as more broadly to ensure optimal use of the school library resource. Expectations of collaborations between librarians, teachers and leaders within the same school community may vary between nations. The development of partnerships with teachers and educators to foster students' inquiry and independent learning is an overall common expectation in Australia, US and UK (American Association of School Librarians (AASL), 2018; Appleton et al., 2018; Australian School Library Association (ASLA), 2014). The nature of these partnerships, however, may be made more or less explicit in each educational context, with subsequent implications for each community of practice. In Australia, professional partnerships between school library associations (i.e., ASLA and Australian Library and Information Association) and the Australian Institute for Teachers and School leaders enabled the development of explicit expectations of collaboration between librarians, teachers and the wider community (ASLA, 2014). In the US, librarians are also expected to develop partnerships with teachers and school leaders in the process of developing specific qualities of effective learners (AASL, 2018). However, recent research found that teachers and school librarians collaborate more often "by dividing the lesson instead of working together on standards, planning, and assessment" (Crary, 2019, p. 1). As such, although collaboration expectations may be more or less explicitly set across nations, the translation of these expectations into each community of practice may be less clear.

Current levels of collaboration may be lower than desired in both Australia (Merga, 2019a) and the US (Lance et al., 2010). Merga (2019a) recently found that in a study of librarians at 30 schools in Australia, while "some schools had well-established expectations that collaborations occur, the quality and regularity of collaborations at other schools was far lower" (p. 67), and earlier US findings from Lance et al. (2010) indicated that "almost half of classroom teachers report that neither they (45.1%) nor their teacher librarians (48.1%) initiate instructional collaboration with each other" (p. 31). Therefore, while collaboration may be desired by librarians, in practice it may be neither expected nor supported in many cases.

To justify investment of time and energy into enhancing collaborative potentialities between staff in the school library and beyond in the busy schedules of school staff, ideally there needs to be recent and robust evidence supporting the benefits of collaboration for the library, student and the school. US research suggests that where school administrators value collaboration and it occurs frequently, this positively relates to students' reading and language arts (known in Australia and the UK as English) scores and information and communications technology (ICT) proficiency (Lance et al., 2010). Findings from an earlier US study (Lance et al., 2000) also linked certain collaborative practices with better student reading test scores. They found that time spent planning with teachers, identifying resources for teachers, and providing professional development for teachers was positively associated with reading test scores. Other US research conducted in the state of Texas found that schools with students that performed well on the Texas Assessment of Academic Skills typically had more library resources and they devoted "more time to collaborative activities" (Smith, 2001, p. 18).

However, much of the literature around school libraries on collaboration does not interrogate how collaboration is related to measures of library or school effectiveness. Though there is a wealth of interesting anecdotal advisory pieces written to support practitioners seeking to foster collaboration, many of which draw upon the extensive lived professional experiences of the authors, there is often limited reference made to research in these works (e.g. Bush, 2003; Nichols et al., 2005). As such, it is not really known if the strategies endorsed are effective, and what kinds of positive outcomes they could be expected to yield. Furthermore, librarians are urged to consider how collaboration leads to tangible and measurable benefits rather than promoting collaboration “for collaboration’s sake,” noting that “collaboration itself” is “not the goal” (Cooper & Bray, 2011, p. 53). However, there remains a lack of research that explores how effectiveness of collaboration should be assessed (Montiel-Overall & Hernández, 2012). To this end, this article seeks to plot out a future direction for research in school library collaboration that begins with consideration of current gaps in collective knowledge around factors influencing collaboration and school libraries and how to measure the effectiveness of these factors.

Factors influencing collaboration and school libraries: Why more research is needed

In order to revisit collaboration within and beyond the school library and argue effectively for its value, there are notable gaps in the research corpus that warrant consideration.

What is collaboration?

As explored in the introduction, what collaboration entails, and the factors that enable and constrain it must be re-mapped. Informing theoretical and conceptual foundations for work in school library collaboration are often derived from other areas, using somewhat dated constructs. In the absence of a substantial body of research exploring factors influencing collaboration related to school libraries, factors have been extrapolated from outside the library context, such as Haycock’s (2007) use of Mattessich and Monsey’s (1992) factors influencing the success of collaborations, which groups 19 factors potentially impacting upon the success of collaboration into six categories, namely: environment, membership, process/structure, communications, purpose and resources. There is a need for current mapping based on library contexts. In addition, as noted by Johnson et al. (2007) “the classical pragmatic philosophers (i.e., Peirce, James, Dewey) had it right when they pointed out that the present is always a new starting point” (p. 112), and continued dependence on older (1990s) foundational work needs to be questioned.

