FEATURE

Best Practices in Preparing for Library/Librarian Evaluation

GROWING THROUGH DATA

Improving Practices and Impacting Student Achievement

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The Importance of Data

Data can be a powerful tool for self-evaluation, goal setting, and advocacy in the school library. Regardless of the grade level or the size of the student body, any school library has meaningful data to mine and learn from. Basic data such as circulation numbers can impact a myriad of areas relevant to student learning such as collection development, reading-engagement plans, and book-promotion activities. Instructional hours and patron usage data can be used to advocate for increased library time for grade levels or classes, modified duty schedules, or increased space. Standardized testing data can be mined for learning trends to create opportunities for increased collaboration and coteaching around a variety of standards. The *Data Coach's Guide to Improving Learning for All Students* (Corwin 2008) is a great resource for groups or individuals who want to better understand data analysis; the authors of this work show how data sources can be used to drill down to verify root causes.

For those unequipped to analyze and interpret data, the vast options can be overwhelming. However, to abandon data, or to skim numbers while not understanding or acting upon them, does a disservice to both our practices and our patrons. As we school librarians look for ways to prove our relevance and effectiveness, and as we continue to champion best practices, innovation, and student impact, data becomes a catalyst for change and a support for sustainability in turbulent times.

Where to Begin

My journey with data began as a classroom teacher. I used testing, benchmark, and anecdotal records to judge progress and guide my instruction. When I became a school librarian, I initially felt a bit afloat. There were no longer standard benchmarks to evaluate my practices. While I had access to some standardized testing data, it seemed impractical to base my daily work on four to six questions that three grade levels of students *might* be asked at the end of the year. I suppose I could have enjoyed the ride, continued to do what I felt was right, and as long as I encountered happy children and teachers, figure I was on the right path, but I needed more. I needed to know that what I was doing was what was best for my students.

The answer for me was to create those benchmarks, which understandably is a task that takes a lot of time. By benchmark, I do not mean the tests with which benchmarks have become equated—and, as a result, often despised. I define benchmark in its purest form, which is simply a point of reference. From that point of reference I can measure current data, make inferences about what is causing change, and determine if I should change my work or build upon success. Creating true points of reference takes more than one year. In fact, I have yet to settle on the point that means success for me in one area. Additionally, numbers that equate to success in my library could very well be meaningless in another library. One school's record-breaking circulation could be another school's slow week. Keeping records for one's own library over time is a personally powerful tool that can be used to impact student learning, improve practices, educate the public, and advocate for the library regardless of the school setting or the grade levels taught.

Library data analysis requires a growth mindset. Not all data points will be affirming or uplifting. We have to be willing to see the bad in order to make the good. Do not fear the truth, become empowered by it. Distance yourself emotionally and commit to seeking solutions. Data is just a baseline; it does not need to define us. Great successes may be revealed, but be prepared for anything.

Selecting Data

When selecting data two options are available. One is to try to look at all of the available data to see what sticks out and then make an action plan from there. This was my method because I felt compelled to know everything I could, but this approach can be very intimidating for someone new to data. Therefore, another option is to start small and pick one or two data points to interpret. It is important to drill down when looking at only one or two pieces of data. Yearly circulation, for example, holds little meaning for changing practices. A year has so many variables that it would be difficult to know where to start or what those numbers mean when trying to make changes that could improve circulation. I recommend selecting a term, student demographic group, or section of the library, such as biography or graphic novels, when trying to make meaning of circulation data (see figure 1). When I break down a nine-week period's data by genre, I can see which areas lack patron interest and can make efforts to promote those books to students. In the example shown, I used what I learned about biography circulation along with my anecdotal notes of which sorts of biographies students were checking out to start a program in conjunction with our PTA president. We have plans to purchase more popular biographies that I can then pair with our existing books to encourage students to read about people they may never have heard of but who are worth learning about. Without looking at data for underlying issues I would never have thought to implement such a program. Tracking overall circula-

tion is good, but by looking deeper I was able to continue to find ways to improve my practice. These smaller segments of the overall circulation go farther in painting a picture of the library and its patrons than larger numbers would and, therefore, will better guide practice.

