Evidence Based Library and Information Practice

Article

School Librarianship and Evidence Based Practice: Progress, Perspectives, and Challenges

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Abstract

Objective – This paper provides an overview of progress and developments surrounding evidence based practice in school librarianship, and seeks to provide a picture of current thinking about evidence based practice as it relates to the field. It addresses current issues and challenges facing the adoption of evidence based practice in school librarianship.

Methods – The paper is based on a narrative review of a small but growing body of literature on evidence based practice in school librarianship, set within a broader perspective of evidence based education. In addition, it presents the outcomes of a collaborative process of input from 200 school libraries leaders collected at a School Library summit in 2007 specifically to address the emerging arena of evidence based practice in this field.

Results – A holistic model of evidence based practice for school libraries is presented, centering on three integrated dimensions of evidence: evidence for practice, evidence in practice, and evidence of practice.

Conclusion – The paper identifies key challenges ahead if evidence based school librarianship is to develop further. These include: building research credibility

within the broader educational environment; the need for ongoing review and evaluation of the diverse body of research in education, librarianship and allied fields to make quality evidence available in ways that can enable practicing school librarians to build a culture of evidence based practice; development of tools, strategies, and exemplars to use to facilitate evidence based decision-making; and, ensuring that the many and diverse advances in education and librarianship become part of the practice of school librarianship.

Evidence based practice in the professional and research-based discourse of school librarianship has a short history and a limited documentary record, emerging in the school library arena in 2001 (Todd "Transition for Preferred Futures" 4). Like its counterparts in education and librarianship, evidence based practice in school librarianship has emerged within the context of a developing evidence based paradigm of library and information practice (Booth and Brice 90), and changes in the school educational context, particularly with a new emphasis on evidence based decision making (Marsh et al.). In the view of the author, its short history can be characterized by a limited sustained critical theoretical examination of the concept, with some development of central ideas about what evidence based practice is within school librarianship. This paper provides an overview of the background, progress, and development surrounding evidence based practice in school librarianship and seeks to provide a picture of current thinking about evidence based practice as it relates to the field.

The Context: The U.S.A. and International School Library Landscape

Two of the latest reports released by the U.S. federal government's National Center for Education Statistics provide a picture of the on the status of school libraries in the U.S.A. These are: Status of Public and Private School Library Media Centers in the United States: 1999–2000 (Holton, et al.), and School Library Media Centers: Selected Results From the Education Longitudinal Study of 2002 (Scott), a report providing an overview of the state of school libraries that serve 10th-graders based on a nationally representative sample of 15,525 10th-graders in 752 schools in the United States in 2002. In these reports, a school library media center is officially defined as:

> An organized collection of printed and/or audiovisual and/or computer resources which is administered as a unit, is located in a designated place or places, and makes resources and services available to students, teachers, and administrators. A library media center may also be called a library, media center, resource center, information center, instructional materials center, learning resource center, or some other name" (Scott iv).

Key variables examined in these studies are staffing, library expenditures, and collection holdings. Key findings include:

- 92% of all traditional public schools in 2000 have school libraries, (about 77,000 public school libraries)
- 97% of the 45 million students enrolled in public elementary or secondary schools in the U.S.A. attend schools with a school library
- 75% of public schools with a school library have a paid, state-certified library media specialist (compared with 20% of private schools)
- High schools with a school library are more likely than elementary or

combined schools to employ a school librarian with an MLS or related degree (52% of high schools compared to 39% of public elementary schools and 32% of combined schools)
- A larger proportion of school libraries in private schools than in public schools rely on adult volunteers (58% of private schools compared with 38% of public schools)
- 32% of public school libraries maintain a flexible schedule for class visits to the library
- Public schools tend to provide greater access than private schools to the school library for students' independent use before or after school (50% compared to 36%)
- Females use the school library more often than males for assignments, in-school projects, homework, research papers, and to read books for fun
- Students with different test scores use the library for different purposes - students with high test scores are more likely than students with low or middle scores to use the library for assignments, in-school projects, and research papers. Students with low test scores are more likely than students with high or middle test scores to use the library for homework, leisure reading, to read magazines or newspapers, to read books for fun, and for interests outside of school
- Schools with larger student enrollments tend to have more types of equipment and technology than smaller schools
- 79% of students report that the library staff is very helpful or helpful with finding research resources; 65% of students report that the library staff is very helpful or helpful with using databases; 69% of students report that the library staff is very helpful or helpful with using the Internet. (Scott; Holton)

Against this backdrop, the focus on an evidence based practice approach in school librarianship parallels developments in school education which are increasingly placing focus on measurable student attainment, measurable learning outcomes, continuous improvement, equity of educational opportunity, and accountability. At the same time, there is also considerable growth in school library research that specifically seeks to demonstrate the contribution of school libraries to student achievement (Scholastic). In addition, the professional context of school librarianship over the last decade has seen challenges in terms of the viability of having school libraries and certified school librarians in every school and the marginalization of school libraries, in light of ongoing staffing and budgetary constraints (Haycock; Lonsdale). These two developments are elaborated here, and set the scene for elucidating key challenges facing evidence based school librarianship.