Place and diversity

While factors enabling and constraining collaboration are described in a very general manner to facilitate their application across contexts, it cannot be taken for granted that they are optimally applicable to school library contexts outside the US and in current times. There is a considerable need for the body of research evidence behind practices

in the library to come from diverse perspectives (Schultz-Jones & Pasquini, 2019). At present, the school library research space “is heavily slanted toward the US with Australia and Canada a distant second and third” (Everhart, 2018, p. i). Perspectives from Asia and other diverse contexts are needed to ensure that the evidence informing school library practice holds broader contextual relevance.

Furthermore, it cannot be assumed that there are common understandings with regard to nomenclature and expectations for librarians working in different country, or even state contexts. For example, within Singapore, school or teacher-librarians are not mandated and a subject-teacher known as the library coordinator is allocated extra duties of managing the library, potentially leaving them little time to collaborate with other teachers (Mokhtar & Majid, 2005). In Hong Kong, teacher-librarians are present but school administrators and teachers’ lack of understanding about the role of the teacher-librarian result in little support and collaboration at school level. In Japan, librarians have limited opportunities to collaborate with teachers who may lack understanding of librarians’ skills and expertise (Loh et al., 2019). Findings need to be localized and evidence-based for each country and school contexts (Todd, 2015).

Collaboration within the library also warrants consideration

The focus on factors influencing collaboration in relation to school libraries is typically externally oriented, in that they are primarily interested in how the library staff (and typically focused on just one library staff member) collaborates with teachers (e.g. Merga, 2019a; Montiel-Overall, 2008). However, internal collaborative factors such as composition and cohesiveness of the school library team could also have significant influence on measures of effectiveness. As the composition of the school library team is highly vulnerable to funding and budgetary changes, and school libraries are faring badly as a result of cuts in these areas in recent times (e.g. Kachel, 2015; Softlink, 2020; Teravainen & Clark, 2017), the relevance of considering internal collaborative factors is arguably higher than ever.

Considering but not constrained by previous research

To reflect a pragmatic orientation that requires that research be responsive to current and contextually diverse needs, future research should consider but not be constrained by previous empirical investigations in this field. While there are some research works identifying factors pertaining to collaboration specific to the school library context (e.g. Garrison & FitzGerald, 2019), findings from Montiel-Overall (2008) reported from 18 teachers and 3 librarians (semi-structured interviews, observations and fieldnotes) in the US and Merga (2019a) reported from 30 teacher librarians (semi-structured interviews) in Australia can be considered in parallel and analyzed for their commonalities.

As apparent in [Table 1](#), while there are differences in method and framing that impede the viability of such analysis, and matches are often approximate rather than exact, some consistency can be observed, though there are subtle differences that could also be shaped by researcher subjectivity as well as contextual, geographic and chronological factors amongst others.

Table 1. Characteristics of and conditions for effective teacher and librarian collaboration.

Characteristics of effective collaboration (Merga, 2019a)	Related themes/coding categories of conditions for effective collaboration (Montiel-Overall, 2008)
Respectful communication	Communication, Trusting relationship, Personal, Collegiality and/or friendship
Goal setting	Management, Time/planning for collaboration
Timely and regular planning	Management, Time/planning for collaboration
Open and flexible mind-sets	Communication, Trusting relationship, Initiator
Student-centered approaches with student benefit as the shared goal	Motivation to collaborate, Impact of student learning
Valuing of the expertise and perspectives of others	Communication, Trusting relationship, Knowledge sharing
Advocacy for what each member can offer the collaboration	Communication, Trusting relationship, Knowledge sharing
Generosity	Attributes of collaborators, Personality
Commitment to meeting both the group and individual needs of students	Motivation to collaborate, Impact of student learning
Willingness to evaluate the collaborative and provide supportive critical feedback	Attributes of collaborators, Expertise
Safety to articulate concerns and issues without irrevocably damaging the collaborative relationship	Communication, Trusting relationship, Personal

Adapted from Merga (2019a) and Montiel-Overall (2008).

Others have focused on one potential aspect or pathway that may constrain or enable collaboration. For example, Schultz-Jones (2009) pilot study explored social networks within the school environment connecting school library media specialists with teachers and administrators beyond the library. These did not refer to the digital social networks that are common in recent times, rather the focus was on interactions more generally. The research has a pragmatic purpose, as “visualizing the school learning environment as a set of social networks provides the school library media specialist with a way to map interactions and think strategically about building relationships” (p. 25). Similarly, Immroth and Lukenbill (2007) were interested in testing a strategy to promote teacher and librarian collaboration drawing on social marketing techniques with the aim of improving student achievement. However, while this work is useful, further *broad* exploratory work is needed that can capture a plurality of factors that influence collaboration across contexts.

