Collecting Data that Matters

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Introduction

• “Not everything that matters can be measured and not everything that can be measured matters.”
  • Decide what matters most and whether (and how) it can be measured.
Why is it difficult for family literacy programs to demonstrate effectiveness?

- Limited staff capacity and resources for data collection
- Limited training and knowledge about data collection
- Scarce funding for research
- Changing standards for rigorous research and evaluation
- Differing measures across programs and funders

High-quality data are crucial for telling your story and improving your program to ensure that participants are learning.
Goals of Session

• Explore data that can and should be collected to measure family literacy outcomes and create an environment of continuous improvement.
• Examine data collection tools.
• Discuss data collection challenges and how to address them.
• Take-aways: tips and tools for high-quality data collection.
• Suggestions for addressing challenges in data collection.
What interested you about this session?
Why do we collect data?

• External
  • To know if we are meeting outcomes
  • To obtain information about meeting our goals
  • To keep records for accountability
  • To disseminate information about achievements to stakeholders and funders

• Internal
  • To identify and solve problems
  • To make decisions about program design and implementation
  • To improve programs
Data for Continuous Improvement

Moving Toward a Culture of Continuous Improvement

Basic paradigm shifts are often required as organizations move from traditional, fragmented communication to a model in which all staff participate actively in sharing and analyzing data to improve performance.

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collected for external reports</td>
<td>Data for internal improvement</td>
</tr>
<tr>
<td>Data as a burden</td>
<td>Data as a useful tool</td>
</tr>
<tr>
<td>Only the manager knows that</td>
<td>Knowledge sharing across staff</td>
</tr>
<tr>
<td>Culture of blame and excuses</td>
<td>Culture of shared accountability</td>
</tr>
<tr>
<td>Functional or program “silos”</td>
<td>Cross-functional teams</td>
</tr>
<tr>
<td>“That doesn’t have anything to do with my job!”</td>
<td>“How can I help us reach our team goal?”</td>
</tr>
<tr>
<td>Fear of breaking rules and patterns</td>
<td>Support for making mistakes and trying new strategies</td>
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</tbody>
</table>

## Family Literacy Outcomes and Data Collection Framework

<table>
<thead>
<tr>
<th>Outcomes Family Literacy Typically Collect</th>
<th>Data to Collect to Determine if Outcome Met</th>
<th>Tools and Data Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>Pre- and post-tests or formative assessments from children’s schools that measure growth in phonological awareness, vocabulary development, and other literacy skills</td>
<td>Standardized tests, formative assessments, portfolios, including Get Ready to Read, Early Learning Accomplishment Profile/Learning Accomplishment Profile, Dynamic Indicators of Basic Early Literacy Skills, Phonological Awareness and Literacy Screening (PALS), Concepts about Print</td>
</tr>
<tr>
<td>Educational/literacy outcomes in school (e.g., reading at grade level, reading gains, kindergarten readiness, attendance, reduced discipline referrals, promotion)</td>
<td>Education outcomes in school measured with standardized test scores, student performance reports collected from schools</td>
<td>PA Family Literacy End of Year Report, standardized test scores, parent self-report, report cards, number of school behavior referrals</td>
</tr>
<tr>
<td>Education/literacy outcomes out-of-school (e.g., increased reading frequency/enjoyment, library usage, and literacy/technology practices at home)</td>
<td>Education/literacy outcomes out-of-school, information on home literacy activity logs, self-report participation</td>
<td>Home activity logs with questions related to children, journals of activities</td>
</tr>
</tbody>
</table>
# Family Literacy Outcomes and Data Collection Framework