Evidence Based Education

Educational systems around the world are adopting orientations and practices that can be labeled as evidence based education. Central characteristics include an emphasis on scientifically-based research to provide foundation for learning and instruction, and a focus on scientifically-based research as a framework for professional decision making and action. These are set within calls to make education less vulnerable to fads and untested interventions. This includes developing a culture of high expectations for optimal student learning outcomes, a focus on the continuous professional development of teachers, and building a

shared understanding of the theory, research and practice of curriculum, pedagogy, and community. The Institute of Education Science in the U.S. Department of Education defines evidence based education as the "integration of professional wisdom with the best available empirical evidence in making decisions about how to deliver instruction" (Whitehurst 3). Empirical evidence is conceptualized as "research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs" (Whitehurst 5). According to Whitehurst, professional wisdom refers to the "judgment that individuals acquire through experience, consensus views reflected in numerous ways, including the effective identification and incorporation of local circumstances into instruction" (4). Whitehurst believes that both are needed. He argues that the foundation of education practice is scientifically-based research from fields such as psychology, sociology, economics, and neuroscience, and especially from research in educational settings which generate cumulative knowledge and resolve competing approaches. He also argues that professional wisdom is an essential capacity to enable education to adapt to local circumstances and to operate intelligently in the many areas in which research evidence is absent or incomplete. He concludes "we need evidence-based education because current practice [in education] has failed. In no other field are personal experiences relied on to make policy choices and in no other field is the research base so inadequate" (qtd. in Kersting 1).

Underpinning this focus on scientifically-based research as a framework for professional decision making and action is the need to avoid fad, fancy, and personal bias, and to advocate stances and positions, which Whitehurst refers to as "strong calls to action" -without the supporting evidence derived from empirical research (1). Davies, likewise argues that turning to evidence based education would make education less vulnerable to "political ideology, conventional wisdom, folklore, and wishful thinking," not to mention "trendy teaching methods based on activity-based, student-centered, self-directed learning and problem solving" (109).

Arising out of this focus has been the elucidation of the "gold standard" of educational research in the U.S.A, that is, scientifically-valid knowledge about what works generated in randomized controlled trials (RCTs) (Institute of Education Sciences). The gold standard of educational research is grounded in a concern for the plethora of educational interventions that are based on evidence from poorly-designed and/or advocacy-driven studies. It specifically requires research based on RCTs that are well-designed and implemented, which demonstrate that there are no systematic differences between intervention and control groups before the intervention, and which employ measures and instruments of proven validity (Institute of Education Sciences 1).

According to the gold standard framework, if the intervention is not backed by "strong" evidence, comparison-group studies in which the intervention and comparison groups are very closely matched in academic achievement, demographics, and other characteristics may constitute possible evidence. Types of studies that do not comprise "possible" evidence include pre-post studies, comparison-group studies in which the intervention and comparison groups are not closely matched, and "meta-analyses" which utilize quantitative techniques for combining the results of individual studies, and which typically include the results of lower-quality studies (Institute of Education Sciences 1-3).

In the context of evidence based education, the federal education legislation in the U.S.A. centering on the No Child Left Behind Act of 2001 and the Education Sciences Reform Act (ESRA) of 2002 not only cite the importance of using evidence from scientifically-based research and its conscientious interpretation and integration to shape and direct professional practice, but also require state education systems to develop annual assessments to measure learning outcomes, school and student progress, and that educators use data to help improve the learning of all students. Overall, this holistic approach identifies three central dimensions of evidence based education: evidence for practice (research foundation), evidence in practice (research integration), and evidence of practice (student learning impacts). Mandinach et al. explain that: "School leaders are expected to chart the effectiveness of their strategies and use complex and often conflicting state, district, and local assessments to monitor and assure progress … to use data to improve school performance" (1).

Evidence based education not only calls for accountability of outcomes and student achievement results, but also calls for a more careful integration of system generated data in order to monitor outcomes and progress. Data-driven decision making in education has become increasingly topical, placing emphasis also on organizational improvement being responsive to and enhanced through various kinds of data generated in schools and communities, such as expenditure on instructional materials and library resources. While the broader notion of data-driven decision making in not new, Marsh et al. (2) emphasize that organizational improvement is enhanced by responsiveness to various types of data, including input data such as material costs, process data such as benchmark and performance data, outcome data such as achievement levels, and satisfaction data, including employee and customer opinions.

The concept of data-driven decision making in education is not new and can be traced to decades of debates about measurement-driven instruction, state requirements to use site-based decision making and integrating outcome data into school improvement planning and site-based decision making processes. Marsh, Pane, and Hamilton (3) present a conceptual framework of data-driven decision making in education (Figure 1).