My first year in a school library I chose to look at circulation over nine-week chunks, but I had no idea how to interpret what I saw. Looking back, after improving the first nine weeks' circulation by over 300 percent, that initial number makes me cringe, but I am grateful

to have it. That initial low number motivated me to change my practices. Over the four years that followed, I used that data to implement several changes. The first was to make the library accessible from the first day of school. In the past, our elementary school's library had not opened until school was well under way, and I had followed tradition. Now every student in the school checks out a book on the first day of school, a practice that sends a powerful message home about the value our school places on literacy. Continuing to analyze circulation data also led to the addition of a

"visiting library" program through which teachers check out bins of books relating to the curriculum to enhance their classroom collections. Finally, and most importantly, I was able to use those increasing numbers to advocate for flexible checkout. Our primary grades had previously had a fixed schedule for "library day." The circulation data helped me convince teachers that our young learners needed to use our library just as they would in the world outside of school: coming in when they needed a book, not just because it was Thursday. Once I had
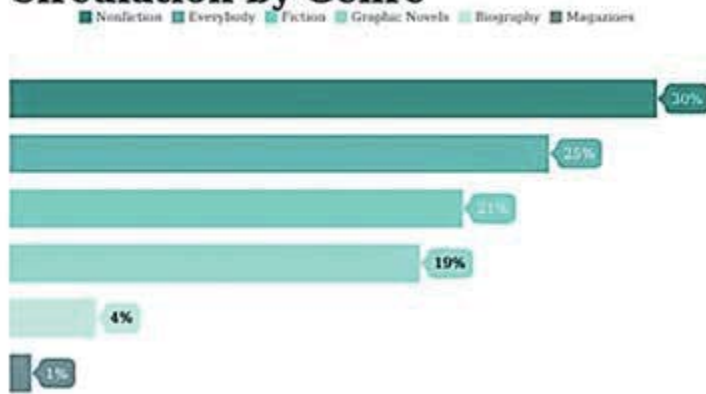

Figure 1. Piktochart graph used to reflect on a nine-week period's circulation by genre. ("Everybody" refers to picture books.)

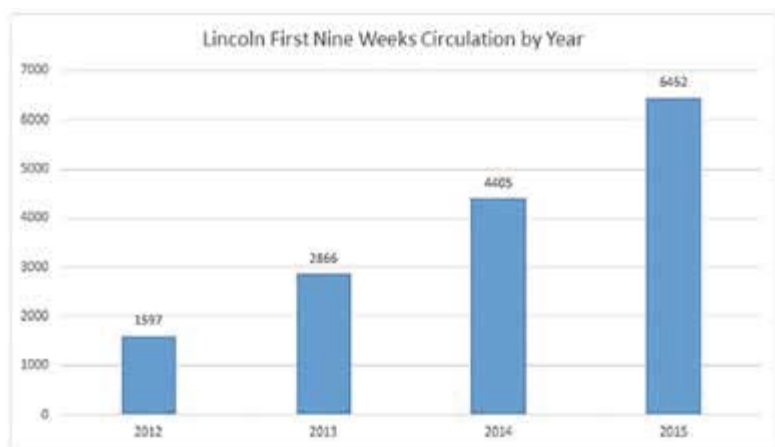*Do not fear the truth, become empowered by it.*

Figure 2. Bar graph of the first nine weeks' circulation over four years shared with other stakeholders.

If we are willing to dig a little deeper, we can uncover some powerful data to inform our practices.

implemented these strategies over four years and increased circulation significantly, I made sure to share this data with other educators at the school and the principal. I sent them a bar graph (see figure 2) showing progress over the four years, a short narrative explaining the graph, and then a statement of gratitude for their supporting my initiatives and what that ongoing support for flexible checkout meant for kids.

For those librarians working with older students, circulation numbers are also useful to determine which library services and collections specific grade levels need to learn more about as well as to advocate for extended hours or collaboration with teachers to promote reading engagement.