Harnessing optimal methods and sample sizes

Within the constraints of aforementioned limitations, future research seeking to explore how these factors influence measures of library effectiveness can make the most of advances in methodology and draw on samples sufficiently robust to draw conclusions with some degree of strengths beyond a specific geographic context. In addition to qualitative findings, Montiel-Overall (2007) quantitative work also sought to define specific practices and structures that support successful collaboration between teachers and librarians, and to further develop and validate instruments to explore teachers’ perceptions of collaboration with librarians (2009). The transferability of these findings beyond the areas within the US where the research was conducted needs to be determined, as there is considerable diversity within the US school library role both within and between the US states (e.g. Merga & Ferguson, *in press*). In addition, findings are based on small samples of <100 from one US school district and <200 from two US school districts respectively. While there are some who contend that samples of ≤ 50 can be

sufficient for exploratory factor analysis which informs both of these studies (e.g. de Winter et al., 2009), ideally at least $N=250$ is needed to extract stable and meaningful factors based on Keiser's criterion, or $N=200$ if a scree-plot is used. These are general conservative estimates and subjects to communality values, factor loadings, and the number of variables (Stevens, 2009).

Pragmatic orientation and a mixed methods approach

Furthermore, the very general nature of some of the extant research precludes its usefulness in informing concrete strategies, dispositions and attitudes that arise at the nexus between research and translation. For example, in recent research concerned with the school library context in Australia (Merga, 2019a,b), factors arising in Mattessich and Monsey's early work primarily derived from USA-based findings could be generally applied in some cases though with limited utility for end users looking for specific approaches to enhance collaboration. Therefore, further research in this space not only needs to be current and reflective of diverse contexts; it also needs to conduct exploration of factors influencing collaboration and school libraries which is informed by prior research and theories, yet driven by a strong pragmatic goal, with a pragmatic orientation informing its method.

The methodological approach most closely aligned with pragmatic orientation is mixed methods (Creswell & Creswell, 2018; Johnson et al., 2007; Johnson & Onwuegbuzie, 2004). Pragmatism "offers an alternative worldview to those of positivism/postpositivism and constructivism and focuses on the problem to be researched and the consequences of the research" (Feilzer, 2010, p. 7), and "many (or most) mixed methods writers have argued for some version of pragmatism as the most useful philosophy to support mixed methods research" (Johnson et al., 2007, p. 125). A pragmatic orientation aligns well with the objectives of mixed methods as in addition to "epistemological justification (i.e., via pragmatic epistemic values or standards)," pragmatism aligns well with the logic of mixed methods, such as "use the combination of methods and ideas that helps one best frame, address, and provide tentative answers to one's research question[s]) for mixing approaches and methods" (p. 125).

For example, as applied to the objectives informing this article, when exploring factors influencing collaboration and school libraries and how to measure the effectiveness of these factors, it can be argued that the identification of factors must initially be a qualitative project, given the aforementioned issues around the existing research as well as place and time. Once these factors have been identified, as outlined in further detail herein, qualitative findings can inform the factors to be investigated in relation to their relationship with measures of effectiveness in purposeful integration (a key aspect of contemporary mixed methods as explored in detail in Creamer, 2018a) is not left to the end of the project, rather brought forward to inform the research in progress (Creamer, 2018b).

Achievable in current real-world school contexts

Writing this article in 2020, the authors are keenly aware that any plans to extend research on collaboration in schools and their libraries must be practical and responsive

to real-world factors. Conducting research in schools has always been challenging; for example, multiple layers of ethics approvals may be needed (Esbensen et al., 2008; Thomas, 2009), and ensuring adherence with required experimental conditions may be very difficult in the often-unpredictable schooling environment. The COVID-19 pandemic led to further unstable circumstances within schools, including school closures as a measure to decrease mortality from the disease within communities (Auger et al., 2020). While in some areas a degree of apathy and even hostility toward measures designed to protect the public such as mask wearing and adhering to quarantine requirements (Forsyth, 2020), further waves of infection (Xu & Li, 2020) continue to push up the global mortality toll and pose ongoing risk for continuity in schooling, which in turn places significant limitations on the kinds of research that can currently be conducted in schools. While Schultz-Jones and Pasquini (2019) call for a greater body of research able to assert causal links, methods such as randomized controlled trials in schools are simply not realistic in the current uncertain climate. At present what are needed are research approaches that can yield quality findings while being optimally responsive and resilient.