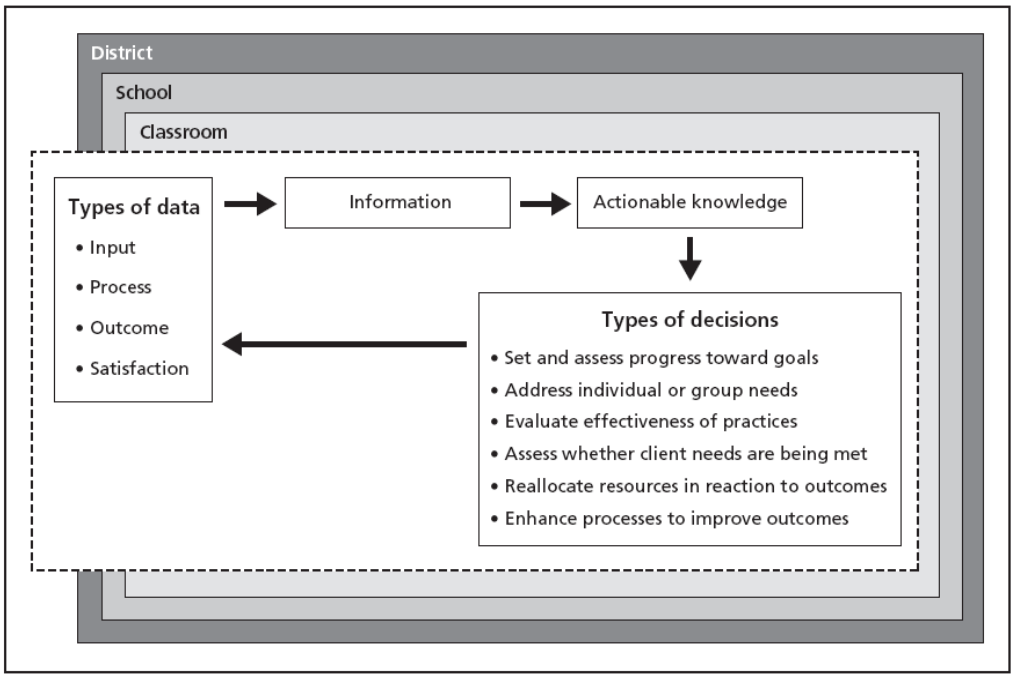

Fig. 1. Conceptual Framework of Data-Driven Decision Making in Education (Marsh, Pane, and Hamilton 3)

The growing interest in evidence based education has not been without criticism. Considerable debate for some decades now surrounds the appropriateness of RCTs in education, and the counter voices raise a range of ethical and pragmatic concerns. Key concerns center around the view that the model of causality underlying RCTs is too simplistic to capture the complexity and multiplicity of teaching and learning in diverse educational settings, and that this simplicity puts meaningful learning at risk. Given that RCTs assume fidelity of intervention, it is argued that the reality of the intervention being faithfully implemented as intended in the RCT is unlikely in the dynamics of an everyday classroom. It is argued that the reductionist approach of isolating the effect of specific factors assumes that it works in isolation to other factors. Consequently, implementing tightly controlled instructional programs focusing on a single intervention runs the risk of building a rigid packaged educational approach, and denies the opportunity for diagnostic responses arising out of the dynamic interplay of a myriad of contextual factors and the interactions of teachers, students and environment (Kerlinger; Davies; Morrison; Willinsky; Johnson; Gordon).

Davies (108), for example, poses the question: can there be distinct and standardized 'treatments' in education? He argues that to establish fixed, universal causal patterns in teaching seems equally difficult, if not impossible: "unlike in most areas of medicine, in education the 'treatments' consist of symbolic interaction, with all the scope for multiple interpretations and responses which that implies" (109). Calling for a valuing of craft-based practical judgment, Davies is more permissive of a variety of procedures, thus voicing a broader conception of educational outcomes. In addition to the randomized controlled trial, he mentions survey and correlational methods, regression analysis, and analysis of variance. He allows for inquiries that seek to describe the meanings different people attach to different teaching activities, and the broader and long-term consequences of them, e.g. on "students' and parents' sense of self and their sense of social worth and identity" (115), and concludes that analyses of naturally occurring teaching interactions, conversation, and discourse are a part of quality teaching and learning. In a similar vein, Willinsky argues that a reliance on the randomized clinical trial is difficult because experimental conditions are harder to maintain in schools, since the cost of undertaking such extensive studies is enormous; and because he considers it be a "disservice to the very goals of education to turn policies and programs – as well as the life of the classroom – over to the strict dictates of a statistically significant difference achieved in experimental trials" (6).

This debate is further surrounded by claims that the evidence based practice movement is a passing trend (notwithstanding that the evidence based practice focus seeks to move professions away from fad or trend-influenced decision making). Additional concerns center on lack of expertise and low availability of evidence. It is argued that because the education profession is not steeped in the research traditions of the medical field out of which evidence based education emerged, it creates major gaps in expertise and professional discomfort with engaging in and utilizing such evidence. In addition, there are concerns that the What Works Clearinghouse, set up by the Department of Education to be a "central and trusted source of scientific evidence for what works in education" is so rigorous that few studies will meet the required level of scrutiny, resulting in the absence of enough

evidence to make important instructional decisions.

