

Tools *for* LEARNING SCHOOLS

LEARNING FORWARD'S VISION: EXCELLENT TEACHING AND LEARNING EVERY DAY

Inside

- Data summary sheet, p. 4
- Data analysis protocol (formal), p. 5
- Data summary statement example, p. 6
- Data summary statement worksheet, p. 7

Spring 2017

Vol. 20, No. 3

DETAILS, DETAILS: Making meaning from data

By Stephanie Hirsh and Tracy Crow

Ideally, school and system leaders embrace continuous learning for all educators, including themselves. By taking such a stance, and all that it implies, they commit and contribute daily to a culture that puts learning first. In a system aligned with continuous learning focused on student outcomes, professional learning is the strategy driving improvement. Michael Fullan (2008) uses systems language to describe the system of continuous improvement in which teachers' knowledge grows. He distinguishes between sporadic professional development, which he calls an input to a system of continuous learning, and the system of learning among teachers who are engaged every day in learning, teaching, monitoring, and refining to improve what they do in their classrooms and schools.

Learning teams constitute a crucial component of this continuous cycle. This is the daily job-embedded learning focused on student learning challenges that teachers have over and over said they value highly.

In the book *Becoming a Learning Team*, we outline a five-stage learning team cycle for collaborative learning for teachers:

- **Analyze data:** Examine student and educator learning challenges.
- **Set goals:** Identify shared goals for student and educator learning.
- **Learn individually and collaboratively:** Gain new knowledge and skills (e.g. content and content-specific pedagogy); examine assumptions, aspirations, and beliefs.
- **Implement new learning:** Implement new lessons and assessments with local support in the classroom.
- **Monitor, assess, and adjust practice:** Use evidence to assess and refine implementation and impact.

Of these, the process of analyzing data is perhaps the most intimidating, and in any case is where teachers must start for their learning to be truly driven by student needs. In this stage, team members analyze data so they can identify and better understand the exact problem they are addressing.

WHY ANALYZE DATA?

Teachers and school leaders have been pressed to use data over the past few decades, and that pressure is increasing.

Continued on p. 2



Continued from p. 1

ing. Yet, while data-driven decision-making has become a popular term among educators and politicians, evidence demonstrates that teachers and school leaders still struggle with making sense of data in the service of improved learning outcomes (Means, Padilla, DeBarger, & Bakia, 2009).

The Data standard, one of Learning Forward's Standards for Professional Learning, describes the use of data in professional learning:

Data: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning (Learning Forward, 2011, p. 36).

The Data standard focuses on three elements: (1) educators analyze student, educator, and system data to determine needs; (2) educators use data to assess the impact of professional learning content and process; and (3) educators use data to report professional learning results. The learning team follows this process. It first uses data to determine their greatest needs and to inform

the goal-setting process; then it uses data throughout the cycle to support implementation and monitoring as well as to promote reflection and further planning.

Early in the learning team cycle, teams study data about students and educators to identify the most significant student learning needs, which, in turn, will lead to team goals for professional learning and student outcomes. Team members use probing questions to understand where students are in relationship to the expected curriculum standards and to identify the content for educator professional learning. Student data include multiple types such as results of formal and informal assessments, achievement data such as grades and annual, benchmark, end-of-course, and daily classroom work, and classroom assessments (Learning Forward, 2011, p. 36).

Knowing about student learning needs can guide teams in making decisions about educator professional learning, yet team members need more than just student data. Having a comprehensive understanding of educator learning needs is essential if teams want to plan for meaningful professional learning. To identify educator learning goals a learning team may consider various types of data, including the following: preparation information, performance on various assessments, educator perceptions, classroom or work performance, student results, and individual professional learning goals (Learning Forward, 2011, p. 37).

During the data analysis stage, teams work through four steps:

- Assemble chosen essential data;

- Organize those data so they can analyze them;
- Examine the data to describe performance trends, concerns, opportunities, and causes; and
- Write statements summarizing what the data tell them.

1. IDENTIFY AND COLLECT ESSENTIAL DATA.

Depending on the time of year, during the data stage, teams review the district's vision, instructional and curriculum frameworks, curriculum standards, and school improvement goals to select the data that will enable them to determine a current state and learning gaps. From here they identify the next most essential standards, curriculum, as well as the student and teacher data that will provide insights into where they should focus to close the gap between the desired and current states.

The learning team decides together which school or district data will be most helpful in determining their first actions. Then, they decide which team members will be responsible for collecting them. If this is the beginning of the school year or a new six- or 12-week grading cycle, they identify the available data that will help them most in setting learning goals for their students and themselves.

2. ORGANIZE AND DISPLAY DATA FOR ANALYSIS.

Many teams find it helpful to take the data and translate them into charts, graphics, or formats that paint a picture of the status of student performance. They may decide to disaggregate data according to the characteristics of the student body that are most pertinent to the team's planning. A learning team may begin, for example, by organizing student data according to gender, race, socioeconomic status, English language learners, and special populations. Or they may arrange the data according to outcomes as well as by classroom.