As in many research projects, samples are typically tested, and findings are generalized to the population. The results have to be reliable, and the findings credible. The results are considered reliable when the testing method is accurate, and the findings merit credibility if the samples are correctly selected. The key points here are to ensure the samples are sufficiently representative, both in the sample selection method and the statistical analyses that follow. This sampling-and-statistical test approach is not unique to the research domain (Swamidas, 2000). Where the need for rigorous research is competing with the reality of research in COVID-19 plus normal challenges of conducting research in schools, a good compromise is to ensure that the statistical tests are sufficiently robust, and random sampling methods are fully observed. While the latter is a procedural matter, the former needs special attention. For that, this research could employ artificial neural network (ANN), a branch of artificial intelligence to extract underlying patterns in the dataset to draw a meaning conclusion. ANN is data driven statistical method where the algorithm processes data through learning and refinement of initially found solutions (Mat Roni & Merga, 2019), making the final output more precise as seen in Lykourantzou et al. (2009) where their ANN result contains approximately half the errors of linear regression statistical method.

While ANN identifies complex patterns in the dataset with robust estimates, the magnitude of impacts of each factor contributing to an effective beyond-school-library collaboration lies in the predictive capacity of the conventional regression. As mentioned earlier, the precision of a regression analysis is not at the level of ANN. However, regression can supplement the findings highlighted by ANN for practical purposes such as to quantify estimated output for every unit of input. Given the susceptibility of the conventional regression to errors, this study compliments the traditional regression with *bias corrected accelerated bootstrap* regression where the result is more stable (Merga et al., 2020). The use two methods for data analysis, and the systematic procedural method for the sampling technique can therefore contribute to the reliability of the results, and the credibility of the findings. This combined approach therefore address

some of the credibility and reliability concerns raised by Steff-Mabry et al. (2019) in school library research field.

Measuring effectiveness of school libraries in relation to collaboration

As aforementioned, the limited extant research on school library effectiveness and collaboration has typically focused on literacy test scores as a measurement of effectiveness (e.g. Lance et al., 2010). However, there are other often inter-related measures of effectiveness that may also be compelling and perhaps even preferable, as explored herein. Adopting a range of measures of effectiveness to meet current pragmatic accountabilities for school libraries could be the best way forward in this research. As performance measurement, “accountability and assessment become increasingly pervasive in teaching and learning,” school library staff must “show the effect their programs have on student outcomes” as well as “evidence of their practice and the ways in which their practice affects their students” (DiScala & Subramaniam, 2011, p. 59).

However, in addition to student experience and performance, schools are also influenced by resourcing and staffing concerns. For example, in a recent media report on dwindling numbers of teacher librarians in Australian schools, influential educational leader Craig Petersen made reference to “many demands to increase resources in schools” in his caution around increasing numbers of qualified library staff in schools (Crysanthos, 2020, para. 20). Therefore looking at measures of library use as an indicator of school library effectiveness could also be taken into account, as this feeds into quantification of the value of the library as a resource which could resonate with leaders such as Petersen.

Student reading engagement

The likely pathway for a librarian’s influence on students’ literacy outcomes may be through promoting student reading engagement and reading for pleasure. While reading engagement is conceptualized in diverse ways, it can be seen as relating to students’ attitudes toward, and frequency of engagement in the practice of reading (Merga & Gardiner, 2018). As previously touched upon, reading enjoyment and positive attitudes toward reading are positively associated with literacy skill performance and development in areas such as reading comprehension (e.g. Hamed et al., 2019).

While previous research has focused on the impact of libraries and library staffing on student literacy performance measures (e.g. see Lance & Kachel, 2018 for a review), a study designed to measure how school libraries measure *students’ reading engagement* rather than their performance on high-stakes literacy testing could yield more robust data, primarily as students can be asked about their reading engagement, and specifically how they feel their library has influenced this. In this manner, *direct* influence of the library on reading engagement is more practical to measure than the influence of the library on student performance. This is because the student performance is arguably a result of combinations of other factors with reading engagement one of them. What this means is on the nomological validity, the library effect on student performance is facilitated through or mediated by student engagement in reading, rather than directly impacting the overall performance.

Measuring reading engagement instead of reading performance also enables the research to avoid accepting student scores on high stakes testing as an unqualified proxy for student literacy performance. Furthermore, as aforementioned, there is a considerable body of research that shows that reading engagement promotes student literacy performance (see Merga, 2019c for a review). Therefore, increasing students' reading engagement can be expected to yield tangible improvement in students' literacy outcomes as well as foster life-long reader identities that can help them to continue building their literacy skills beyond school.

Library use

Quantification of library use is another possible measure of effectiveness, and this can be collected through data on borrowing levels and visitation frequency. The justification behind this measure is easy to make, given that the library is an ongoing investment that schools must maintain and resource. Where library use is as high as is practicable, it can be argued that schools are seeing a good return on this investment. There is also compelling recent research linking library visitation and reading engagement (Mat Roni & Merga, 2019), with earlier research finding a relationship between student reading performance and frequency of library visitation (Francis et al., 2010).