Evidence Based School Librarianship

Evidence based practice in school librarianship is also grounded in the evidence based librarianship and information practice (EBLIP) movement, itself underpinned by the evidence based practice paradigm in the health care area which emerged in the early 1990s in the United Kingdom in the fields of medicine and health care services (Sackett et al. 71). Booth posits that evidence based library and information practice:

> seeks to improve library and information services and practice by bringing together the best available evidence and insights derived from working experience, moderated by user needs and preferences. EBLIP involves asking answerable questions, finding, critically appraising and then utilizing research evidence from relevant disciplines in daily practice. It thus attempts to integrate user-reported, practitioner-observed and research derived evidence as an explicit basis for decision-making (Booth and Brice 92).

Consistent with Booth, Eldredge highlights its focus as employing the best available evidence based on library science research to arrive at sound decisions about solving practical problems in librarianship (Eldredge 290). Positioning evidence based librarianship as a dynamic and evolving approach to integrating research into practice, Eldredge acknowledges that this does not take place in a "remote, ivory tower" microcosm; rather, it acknowledges that librarians "operate their libraries in the real world context of providing services and collections through managing budgets and other resources. Thus, EBL constitutes an *applied* rather than theoretical science. EBL merges scientific research with the pressing need to solve practical problems" (290-1).

One of the earliest elaborations and discussions of the concept of evidence based practice took place at the International Association of School Librarianship conference in Auckland, New Zealand in 2001. Todd ("Transitions for Preferred Futures"), in the conference keynote address presented the argument that in order for school libraries to play a key role in the information age schools and be perceived to add value to the learning goals and agendas, there needed to be a fundamental shift from the rhetorical, advocacy basis for ongoing practice, continuous improvement and development of school libraries, to an evidence based framework that focused on engaging with the research foundations of the profession to document evidence of contribution to curriculum outcomes and the learning goals of the school. This address posited that information is the foundation of meaningful learning in schools and forms the collection of objects around which the practice of school librarianship has been built. However, it argued that while its provision is "fundamental to functioning successfully in today's information and knowledge-based society" (IFLA/UNESCO 1) information in and of itself is not the hallmark of the 21st century school library. Rather, it posited that actions and evidences that show that school library inputs and processes, themselves based on sound decision making underpinned by available research, makes a real difference to student learning and enables the school to attain high standards of knowledge, skills and understanding of the curriculum, and to meet achievement and progress goals.

Since 2001, there appears to be some international effort in relation to explicating

an evidence based framework for school librarianship, shaped by the dynamics of the professional context. To date, there has been considerable emphasis placed on the compilation and synthesis of the body of research evidence surrounding the field of school librarianship, particularly the impact of school libraries on student achievement. Evidence based advocacy is clearly an intent of such documents, seeking to establish a strong argument for the support and continuous improvement for school libraries at national, state and local levels, as well as to draw attention to current issues facing school libraries. In addition, over the last eight years, some attention has been given to the development of frameworks for enabling school libraries at the local level to implement evidence based practices; and some, albeit limited take up by professional organizations (Todd "Evidence Based Manifesto" 5).

Haycock's report of the crisis in Canada's school libraries documents the country's "neglect" in investing in school libraries, particularly against a backdrop of "a mounting body of research evidence showing a strong and compelling link between student achievement and the presence of well-stocked, properly funded and professional-developed school library programs and services" (9). He cites specific evidence of neglect, for instance, that "10% of Ontario elementary schools have a fulltime teacher-librarian, compared with 42% twenty-five years ago; Alberta's roster of teacher librarians half-time or more has dropped from 550 to 106 since 1978; and in British Columbia, local school board funding levels now reveal dramatic inconsistencies in annual budgets for library resources, with the figures ranging from 80¢ to $35 per student per year, the latter providing for maintenance only, not growth" (11). Roch Carrier, the then National Librarian of Canada in 2002 concluded that the "state of our school libraries can only be described as desperate in almost every province" (Haycock 13). Against this backdrop, Haycock provides an in-depth meta-analysis of the growing body of research evidence that shows the impact of quality school libraries on student achievement, reading and the growth of cultural identity in a case for revitalizing Canada's school libraries.