## CAREGIVERS

<table>
<thead>
<tr>
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<th>Data to Collect to Determine if Outcome Met</th>
<th>Tools and Data Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caregivers</strong></td>
<td></td>
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<tr>
<td>Increased involvement in child’s language and literacy growth (e.g., participation in interactive learning activities with children)</td>
<td>Involvement in child’s language and literacy growth-information from caregiver pre-post survey, home literacy activity logs, observations in ILA activities</td>
<td>Home literacy activity/reading logs, pre-post survey of activities, attendance at ILA activities, journals</td>
</tr>
<tr>
<td>Increased involvement in child’s education (e.g., engagement with schools/centers, engaging in school activities)</td>
<td>Participation in parent-teacher conferences, attending school events, engagement with school</td>
<td>Information gathered from schools about attendance and engagement</td>
</tr>
<tr>
<td>Increased involvement in everyday literacy practices (e.g., ability to access and enjoy reading, library usage, reading at home)</td>
<td>Information from caregiver pre-post survey, home literacy activity logs, journals about reading activities</td>
<td>Home activity/reading logs with questions about caregiver involvement, pre-post survey of activities at home, journals</td>
</tr>
<tr>
<td>Language and print and digital literacy skill development (e.g., increased test scores, literacy engagement, English proficiency, use of technology)</td>
<td>Language and print and digital literacy skill development measured with pre-post standardized assessment, pre-post surveys, home activity logs, journals</td>
<td>Standardized tests (e.g. TABE, GED, CASAS) formative assessments, portfolios, home activity logs, journals, Computer Skills Survey</td>
</tr>
</tbody>
</table>
## Family Literacy Outcomes and Data Collection Framework

### PROGRAM IMPROVEMENT

<table>
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<th>Data to Collect to Determine if Outcome Met</th>
<th>Tools and Data Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Improvement</td>
<td>Action research and observations, surveys</td>
<td>Goodling Institute Practitioner Action Research (PAR), surveys</td>
</tr>
<tr>
<td></td>
<td>of professional development</td>
<td></td>
</tr>
<tr>
<td>Program structure and design</td>
<td>Action research and observations, survey</td>
<td>Goodling Institute PAR, surveys</td>
</tr>
<tr>
<td></td>
<td>of participant outcomes</td>
<td></td>
</tr>
<tr>
<td>Retention</td>
<td>Attendance and participation records</td>
<td>Attendance and participation tracking system such as Excel spreadsheet, PA e-Data Access database template</td>
</tr>
</tbody>
</table>
### Quantitative and Qualitative data

<table>
<thead>
<tr>
<th>Quantitative Data</th>
<th>Qualitative Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Can be counted</td>
<td>• Summary</td>
</tr>
<tr>
<td>• Statistical analysis</td>
<td>• Interviews, focus groups, observations, surveys</td>
</tr>
<tr>
<td>• Surveys, experiments</td>
<td>• Photographs, video</td>
</tr>
<tr>
<td>• Standardized assessments</td>
<td></td>
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</tbody>
</table>

- Important to use both – each has rich information
- Some can include both data types (e.g., survey with open-ended questions)
General Tips for Data Collection

• Start thinking about the data \textit{before} you start collecting it
• If you collect it, use it—if you don’t use it, don’t collect it
• Make sure those collecting the data are trained and understand what they are doing
• If gathering qualitative data, do not write assumptions or opinions
• Keep good notes and be organized
• Keep information confidential
Examples of Quantitative Data

• Pre-post standardized tests scores
• Pre-post survey data
• Attendance and participation rates
• School records: grade, promotion, disciplinary actions/referrals, entry to postsecondary
• Employment placement and retention data
• Demographic data
Examples of Quantitative Tools

• PALS Pre-K (standardized)
• Pennsylvania e-Data & End of Year School Report
• Demographic data sample survey questions
## Caregiver Survey

### A. Reading, writing, and learning in your family

1. In the **past week**, how often did you do these things with your child:

<table>
<thead>
<tr>
<th>Activity</th>
<th>None</th>
<th>1-2 times</th>
<th>3-6 times</th>
<th>7 or more times</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. read to your child (for example, a book, magazine, newspaper, comic book, website, etc.)?</td>
<td></td>
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<td></td>
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<tr>
<td>b. tell stories to your child?</td>
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<tr>
<td>c. listen to your child read or tell stories?</td>
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<tr>
<td>d. practice reading, identify letters of the alphabet, or talk about words while doing other activities (for example, grocery shopping)?</td>
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<tr>
<td>e. practice writing the alphabet, words, or other kinds of writing?</td>
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<tr>
<td>f. play with toys (for example, blocks, puzzles) or play games (for example, board games, cards)</td>
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<tr>
<td>g. do activities like arts and crafts, coloring, painting, etc.?</td>
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<tr>
<td>h. play word games (for example, rhyming, jokes)?</td>
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<tr>
<td>i. talk about school (for example, what they learned, friends, activities, teacher)?</td>
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</tbody>
</table>
**Caregiver Digital Survey**