However, frequency of library use (which in turn impacts upon borrowing numbers) is constrained by a number of factors in contemporary school libraries. Students may have less access to libraries as they move through the years of schooling (Merga, 2019b; Merga & Mat Roni, 2017), and therefore even where a school has a well-resourced library, there is no guarantee of regular access for all students. While measures pertaining to library use naturally have an upper limit as there are finite resources to be borrowed, and many other factors can constrain frequency of library visitation, as part of a range of measures of effectiveness, exploring how library use is influenced by factors impacting upon collaboration is a worthy goal. Clearly, library esteem is likely to relate to library use, and it could potentially relate to the other measures of influence workforce satisfaction and reading engagement. The way the library is viewed by classroom teachers and leadership can have an impact on whether or not it is prioritized in funding allocation at school level.

Workforce satisfaction

Given that the school library workforce is graying, there are concerns about workforce sustainability in the future (Walker & Calvert, 2016). While there is limited research that explores the impact of factors relating to collaboration on library staff attrition, research looking at teachers has found that "a greater reported prevalence of school-based teacher networks and opportunities for collaboration was related to lower attrition rates" (Borman & Dowling, 2008, p. 390). With collegiality and successful collaboration able to influence staff attrition in schools, determining school library workforce staff satisfaction, such as measured in staff survey responses in relation to factors influencing collaboration can provide valuable insights into staff retention both within schools, but also within the profession as a whole.

Library esteem

Reading engagement, library use and workforce satisfaction are likely to be influenced by library esteem, which can be viewed as degree of satisfaction with library provisions and services from library users. Previous research has examined the impact of perceived library esteem of classroom teachers and leadership on librarians' professional satisfaction and morale (e.g. Merga, 2019d), and the 2011 House of Representatives (HOR) report noted that "it is indisputable that the value of teacher librarians' work has been eroded over the years and undervalued by many in the community, be it by colleagues, principals, parents or those in the wider school community" (HOR, 2011, p. 117). With relationship-building part of collaboration, it is realistic to expect that there could be an association between such factors relating to collaboration and library esteem. With the broader pragmatic implication of library esteem potentially relating to the likelihood of school leadership prioritizing the library within in budgetary constraints schools grapple with, inclusion of this measure seems pertinent.

Professional learning to enhance teacher and librarian collaboration

A pragmatic plan for research should have a pragmatic aim, leading to real-world benefits. To this end, once specific factors influencing collaboration have been related to measures of effectiveness, the next step must be transformation of practice through professional development and related resourcing. The target audience for these opportunities should not be confined to librarians and classroom teachers, though research has focused on providing upskilling in collaboration for these groups. For example, Montiel-Overall and Hernández (2012) conducted professional-development intervention workshops with elementary teachers and librarians in six elementary schools in the US. Their program was found to contribute to significant increases in teachers' collaborative behaviors, though it had less influence on the collaborative activities of librarians. However, the slight positive changes that the professional development contributed to "perceptions about the contribution to student success of collaboration between teachers and school librarians" were not significant. A contributing factor could be the absence of a substantial body of current research linking specific collaborative factors to tangible and relevant measures of effectiveness. Moreillon (2008) also looked at upskilling of classroom teachers, finding that such opportunities could potentially yield a positive impact on collaboration, though interventions were focused on the pre-service stage, and the research method precluded generalizability.

School librarians need professional learning in how to establish and sustain effective collaboration between themselves, their team members, their classroom teacher colleagues and school leadership. However, findings from research into how facets of collaboration influence measures of effectiveness are also needed to inform advocacy to engage greater buy-in to collaboration from these classroom teachers and leadership in particular, and Haycock (2007) envisions enhancements in collaboration arising from supportive leadership, staff development, and learning together. Making visible the benefits of collaboration can enhance mutual trust and respect among these partners, which could yield other flow-on benefits for libraries and their staff, such as improved positioning of the library within the school administrative and budgetary structures. In

addition to librarians and classroom teachers, school leadership and library support staff will also benefit from professional learning once current findings are reached that can inform it.

Conclusions

There is a paucity of recent research that captures what it means to collaborate in contemporary school libraries, the factors relevant to effective collaboration from current and diverse contexts, and how these factors can contribute to measures of effectiveness for school libraries. This article outlines a pragmatic approach to such research, proposing consideration of possible measures of effectiveness and a research plan that can build the evidence-base for the practice of collaboration both within and beyond the library. Current research focused on this area that considers but is not constrained by previous research can explore previously underutilized measures of effectiveness that are multi-faceted to take into account how effectiveness of libraries is determined in today's schools. Such research should inform advocacy outputs to invite leaders and classroom teachers to more effectively collaborate with their school librarians to make the most of the valuable resource available to them, as well as to support the library team to operate more effectively.