In a similar vein, Lonsdale's review of the literature on the impact of school libraries on student achievement in an Australian context published by the Australian Council of Educational Research for the Australian School Library Association, builds on key concerns about the future of school librarianship in Australia, and like Haycock, seeks to construct an evidence based argument for the case for investing in school libraries across Australia. Lonsdale cites an "apparent decline in the numbers of qualified teacher librarians employed in school libraries in public schools in Australia" (4), coupled with budget cutbacks and a focus on accountability (27). She argues that trends shown in several state-based studies indicate: a general shortage of teacher librarians (and other specialist teachers); the practice of schools using librarians rather than teacher librarians, or having staff with no library or teaching qualifications at all; teacher librarians being used in classrooms as subject teachers to fill gaps in staffing; an aging profession, with retirees not being replaced by sufficient numbers of graduates; and added responsibilities for teacher librarians in terms of technology maintenance and student use of technology (8). Against this backdrop, Lonsdale presents a synthesis of both Australian and international research that presents an evidence based case for educational authorities at federal and state levels to invest in school libraries. As with Haycock, Lonsdale calls on local systems and individual schools to provide "local,

evidence based practice if the roles of the school library and teacher librarian in student learning are to be valued in the way that the research suggests they should be valued" (2).

School Libraries Work!, published by Scholastic brings together both position statements from a range of library and educational organizations, and concise summaries of empirical studies that have been undertaken across the U.S.A. and Canada to document the impact of school libraries on student achievement. These studies, involving approximately 10,000 elementary, middle and high school libraries serving an estimated 2.6 million students, and funded by diverse funding authorities such as state library and information agencies, education departments, and professional school library associations, employ a variety of research methods that the positive relationship between school libraries and student achievement. Collectively, these studies show that in schools with quality school library facilities and programs, staffed by certified school librarians, students "learn more, get better grades, and score higher on standardized test scores than their peers in schools without libraries" (Scholastic 4). While the focus of this compilation is on impact on student achievement, the research studies articulate the range of dimensions that underpin this impact, specifying an evidence based framework for decision making about school libraries and their continuous improvement. In addition to the employment of certified school librarians, such dimensions include: the provision of appropriate allocation of para-professional staff; actively supporting the curriculum through the provision of up-to-date adequate resources both print and electronic; the provision of an active instructional information literacy program integrated into curriculum content, and targeted towards meeting content standards; the provision of access and instruction based on flexible scheduling; the provision of a strong networked information technology infrastructure and instruction in its use; the provision of professional development on information literacy and technology literacy to the teaching faculty; the provision of appropriate budget allocation per student per year to ensure currency and vitality of the information base; the implementation of a vibrant reading program for academic achievement and personal enjoyment and enrichment; and the collaboration with other libraries and information agencies.

There is some indication of evidence based practice philosophies being embedded in official documentation of professional school library associations around the world. The recent release of American Association of School Librarians (AASL) "Standards for the 21st Century Learner" in 2007 articulate a move from guidelines for the development of school library programs, to standards that identify expected student outcomes as a result of school library interventions, and which provide a framework for identifying evidences of the professional work of school librarians. The new AASL Standards marks a significant transition in the association's provision of guidelines and standards over some 90 years; from quantitative measures of items held, to measuring school library programs in terms of program guidelines, to a current focus on learning outcomes that center on reading and literacy development; inquiry, critical thinking and knowledge development (including the ability to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge), sharing and using that knowledge productively and ethically, and pursuing personal and aesthetic growth.

A more explicit example is the Australian School Library Association (ASLA). In its "Standards of Professional Excellence for Teacher Librarians" published in 2004, ASLA identifies the expectation that teacher librarians engage in evidence – that they are "well-informed about information literacy theory and practice," "have a detailed knowledge of current educational pedagogy," "evaluate student learning to provide evidence of progress in information literacy and reading," and "use evidence to inform programs and services" (2-3).

Presumably, such evidence foundations provide a framework for shifting the basis on which value statements can be made about the professional practice of school librarianship, as well as about the role of the school library in student achievement. The ASLA Advocacy Kit published in 2006 titled "A Teacher Librarian Advocate's Guide To Building Information Literate School Communities" was an adaption from the ALA version which advocates that "teacher librarians and library advocates will speak out about the critical importance of information literacy skills and the key role of school libraries and teacher librarians" with a goal that "schools will expand their programs to include information literacy skills across the curriculum" (ASLA 5). Yet, in constructing the argument underpinning the diverse range of advocacy strategies, there is almost no explicit reference to the use of evidence; rather it appears to give prominence to presenting a collection of rhetorical statements such as: "School libraries are changing and dynamic places, at the forefront of the information age"(9); "teacher librarians have helped generations of Australians to lead better, more satisfying lives" (9); "school libraries are part of the Australian dream. They are places for education, enjoyment and self-help" (10), all with no focus on engaging with the evidence to support such claims. In elaborating "Steps to Success" (13) and constructing public service announcements (14), the only reference to engaging with evidence in any form – the practice of advocacy based on evidence comes in the form of a "quotable quote" of Lonsdale: "Existing research shows that school libraries can have a positive impact, whether measured in terms of reading scores, literacy or learning more generally, on student achievement. There is evidence to show that a strong library program that is adequately staff, resourced and funded can lead to higher student achievement regardless of the socioeconomic or educational levels of the adults in the community" (Lonsdale 20).