Using Data as a Catalyst for Change

When making changes based on data, implementing only one new program at a time is the best way to accurately judge effectiveness. Taking on too much at once makes it impossible to judge which methods were effective and which were a waste of time. It took three years for me to fully implement my plan for increased circulation. Several promotional activities were abandoned after a month or two of little to no impact. As we all know, planning for and running an effective school library is a constant balancing act between the effort of running specific programs or initiatives and the effects they have on students. If a program isn't making a significant difference in students' lives, move on and try something else. Once again, it all comes down to distancing ourselves emotionally from our practice so that we can put students first.

When I was working on Scholastic's Patterson Partnership Grant application I used graphic novel circulation data to make the argument for an

added $4,000 in graphic novels for our school. I compared circulation data to collection data and found a significant discrepancy. Graphic novels were circulated at much higher rates than were reflected in their percentage of the collection. I then had concrete evidence that supply was nowhere near meeting demand. Looking at circulation data by section uncovers areas that need to be expanded to better serve patrons or that need to be promoted to the school community. Additionally, comparing circulation numbers by demographic area to school-wide demographics can paint a picture of who is using the library and which demographics are being underserved. I recommend exploring the options available in a circulation system to find out how students can be sorted. Some systems may not have as many options for sorting students, but it is worth a look to find out what opportunities for drilling down are available in your school library.

Surveys

Surveys administered to staff members and students are another effective way to collect feedback to guide programs. In my experience, surveys are best built by a team of librarians who are looking for the same sort of data. I have often observed that on our own we are less likely to create objective questions simply because it can be a difficult task. Survey questions can cover a multitude of topics such as ranking services, reflecting on coteaching, willingness to incorporate research or library lessons into the curriculum, or time needed in the library. I recommend looking at data for the first time with a colleague to help process findings. We are often so close to our patrons in a school library setting that we may expect feedback that doesn't match what we receive. When this happens, there is the potential for leaning more toward deflecting unpleasant truths than focusing on seeking solutions. A trusted coworker can go a long way in helping to maintain focus. Commit to stepping back and looking for trends that can be used to shape the library. Surveys are a great advocacy tool as well. Using the words of patrons to champion their library can go a long way toward making sizeable progress.

Standardized Test Data

In addition to surveys, I use several concrete data points for informing my practice. Administrators and subject area specialists can grant access to standardized data. I have access to benchmark reading levels and standardized test scores in reading. As with all data points though, drilling down is very important. For example, looking at overall reading scores to plan lessons without knowing the standards or objectives that contributed to the scores equates to taking shots in the dark. If we are willing to dig a little deeper, we can uncover some powerful data to inform our practices. Rather than looking at the overall score or even the reference standard alone, I analyze all of the reading standards. This is a practice I use, not only to judge my work, but also to determine areas of weakness in our building that I could use as opportunities to support teachers. I look at weak standards and objectives, and then brainstorm lessons or units of study that I could bring to teachers as opportunities for coteaching to support the standards. For example, last year's data showed that while our instruction in genres was effective, students needed more support in the area of summary and generalization (see figure 3). High scores in other areas masked these low scores when averaged into the overall score "OPI" (Oklahoma Performance Index). By looking at strands I was able to create mini-lessons and opportunities for students to practice skills and

Reading - OPI	Literary Genres RE.4.1 %	Summary and Generalization RE.3.3 %
918	100	100
861	100	100
861	100	100
841	100	100
823	100	100
808	100	100
808	100	100
781	100	100
781	100	80
781	100	80
769	100	80
769	100	80
769	100	80
769	100	80
758	100	80
758	100	80
747	100	80
747	100	80
747	100	80
737	100	80
737	100	80
737	100	80
737	100	80
737	100	80
728	100	80
728	75	80
718	75	60
718	75	60
709	75	60
709	75	40
684	75	40
660	75	40
652	75	40
644	75	40
644	75	40
636	75	40
636	50	40
627	50	40
610	50	20