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References

- American Association of School Librarians. (2018). *National school library standards for learners, school librarians, and school libraries*. American Library Association.
- Appleton, L., Hall, H., Duff, A. S., & Raeside, R. (2018). UK public library roles and value: A focus group analysis. *Journal of Librarianship and Information Science*, 50(3), 275–283. <https://doi.org/10.1177/0961000618769987>
- Auger, K. A., Shah, S. S., Richardson, T., Hartley, D., Hall, M., Warniment, A., Timmons, K., Bosse, D., Ferris, S. A., Brady, P. W., Schondelmeyer, A. C., & Thomson, J. E. (2020). Association between statewide school closure and COVID-19 incidence and mortality in the US. *JAMA*, 324(9), 859–870. <https://doi.org/10.1001/jama.2020.14348>
- Australian School Library Association. (2014). *Evidence guide for teacher librarians in the highly accomplished career stage*. Australian School Library Association.
- Borman, G. D., & Dowling, N. M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research*, 78(3), 367–409. <https://doi.org/10.3102/0034654308321455>
- Bush, G. (2003). Do your collaboration homework. *Teacher Librarian*, 31(1), 15–18.
- Cooper, O. P., & Bray, M. (2011). School library media specialist-teacher collaboration: Characteristics, challenges, opportunities. *TechTrends*, 55(4), 48–54. <https://doi.org/10.1007/s11528-011-0511-y>
- Crary, S. (2019). Secondary teacher perceptions and openness to change regarding instruction in information literacy skills. *School Library Research*, 22, 1–27. <http://www.ala.org/aasl/slr/volume22/crary>
- Creamer, E. G. (2018a). *An introduction to fully integrated mixed methods research*. SAGE.

- Creamer, E. G. (2018b). Striving for methodological integrity in mixed methods research: The difference between mixed methods and mixed-up methods. *Journal of Engineering Education*, 107(4), 526–530. <https://doi.org/10.1002/jee.20240>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design* (5th ed.). SAGE Edge.
- Crysanthos, N. (2020). 'It's a crucial role': Teacher librarians push to boost their numbers in schools. *Sydney Morning Herald*. <https://www.smh.com.au/national/nsw/it-s-a-crucial-role-teacher-librarians-push-to-boost-their-numbers-in-schools-20201110-p56dbi.html>
- de Winter, J. C., Dodou, D., & Wieringa, P. A. (2009). Exploratory factor analysis with small sample sizes. *Multivariate Behavioral Research*, 44(2), 147–181. <https://doi.org/10.1080/00273170902794206>
- DiScala, J., & Subramaniam, M. (2011). Evidence-based practice: A practice towards leadership credibility among school librarians. *School Libraries Worldwide*, 17(2), 59–70.
- Esbensen, F., Melde, C., Taylor, T. J., & Peterson, D. (2008). Active parental consent in school-based research. *Evaluation Review*, 32(4), 335–362. <https://doi.org/10.1177/0193841X08315175>
- Everhart, N. (2018). Making the case for diversity in school library research. *School Libraries Worldwide*, 24(2), i–iv.
- Feilzer, M. Y. (2010). Doing mixed methods research pragmatically: Implications for the rediscovery of pragmatism as a research paradigm. *Journal of Mixed Methods Research*, 4(1), 6–16.
- Forsyth, D. R. (2020). Group-level resistance to health mandates during the COVID-19 pandemic: A groupthink approach. *Group Dynamics: Theory, Research, and Practice*, 24(3), 139–152. <https://doi.org/10.1037/gdn0000132>
- Francis, B. H., Lance, K. C., & Lietzau, Z. (2010). *School librarians continue to help students achieve standards: The third Colorado study (2010) (Closer Look Report)*. Colorado State Library, Library Research Service. http://www.lrs.org/documents/closer_look/CO3_2010_Closer_Look_Report.pdf.
- Garrison, K. L., & FitzGerald, L. (2019). "One interested teacher at a time": Australian Teacher Librarian Perspectives on Collaboration and Inquiry. In *International Association of School Librarianship. Selected Papers from the 48th Annual Conference* (pp. 1–10). International Association of School Librarianship.
- Hamedi, S. M., Pishghadam, R., & Fadardi, J. S. (2019). The contribution of reading emotions to reading comprehension: The mediating effect of reading engagement using a structural equation modeling approach. *Educational Research for Policy and Practice*, 19, 211–238. <https://doi.org/10.1007/s10671-019-09256-3>.
- Haycock, K. (2007). Collaboration: Critical success factors for student learning. *School Libraries Worldwide*, 13(1), 25–35.
- House of Representatives. (2011). *School libraries and teacher librarians in 21st century Australia*. Commonwealth of Australia.
- Immroth, B., & Lukenbill, W. B. (2007). Teacher-school library media specialist collaboration through social marketing strategies: An information behavior study. *School Library Media Research*, 10, 1–22. <https://files.eric.ed.gov/fulltext/EJ851702.pdf>
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14–26. <https://doi.org/10.3102/0013189X033007014>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112–133. <https://doi.org/10.1177/1558689806298224>
- Kachel, D. (2015). The calamity of the disappearing school libraries. *The Conversation*. <https://theconversation.com/the-calamity-of-the-disappearing-school-libraries-44498>.
- Lance, K. C., & Kachel, D. E. (2018). Why school librarians matter: What years of research tell us. *Phi Delta Kappan*, 99(7), 15–20. <https://doi.org/10.1177/0031721718767854>
- Lance, K. C., Rodney, M. J., & Hamilton-Pennell, C. (2000). *How school library media specialists help kids achieve standards: The second Colorado study*. Hi Willow.