Two key events contributing to the emerging discourse of evidence based practice in the school library sector have been the School Library Journal Leadership Summits held in Chicago U.S.A. in 2006, and Phoenix U.S.A. in 2007. During the Chicago Summit, 200 participants engaged in visioning school libraries of the future. Through a collaborative process of short presentations, intensive discussion and debate, analysis and synthesis, the participants generated ten priorities / opportunities that were seen to be at the center of developing school libraries of the future. The list, with highest priorities first, strongly affirmed the emerging importance of evidence based practice and data-driven decision making to the professional outlook:

1. Meshing the added value of libraries, derived from evidence, into the educational-learning environment
2. Demonstrate through the use of data and evidence to various stakeholders that school librarians and library programs pay learning dividends and improve student achievement
3. Develop and embrace new models for interacting with learners using 21st century technology

4. Provide stakeholders with instructional materials, information, and model school libraries to demonstrate excellence
5. Technology
6. Taking a leadership role in educational applications for emerging technology
7. Librarians engaged as partners in the ongoing assessment of student learning
8. The inclusion of information literacy in teacher preparation curricula
9. Target the have-nots – closing the information gaps
10. Building Trust and Respect with library users; recruiting young school librarians

The high priority given to evidence based practice played an important part in shaping the 2007 School Library Journal Leadership Summit that convened in Phoenix, Arizona in 2007. This summit, titled "Where's the Evidence? Understanding the Impact of School Libraries," also brought together a diverse mix of school library leaders, school administrators, and policy-makers, as well as experts from the medical field and education who engaged in intense and thoughtful presentations and discussions over the two days focusing on evidence based practice. The outcomes of this conference are reported in: "The Evidence-Based Manifesto for School Librarians: If School Librarians Can't Prove They Make a Difference, They May Cease to Exist" (Todd). This document represents a current understanding of evidence based practice in the context of school librarianship. It sums up both the thinking and challenges as perceived by key leaders in the school library profession, particularly providing a conceptualization of evidence based practice in the school library arena, a practice that sits at the confluence of education and librarianship and adapts core ideas from the evidence based practice movement in education and librarianship. Key aspects of this document are examined here.

Evidence Based Practice in School Librarianship: Current Thinking

A working conceptualization of evidence based practice in school librarianship to date is that it is about professional practice being informed and guided by best available evidence of what works, coupled with a focus on evidence of outcomes and impacts of services in relation to the goals of the educational environment in which it is situated. Consistent with evidence based education and evidence based librarianship, it incorporates a decision-making framework based on the best available research evidence with professional knowing and experience to make professional decisions and take professional action, and to implement and continuously improve professional practice, as well as a framework for documenting evidence of outcomes.

Aligned with the student outcomes focus of many international educational systems, an integral component of evidence based school librarianship is the systematic collection, integration and dissemination of evidence of the tangible impacts, and outcomes of school library practices, with organizational goals and objectives including student achievement and the development of deep knowledge, deep understanding, and competencies and skills for thinking, living and working. This explicit focus on the collection of evidence is viewed as a local school responsibility, as well as regional, state, and national responsibilities. At a local school level, evidence based practice of school librarianship seeks to demonstrate the value-added role of a school library to the life and work of a school – outcomes that center on learning, literacy and living – and

the development of students personally, socially, culturally, and globally.

Accordingly, current thinking on evidence based school librarianship seeks to establish a holistic approach that welds three dimensions of actionable evidence: evidence for practice, evidence in practice, and evidence of practice:

Evidence for Practice - Focuses primarily on examining and using best available empirical research to form practices and inform current actions, and to identify best practices that have been tested and validated through empirical research. This is posited as the *informational dimension* of school library practice. Evidence informs practice.

Evidence in Practice - Focuses on reflective practitioners integrating available research evidence with deep knowledge and understanding derived from professional experience, as well as implementing measures to engage with local evidence to identify learning dilemmas, learning needs, and achievement gaps to make decisions about the continuous improvement of the school library practices to bring on optimal outcomes and actively contribute to school mission and goals. This is posited as the *transformational dimension* of school library practice.

Evidence of Practice - As the measured outcomes and impacts of practice, is derived from systematically measured, primarily user-based data. It focuses on the real results of what school librarians do, rather than on what school librarians do. It focuses on impacts, going beyond process and activities as outputs. It established what has changed for learners as a result of inputs, interventions, activities, processes, and charting the nature and extent and quality of effect.

These dimensions or phases are not posited as linear and static. Rather, they are presented as a dynamic, iterative and integrative process of welding evidence from multiple sources in a cycle of continuous transformation of data, information, knowledge, and wisdom to inform practice, to generate practice, and to demonstrate outcomes of practice (Table 1).