<table>
<thead>
<tr>
<th>6. Rate how comfortable you feel doing the following by yourself:</th>
<th>Very Comfortable</th>
<th>Comfortable</th>
<th>Neither</th>
<th>Uncomfortable</th>
<th>Very Uncomfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Turning on a device such as a computer, tablet, or cell phone</td>
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<tr>
<td>b) Using a computer keyboard to type sentences, documents, stories, etc.</td>
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<tr>
<td>c) Using a phone keypad to write texts, sentences, social media posts, etc.</td>
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<tr>
<td>d) Accessing the internet to search for words, articles, stories, etc.</td>
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<tr>
<td>e) Checking your email and sending emails to others</td>
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<tr>
<td>f) Using social media apps (Facebook, LinkedIn, Instagram, Twitter, etc.) to connect with friends and colleagues</td>
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</tbody>
</table>
Mark down how many times you did each of these activities with your child during the week.

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>None</th>
<th>1 to 2 times</th>
<th>3 to 6 Times</th>
<th>7+ Times</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>READING, WRITING, and STORYTELLING</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I read to my child (like a book, magazine, newspaper, comic book, website, etc.).</td>
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<tr>
<td>We stopped while reading to ask questions, talk about pictures, or point at letters, etc.</td>
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<tr>
<td>My child looked at or read books by himself or herself</td>
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<tr>
<td>I told stories to my child</td>
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<td>We practiced writing the alphabet or did other kinds of writing</td>
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<td>We practiced reading, identifying letters of the alphabet, or talking about words while doing other activities like grocery shopping</td>
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<tr>
<td>TALKING and SINGING</td>
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<tr>
<td>We talked about school (like what they learned, their friends, activities, etc.)</td>
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<tr>
<td>We talked during the day at meals, on the bus, walking to school, etc.</td>
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</tbody>
</table>
**Surveys**

**Tips**

- Know something about participants’ backgrounds before developing questions
- Clarify goals and scope of study before creating questions
- Make surveys accessible for multiple languages (based on participants’ linguistic backgrounds)
- Make open-ended questions require a longer response (rather than yes/no questions)
- Combine quantitative demographic data with qualitative narrative data
- When giving survey do not make evaluative remarks (“nice answer”)

**Challenges**

- Survey responses might differ depending on day and time – use with qualitative methods
- Even with open-ended questions, participants may not provide in-depth responses – use interviews and focus groups for more detailed responses
- Participants might have different digital literacy levels – opt for online and paper-based surveys
- Surveys are based on self-report → reliability
Examples of Qualitative Data Collection Sources

• Formative assessments, teacher-made tests
• Interviews and focus groups
• Portfolios
• Logs
• Journals
• Observations
• Case notes
• Indicators of Program Quality (Pennsylvania)
• Self-appraisals (e.g., Foundation Skills Framework, Digital Literacy Checklist)
Examples of Qualitative Tools

• Formative assessment
  • Digital literacy survey
  • Reading apps for children
• Logs and journals
  • William Penn Foundation Home Activity Log
  • Portfolios (children and adults)
  • Toyota Family Mentoring Log
• Artifacts
• Observations
• Foundation Skills Framework
• IPQs
Formative Assessments

**Tips**

- When creating the test, consider:
  - Matching test to your purpose
  - Appropriateness for your population

- Students’ and parents’ strengths and weaknesses

- Create multi-modal assessments (written, visual, auditory, etc.)