- Lance, K. C., Rodney, M. J., & Schwarz, B. (2010). Collaboration works-when it happens!: The Idaho school library impact study. *Teacher Librarian*, 37(5), 30–36.
- Loh, C. E., Tam, A., & Okada, D. (2019). School library perspectives from Asia: Trends, innovations and challenges in Singapore, Hong Kong and Japan. International Conference. In J. L. Branch-Mueller (Ed.), *Proceedings of the 48th Annual Conference of the International Association of School Librarianship and the 23rd International Forum on Research in School Librarianship* (pp. 1–10). Edmonton, Canada: University of Alberta. <https://journals.library.ualberta.ca/slwl/index.php/iasl>
- Lonsdale, M. (2003). *Impact of school libraries on student achievement: A review of the research*. Australian Council of Educational Research.
- Lykourantzou, I., Giannoukos, I., Mpardis, G., Nikolopoulos, V., & Loumos, V. (2009). Early and dynamic student achievement prediction in e-learning courses using neural networks. *Journal of the American Society for Information Science and Technology*, 60(2), 372–380. <https://doi.org/10.1002/asi.20970>
- Mat Roni, S., & Merga, M. K. (2019). The influence of extrinsic and intrinsic variables on children's reading frequency and attitudes: An exploration using an artificial neural network. *Australian Journal of Education*, 63(3), 270–291. <https://doi.org/10.1177/0004944119880621>
- Mattessich, P. W., & Monsey, B. R. (1992). *Collaboration: what makes it work. A review of research literature on factors influencing successful collaboration*. Wilder Foundation.
- Merga, M., & Gardiner, V. (2018). The role of whole-school literacy policies supporting reading engagement in Australian schools. *English in Australia*, 53(3), 37–50.
- Merga, M. K. (2019a). Collaborating with teacher librarians to support adolescents' literacy and literature learning. *Journal of Adolescent & Adult Literacy*, 63(1), 65–72. <https://doi.org/10.1002/jaal.958>
- Merga, M. K. (2019b). *Librarians in schools as literacy educators*. Palgrave Macmillan.
- Merga, M. K. (2019c). *Reading engagement for tweens and teens: What would make them read more?* ABC-CLIO/Libraries Unlimited.
- Merga, M. K. (2019d). Do librarians feel that their profession is valued in contemporary schools? *Journal of the Australian Library and Information Association*, 68(1), 18–37. <https://doi.org/10.1080/24750158.2018.1557979>
- Merga, M. K. (2020a). School librarians as literacy educators within a complex role. *Journal of Library Administration*, 60(8), 889–908. <https://doi.org/10.1080/01930826.2020.1820278>
- Merga, M. K. (2020b). What is the literacy supportive role of the school librarian in the United Kingdom? *Journal of Librarianship and Information Science*. Advance online publication. <https://doi.org/10.1177/0961000620964569>
- Merga, M. K., & Ferguson, C. (in press). School librarians supporting students' reading for pleasure: A job description analysis. *Australian Journal of Education*.
- Merga, M. K., & Mat Roni, S. (2017). Choosing strategies of children and the impact of age and gender on library use: Insights for librarians. *Journal of Library Administration*, 57(6), 607–630. <https://doi.org/10.1080/01930826.2017.1340774>
- Merga, M. K., Mat Roni, S., & Mason, S. (2020). Should Google Scholar be used for benchmarking against the professoriate in education? *Scientometrics*, 125(3), 2505–2522. <https://doi.org/10.1007/s11192-020-03691-3>
- Mokhtar, I. A., & Majid, S. (2005). Use of school libraries by teachers in Singapore schools. *Library Review*, 54(2), 108–118. <https://doi.org/10.1108/00242530510583057>
- Montiel-Overall, P. (2005). Toward a theory of collaboration for teachers and librarians. *School Library Media Research*, 8. <https://files.eric.ed.gov/fulltext/EJ965627.pdf>
- Montiel-Overall, P. (2007). Research on teacher and librarian collaboration: An examination of underlying structures of models. *Library & Information Science Research*, 29(2), 277–292. <https://doi.org/10.1016/j.lisr.2007.04.006>
- Montiel-Overall, P. (2008). Teacher and librarian collaboration: A qualitative study. *Library & Information Science Research*, 30(2), 145–155. <https://doi.org/10.1016/j.lisr.2007.06.008>