Table 1
Dimensions of Actionable Evidence: A Holistic Model of Evidence Based Practice for School Libraries

Evidence FOR Practice	**FOUNDATION** **Informational** Existing formal research provides the essential building blocks for professional practice:
Evidence IN Practice Applications / Actions	**PROCESS** **Transformational** Locally produced evidence; Data generated by practice is meshed with research-based evidence to provide a dynamic decision-making environment: librarian-observed evidence
Evidence OF Practice Results – impacts and outcomes; evidence of closing of gaps	**OUTCOMES** **Formational** user-reported evidence learner changes as result of inputs, interventions, activities, processes

In essence, the evidence based practice approach in school librarianship gives considerable explicit attention to "user-reported evidence;" (Booth and Brice 92) that is, evidence of outcomes and impacts of professional practice based on student-generated evidence. In this respect, evidence based practice also serves as an important advocacy role through demonstrating the value-added role of school libraries to the learning goals of a school. This means that the day-by-day work of school librarians is directed towards demonstrating the tangible impact and outcomes of services and initiatives in relation to student learning outcomes. It involves critically analyzing accumulated data and making evidence based claims about student learning outcomes (Loertscher 6). This explicit focus on student outcomes is somewhat driven by the current educational climate and increasing cuts and threats to the provision of school library services. This is coupled with a strong emphasis in education at the present time on student attainment, measurable learning outcomes, continuous improvement, and accountability.

A focus on evidence based school librarianship shifts the basis on which value statements can be made about school libraries if they are to be perceived as playing a strong role in the school. By placing emphasis on measured outcomes, evidence based practice in school libraries shifts the focus from the medium to the message and articulating what school librarians do in their day-to-day work, to articulating what students become. By placing emphasis on systematically gathered evidence, it moves school library advocacy from a "tell me" framework to a "show me" framework. Accordingly, evidence based practice first and foremost validates that quality learning outcomes can be achieved through the school library; secondly, and through this, validates the important role of the school librarian as an instructional partner in the school, and a key team member in achieving the schools mission and goals.

Common Beliefs

This articulation of the above conception of evidence based school librarianship is underpinned by a set of beliefs about school libraries. The first belief is that school libraries as schools' information and knowledge commons are viewed as essential for addressing curriculum standards, the complexities of learning, and quality teaching in information- and technology-intensive 21st century schools (Kuhlthau, Maniotes, and Caspari). Identifying the evidence of the outcomes and positive relationship between school libraries and student achievement is viewed as a key to maintaining this role.

The second belief is that school librarianship, as an applied science and profession, derives it practice mandate from a diverse body of theoretical and empirical knowledge; and active engagement with this body of knowledge enables the profession to continuously transform and improve. Leading this transformation is the professional expertise of school librarians, certified through a program of university graduate education, who possess expertise, insights, and skills based on theoretical and empirical knowledge that they apply in practice. They continuously develop their knowledge and skills through professional development and ongoing engagement with constantly emerging body of research-based knowledge and its application to practice. Thus the professional role of school libraries is founded on a strong evidence-base, welding together research, experience, insights, and systematic measures (AASL; Scholastic; IFLA /UNESCO).

The third belief is that school libraries play a transformative role in the lives of students:

the development of intellectual, social and cultural agency. School libraries, led by certified school librarians, provide the spark for students' connections, interactions and use of information for developing deep knowledge and understanding, and achievement (Haycock; Lonsdale; Scholastic).

Connected to this idea, the fourth belief is that the core work of school librarians centers on enabling the transformation of information to knowledge, and the development of attitudes, values, and beliefs through carefully designed instructional interventions and reading literacy programs that guide and engage students in their inquiry, learning, and reading development, and enable them to build new understandings and to develop personal viewpoints and perspectives (AASL).

The fifth belief is that the value of a school library can be measured. The transformations as learning outcomes, as well as personal, social, and cultural growth can be documented, measured and disseminated, as evidenced in Scholastic's "School Libraries Work". This is the heart of evidence based school librarianship. Interwoven with this notion, the sixth belief is that professional school library responsibility is an accountable responsibility, accounting for ability, not merely counting, and through the application of that ability, for meeting espoused goals. Sustainable development through accountability has as a key characteristic a move from a rhetorical warrant to an evidential warrant for professional practice; from a persuasive / advocacy framework to a declarative / demonstrable framework; and from a process framework to an outcomes framework; from a "tell me" framework to a "show me" framework (Todd "Transitions for Preferred Futures"; Loertscher).

Key Challenges Ahead

This paper concludes with an elaboration of some key challenges ahead if evidence based school librarianship is to develop further. First, the focus on research-based evidence, as defined by the U.S.A. Department of Education, presents a considerable challenge for school librarianship. As Gordon points out, school library research studies are not among the current list of gold-standard studies published in the DOE's What Works Clearinghouse (1). Despite the richness and diversity of school library research to date, there is no school library research that meets the Gold Standard requirement. For school librarians, evidence based education utilizing this approach would mean, for example, that they would select reading intervention and literacy programs for the school that led to significantly higher test scores than other programs, based on rigorous evidence of randomly assigned students to each program and to a control group. It would also mean that they would use information literacy interventions that consistently proved more effective than other methods with the very population that one was teaching through research evidence derived from randomized controlled trials.