- Make assessments open to linguistic and cultural diversity

- Use methods such as backward design to create assessments that examine participants’ current skills and what you hope they attain/learn

**Challenges**

- Local/individually-created assessments might contradict funders’ assessments – use these contradictions as a learning tool for participants

- Linguistically and culturally diverse assessments might require more thought, time, and translation

- Assessments may result in skewed data (based on participants’ language, comfort with tests, etc.) – use other methods to gain comprehensive understanding of learners

- Formative assessments require follow-up – implement similar assessments throughout the year
Portfolios

**Tips**
- Ask for items that relate to main research questions or focus of practice
- Include multiple “artifacts” (e.g., photos, assessments, lesson plans, assignments)
- Use data from portfolios to guide follow-up interviews and focus groups
- Ensure portfolio items include linguistically and culturally diverse artifacts

**Challenges**
- Portfolio artifacts might vary in size, quality, quantity → difficult to compare across sites
- Portfolio documents can exhibit practices that are not necessarily taking place (and vice versa) – use portfolio documents with other qualitative methods
Learning/Service Logs

Tips

• Logs draw from participants’ own documentation (participant becomes the researcher)
• Include qualitative and quantitative prompts within the logs
• Like surveys, create open-ended responses to logs (rather than yes/no questions)
• Depending on scope of research and practice, include questions directed at reflection over time

Challenges

• Participants might not always complete logs- check in consistently to ensure log completion
• Accessibility to technology can impact when and how logs are completed
• Participants might have differing digital literacy levels- opt for online and paper-based learning logs
• Components of logs are based on self-perception which can decrease reliability
### Journals

#### Tips
- Useful for assessing not only what is being said and written, but HOW it is being said and written.
- Provide both prompts and open responses to incite creativity while also providing structure.
- Use individual and group journaling (writing alone and together).
- Allow for multiple literacies (language, visual, etc.).
- Can be completed on paper or using technology.
- Great tool for analyzing and learning from learners’ narratives.

#### Challenges
- If learners are uncomfortable with writing, journals can be difficult to implement - make space for written, spoken, and drawn journal entries.
- Prompts that are too structured or unstructured can hinder substantive responses.
- Journaling with diverse linguistic learners may require translation of written work.
Observations

**Tips**

- Choose the scope of what and who you will be observing; create an observation guide
- Within that scope, be aware of what is said and NOT said, done and NOT done
- Include both small/minor details and large/major details in observations
- Write notes during the observation or directly after
- Pay attention to space, time, visuals, body language, etc. and what people say
- Objectively describe what you see; don’t place a value judgment

**Challenges**

- Different people notice different things – compare observations after the observation
- Observations only tell one part of a story – use in tandem with other data methods
- Observation relies on chance (demographics might change from day to day) – do follow-up observations to get a more complete view of what is happening
<table>
<thead>
<tr>
<th>Cross-sectional</th>
<th>Longitudinal</th>
</tr>
</thead>
<tbody>
<tr>
<td>One point in time</td>
<td>Several points in time</td>
</tr>
<tr>
<td>Different samples</td>
<td>Same sample</td>
</tr>
<tr>
<td>Snapshot of a given point in time,</td>
<td>Change at the individual level</td>
</tr>
<tr>
<td>change at a societal level</td>
<td></td>
</tr>
</tbody>
</table>
Longitudinal Research

Tips

• Decide what you want to measure (what long-term change do you want to see?)
• Outcome must be aligned with program focus (logic model)
• Consider using existing measures
• Choose sample carefully (e.g., all new participants vs. only those who finish)
• Use a comparison group if possible
• Decide time frame (6 months, 1 year, etc.) and # of data points

Challenges

• $$ – partner with university researchers to seek funding
• Participants move, change phone – get contact info for 3-4 people who will always know how to reach them
• Participants lose interest – offer $ incentives, build interest in study
• Helpful to have research experience – collaborate with a university
Action Research

• “The best way to understand something is to try to change it” (Kurt Lewin)
• Iterative process of posing and solving problems
Action Research

Tips

• Identify what isn’t working and a potential—and feasible—solution

• Identify a researchable question (focused, specific, measurable)

• Collect data that will show whether or not solution was successful
  • How will you know if it worked?
  • Use multiple measures (qualitative and/or quantitative)

• Reflect on results and plan next steps

• Involve participants

Challenges

• Can be time-consuming
  • Use data you already collect
  • Use AR for multiple purposes (assessment, evaluation, reports to funders)
  • Investment is worth it – improve program and outcomes

• Don’t jump to solutions before identifying the problem

• Some solutions aren’t feasible – consider time, staffing, cost, etc.
Questions?

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Beth McLean, Ph.D., elg6@psu.edu
Esther Prins, Ph.D., esp150@psu.edu