- Montiel-Overall, P. (2009). Teachers' perceptions of teacher and librarian collaboration: Instrumentation development and validation. *Library & Information Science Research*, 31(3), 182–191. <https://doi.org/10.1016/j.lisr.2009.04.001>
- Montiel-Overall, P., & Hernández, A. C. (2012). The effect of professional development on teacher and librarian collaboration: Preliminary findings using a revised instrument, TLC-III. *School Library Research*, 15, 1–25.
- Moreillon, J. (2008). Two heads are better than one: Influencing preservice classroom teachers' understanding and practice of classroom-library collaboration. *School Library Media Research*, 11, 1–44. <http://files.eric.ed.gov/fulltext/EJ823033.pdf>
- Morris, B. J., & Packard, A. (2007). The principal's support of classroom teacher-media specialist collaboration. *School Libraries Worldwide*, 13(1), 36–55.
- Nichols, J. W., Spang, L., & Padron, K. (2005). Building a foundation for collaboration: K-20 partnerships in information literacy. *Resource Sharing & Information Networks*, 18(1–2), 5–12. https://doi.org/10.1300/J121v18n01_02
- Schultz-Jones, B. (2009). Collaboration in the school social network. *Knowledge Quest*, 37(4), 20–25.
- Schultz-Jones, B., & Pasquini, L. (2019). Research convergence: Demonstrating causal relationships between school libraries and student learning internationally. In *International Association of School Librarianship. Selected Papers from the 48th Annual Conference* (pp. 1–15). International Association of School Librarianship. https://www.researchgate.net/profile/Laura_Pasquini/publication/336398368_Research_Convergence/links/5da896e44585159bc3d5ab59/Research-Convergence.pdf
- Smith, E. G. (2001). *Texas school libraries: Standards, resources, services, and students' performance*. EGS Research & Consulting.
- Softlink. (2020). *The 2019 Softlink Australia, New Zealand, and Asia-Pacific school library survey report*. <https://www.softlinkint.com/blog/softlink-apac-school-library-survey-report/>
- Steff-Mabry, J., Radlick, M., Mersand, S., & Gulatee, Y. (2019). School library research: Publication bias and the file drawer effect? *Journal of Thought*, 53, 19–34.
- Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences* (5th ed.). Taylor & Francis Group.
- Swamidass, P. M. (2000). Sampling acceptance in quality control. In P. M. Swamidass (Ed.), *Encyclopedia of production and manufacturing management* (pp. 664–664). Springer US.
- Teravainen, A., & Clark, C. (2017). *School Libraries: A literature review of current provision and evidence of impact*. National Literacy Trust. <https://literacytrust.org.uk/research-services/research-reports/school-libraries-literature-review-current-provision-and-evidence-impact-2017/>
- Thomas, L. (2009). New challenges in school-based research. *Health Promotion Journal of Australia: Official Journal of Australian Association of Health Promotion Professionals*, 20(1), 73–74. <https://doi.org/10.1071/he09073>
- Todd, R. J. (2015). Evidence-based practice and school libraries: Interconnections of evidence, advocacy, and actions. *Knowledge Quest*, 43(3), 8–15.
- Walker, L., & Calvert, P. (2016). 'So what made you decide to become a school librarian?' Reasons people currently working in New Zealand school libraries give for their choice of employment. *Journal of Librarianship and Information Science*, 48(2), 111–122. <https://doi.org/10.1177/0961000614547969>
- Xu, S., & Li, Y. (2020). Beware of the second wave of COVID-19. *The Lancet*, 395(10233), 1321–1322. [https://doi.org/10.1016/S0140-6736\(20\)30845-X](https://doi.org/10.1016/S0140-6736(20)30845-X)