This signals an urgency for the whole school library research community to engage in some sustained and complex discussions on the future directions of school librarianship research, and what is needed to continue building a strong research base for the profession. It is the view of the author that there is considerable value in the school library community of researchers undertaking randomized trials as one of the broader range of research approaches it employs. Despite the scalability and costs involved in undertaking such research, its representation in the body of gold standard research plays an important role in building credibility within educational circles and

sustainability of school libraries in the future.

The second key challenge for school librarians is to actively utilize the available research in their decision making, and to demonstrate in their school community that they are part of a sustained research culture, and to be supported in that endeavor by multiple stakeholders. Lau's survey of principals' perceptions of school librarians found that while 80% of principals believe that the school library and school librarian play a role in the school, only 37% of principals said that the school librarian made them familiar with current research of library programs and student achievement, and 35% were made familiar with current research on library programs and reading development (53-4). There is a critical need for making available research-based evidence more accessible, interpretable and applicable to daily practice. Some key research for the school library profession is locked up in membership-access-only providers and publishers. Accessibility and utilization also require a much closer working relationship and greater levels of collaborations with school library researchers and educators, and school library practitioners in order to build a stronger community of participatory research.

With a focus on local actions and local evidence that demonstrates the vital role that the local school library plays in the learning agenda of the local school, a third key challenge focuses on the development and provision of tools, processes and structures to accumulate locally generated evidence, and establishing claims derived from that data, as well as exemplars that showcase the claims. A widespread engagement in evidence based practice is likely to generate a vast and important amount of local data that are potentially informative for the profession at large. It is important for the profession to establish how this evidence can be accumulated across individual schools, districts, and shared.

A fourth key challenge centers on the provision of systematic professional training for school librarians in interrogating, synthesizing and drawing conclusions and implications for action from research-based data, state data on achievement and progress, and locally collected data, and building evidence based advocacy approaches. This has broader implications for the formal and post-degree education of school librarians and their expertise with evidence based strategies. Time is often presented as the key barrier to implementing approaches to evidence based practice, the belief being that it takes time to develop and implement measures, to analyze and synthesize data, and to disseminate findings. In meeting the time requirement, there is the perception that additional support staff is needed to enable the school librarian to undertake this "additional" work. This is about mainstreaming evidence based practice initiatives as a dimension of best practice rather than it being perceived as an addition to current practice, and conveying to school administrators that evidence based practice is a key component of the professional work of the school librarian and build their support to enable infrastructure and processes and collaborations on which evidence based practice is built to be put in place.

Conclusion

This paper situates the emerging discourse on evidence based school librarianship at the confluence of evidence based education and evidence based library and information work. Its development has been clearly grounded in the evidence based librarianship and information practice

(EBLIP) movement, which provides the foundation for professional practice based on sound and careful decision making using available best evidence for solving professional problems, and providing a framework for continuous improvement. However, evidence based school librarianship is also situated within an educational context, with its emphasis on student outcomes, achievement, and optimal learning processes. Accordingly, the evidence based practice movement in school librarianship gives explicit attention to evidence outputs as well as evidence inputs. It goes beyond accessing, appraising and utilizing research evidence in daily practice and solving professional problems, to measuring, demonstrating, and disseminating explicit evidence of outcomes. This is presented as a holistic approach to evidence based practice, encompassing the integration of three fundamental iterative dimensions: evidence for practice, evidence in practice, and evidence of practice. It represents an informational, transformational and formational approach to professional practice, where evidence informs and transforms practice, as well as signaling the measured outcomes and impacts of practice. This holistic approach to evidence clearly seeks to establish what has changed for learners as a result of inputs, interventions, activities, processes through the school library and work of school librarians, and charting the nature and extent and quality of effect. It is a timely approach, given the broader context of educational accountability and calls for quality measures and data-driven decision making in which school librarianship operates.

This confluence also creates considerable tension for evidence based school librarianship. The current political climate, at least in the U.S., calls for an evidence foundation in random controlled trials that is non existent in school librarianship research. This is a matter for urgent discussion and action. It is a challenging requirement for the profession in a research environment that has no strong tradition for RCT, and where the ethical and pragmatic considerations raise considerable issues for undertaking such studies. Particularly from this standpoint, the future of evidence based practice for school librarianship hangs in the balance. Coupled with this, and despite the absence of a body of "gold standard" research, there is the need for the ongoing review and evaluation of the diverse body of research in education, librarianship and allied fields, to make quality evidence available in ways that can serve the profession well, both physically and intellectually, and in ways that enable practicing school librarians who may not have substantive training in research methods, to take action. Development and support are also required so that practitioners have access to evidence based practice tools, strategies, and exemplars to use in facilitating evidence based decision-making, and ensuring that the many and diverse advances in education and librarianship become part of the practice of school librarianship.

In the spirit of school librarianship's emerging framework of evidence for practice, evidence in practice and evidence of practice, the words of John F Kennedy, 35th president of U.S., provide the challenge for moving on: "We set sail on this new sea because there is knowledge to be gained" (qtd. in Moncur, "The Quotation Page").

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