Figure 3. Example of a sorted, color-coded list of scores in a spreadsheet used to pinpoint grade-level or school-wide learning issues.
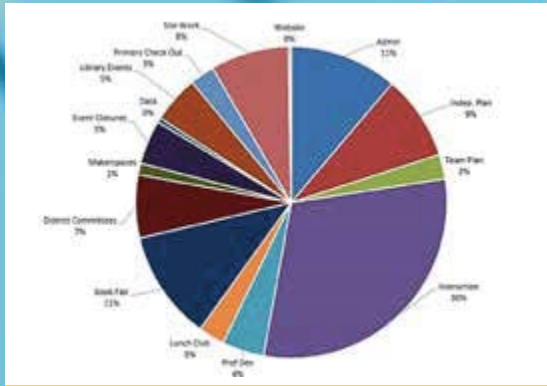
Figure 4. Example of a pie chart (created using spread-sheet data and software) as a visual aid to assess time use in the context of the library's mission.
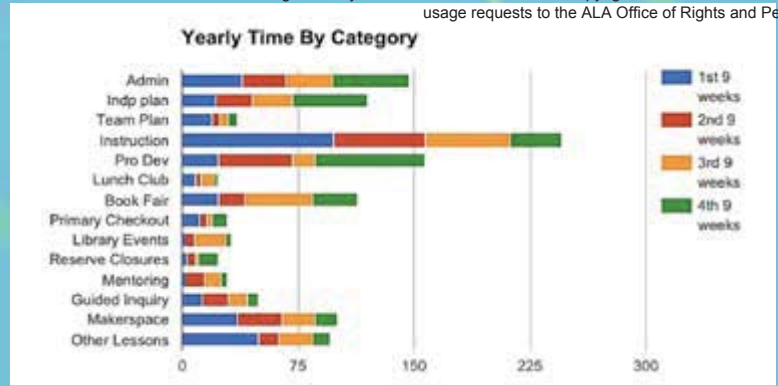

Figure 5. Example of stacked bar graphs (created in Piktochart) that can be used to synthesize data across multiple time periods to look for trends and reflect on balance of activities.

'Other Instruction' took up the bulk of this nine week's instructional time. Our GRC, Diane Wood, and I collaborated with PK and K to rotate students through New Year's centers highlighting cultures from around the world and integrating art and map skills. Similarly, second grade spit into groups to break down the 'I Have a Dream'. speech, looking for and illustrating similes and metaphors. Students learned how to highlight text in a Google Doc and use the 'define' function to look up cards they didn't know the meaning of. First grade applied problem and solution to their study of inventors.

MakerSpace continued to thrive with PK students making banners for Kindness week, second grade setting up a mock store, and challenges like marble runs encouraging students to collaborate and innovate.

Kindergarten completed a Community Helper Guided Inquiry Unit this nine weeks, and began another with PreK students to better understand our school garden. Second grade worked on a Pollinator Unit, and fifth graders began a space unit integrating Garage Band in collaboration with our music teacher.

Figure 6. Example of data graphed and showcased, paired with narrative using Piktochart, a free online tool.

strategies for summary and generalization in my cotaught units. If I hadn't taken the time to break down their scores, that area of weakness might have gone unnoticed.

When I saw the impact I could make in my building through the analysis of reading data, I was inspired to look at the math data as well. In the course of my career as a librarian, I have supported the math curriculum in many ways. For example, I incorporate telling time and elapsed time while making inferences using the book *Pigs on a Blanket* by Amy Axelrod (Aladdin 1996), reinforce number sense and ordering decimals while teaching how to find books in the Dewey system, and teach probability while showing students how to use spreadsheets to collect and analyze information.

The data points we find do not have to equate to large research projects, but may provide excellent opportunities for mini-lessons that can make a large impact. In the upper grades this sort of data gives inroads to developing coteaching opportunities across curricular areas to meet the needs of a large student body. For example, if time constraints prevent every section of an English course from coming to the library for a mini-lesson, the standard could mindfully be integrated into lessons for sections across multiple subject areas to better ensure all students have the opportunity for growth. When this sort of thoughtful impact is made on student learning, interest will build among colleagues to collaborate to improve their own students' achievement.

Sharing Data

This opportunity for the growth of library services and programs is why it is so important to share data with a larger community. Data can be used as a tool for advocating and expanding programs or lessons, as well as to empower mentors to aid in professional growth. I share my findings with my principal, director, fellow teachers in my building, and often other librarians in my district as well. Sometimes they notice items that I had overlooked that can cause me to reflect on my practices, or they may read the narrative I include and have possible solutions or strategies that I can apply.

My initial nine-weeks reports featured a pie chart of how I spent my time in hours (see figure 4). I

created the chart by looking at my calendar containing the schedule of class visits and inputting numbers in a spreadsheet to add up my time. I took this idea from experiences I had working around professionals who have to add up their time for billing purposes. It is an effective way to see how time is spent and reflect on whether or not the time use mirrors the vision for the library. This exercise alone can go a long way in helping to reflect on one's practice as an educator. In my report I also included circulation numbers, and tables with instructional minutes and planning hours broken down by grade level. By looking at who I was working with and how often I worked with them, I could begin to make connections about how I was impacting student learning. Documenting these impacts provides an advocacy tool. Finally, I ended my reports with a brief narrative. This included highlights, roadblocks, goals for the coming nine weeks, and progress on professional goals from my growth plan.

This report, like most of my practices, has evolved over the years. I still make a data sheet for collecting my own thoughts and reflecting, but now I make my findings more digestible and add more narratives through the use of online tools like Piktochart and Canva. By using templates from these sites, I am able to highlight certain aspects of the data that I want to use for advocacy or growth (see figure 6). Since these formats are more reader-friendly, I have broadened my audience to my staff and district-level administrators who would have an interest in what I am accomplishing in my library. As a result of this sharing, people now know what I am doing in my library, and they are impressed because I am doing exactly what is best for the kids and engaging them at higher levels. I can keep up this level of service only through data analysis.

By sharing what I have learned about my school library, I have grown as an educator, and my library better serves our students. This success supports the idea that embracing the resources available to us and using those resources can improve our practices and services. I have used data to win grants that brought $7,000 in books to our library, and $12,000 in robotics, iPads, and accessories for our coding club. Student research and writing skills have steadily improved as evidenced by standardized testing data that I have tracked over the last five years. I have also reclaimed part of the library that had been used as a teacher workroom for a new makerspace. None of these results would have been possible if I had not been willing to take a hard look at what the numbers showed was really going on in our library. The benefits to learners and me continue to far outweigh any trouble or time that data analysis has taken, and the more I have worked with data, the faster I have become at filtering, sorting, and mining for my personal needs.

At the heart of data analysis is a drive to look hard at what goes on in the school library and a willingness to let findings be a catalyst for change. As we continue to engage students in deeper learning and prove our worth, data is a resource that, used effectively, can ensure we are—and are perceived to be—essential and valued within our schools.

School Librarian as Data Curator

The more comfortable I became with sorting and filtering the raw standardized data that came to us in a spreadsheet, the more curricular areas I added to my analysis. Now every piece of standardized data that comes to the school comes through me. I make it meaningful and digestible to teachers. I highly value this role as a data curator in my building. As a leader on our data team, I provide administration and staff with the materials they need to make informed decisions on school-wide practice. All of this work has added value to my role in the school, a value that I never purposely sought out. As other schools saw what ours had accomplished, I had the opportunity to meet with district principals as well as school librarians from other states to teach them how to use their own raw data more effectively. My work as a data curator has made me invaluable in a world where many continue to question the worth of school libraries and librarians. Ultimately, I believe that when it comes to our professional value, the lesson to be learned is that, if we as school librarians resolve to make all decisions based upon data-driven student impact, we will inevitably add value to our profession no matter where that path takes us.

At the end of the day there are only so many initiatives we can take on within our libraries. We don't have time for wasted time. We can't do it all so we have to do what is meaningful and right. It is important that we use our energy and resources to our fullest potential. It is only through data collection and analysis that we can be sure that we are making the best choices for our programs and, most importantly, our learners.

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