When team members examine the information they have regarding student strengths and weaknesses, they may invite colleagues to a learning team session to share their own data. Not all teachers and support staff who serve students are participants on the learning team, but a member of the team may interview these other educators and bring the results to the team. The team may also find it useful to have the support of the principal or a particular data expert or lead teacher as they do this work. Organizing and displaying data will be valuable when determining where to focus professional learning in the future.

3. EXAMINE DATA FOR TRENDS, ISSUES, AND OPPORTUNITIES.

This is the time for the team to dig deeper into the data to ensure that all team members can reach all students and surface all issues. In general, during this part of the stage,

Continued on p. 3

Learning Forward BELIEF

More students achieve when educators assume collective responsibility for student learning.

Continued from p. 2

team members will carry out an analysis of their multiple sources of data to review current performance, describe performance trends, and identify root causes.

Because most performance problems are symptoms of other issues, the team tries to get a handle on a root cause of a performance gap. Identifying a root cause will put the team on strong footing to move forward with future action planning and goal setting.

4. SUMMARIZE THE DATA.

Once they have dug deeply into the data, team members will translate the findings into summary statements or needs statements. During this step they will describe in a statement or more what the data tell them. The process of crafting data summary statements works like this: The team writes one or more summary statements, depending on the number and range of observations. Team members will write statements about the performance challenge specifying priority student subgroups and describing student needs with some detail. For example, a statement may contain information for cohorts of students within a grade level over time, within a disaggregated group of students, or within a content strand (e.g. reading comprehension in language arts). The language ultimately will inform the team's planning.

Each statement speaks to the data rather than assumptions about what members of the group think they say. At this point, your team avoids discussing potential solutions.

Years ago, I observed the following as I facilitated a school improvement team meeting. We were at the data analysis phase and examining the results from our Reading Recovery intervention. We were studying the data and attempting to organize it to make a case to the school board that we needed a third Reading Recovery specialist in our school. An amazing thing happened that evening: While everyone was deeply invested in pulling success stories from the data, the 1st-grade team of teachers was having its own conversation.

A few days later, the teachers approached the principal with a request. By examining the data, they recognized how Reading Recovery had served so many of their students and the long-term impact it had for those students. They also saw that the stu-

Instead, these statements give potential guidance for setting learning and improvement goals.

Use the following tools to assist in this, or to model your own team's efforts to craft your own summary statement tools. It's crucial to become comfortable with crafting data summary statements that can inform the action planning in the next stage, including creating learning goals for students and instructors — thereby turning your analysis into actions that improve learning for everyone.

REFERENCES

Fullan, M. (2008). *The six secrets of change: What the best leaders do to help their organizations survive and thrive.* San Francisco, CA: Jossey-Bass.

Learning Forward. (2011). *Standards for Professional Learning.* Oxford, OH: Author.

Means, B., Padilla, C., DeBarger, A., & Bakia, M. (2009). *Implementing data-informed decision making in schools: Teacher access, supports and use.* Report prepared for U.S. Department of Education, Office of Planning, Evaluation and Policy Development. Prepared by SRI International, Menlo Park, CA.

•
Stephanie Hirsh (stephanie.hirsh@learningforward.org) is executive director and Tracy Crow (tracy.crow@learningforward.org) is director of communications at Learning Forward. ●

dents who hadn't received Reading Recovery and had struggled in 1st grade, continued to struggle in 3rd and 4th grades. Those students probably would have benefitted if they had been served by the specialists. The teachers decided they could no longer wait for another specialist. They shared a personal obligation to develop the same knowledge and skills as the specialist so they could apply them in the classroom with all their students. Had they not engaged in the data analysis and discussion, these teachers might never have decided to advocate for an investment in their own professional learning. Backed by the data and strengthened by their commitment, they asked for support so they could all receive Reading Recovery certification to reach and sustain success for more students.

— Stephanie Hirsh

Data summary sheet

Data type: _____
(e.g. enrollment, student achievement, total, attendance, student achievement reading)

Data source/measure: _____
(e.g. SAT9, school records, staff survey)

What the numbers represent: _____
(e.g. percentage of students below grade-level; number of students higher than 4 on district math assessment; percentage of students who say they like to read)

Student Characteristic	Grade Level										Total
Ethnicity											
African-American											
Asian/Pacific Islander											
Caucasian											
Hispanic											
Native American											
Other											
Gender											
Male											
Female											
Income											
Low income											
Not low income											
Language Ability											
Fully proficient											
Limited proficient											
Non-proficient											
English only											
Special Populations											
Migrant											
Title 1 Target Assist											
Special education											
Preschool											
After-school											
Other											

Source: *Comprehensive School Reform: Research-Based Strategies to Achieve High Standards*, by Sylvie Hale. Copyright 2000 by WestEd.

Data analysis protocol (formal)

What are we looking at here?

What is being measured in each assessment?

Which students are assessed?

What areas of student performance are meeting or exceeding expectations?

What areas of student performance are below expectations?

Do patterns exist in the data?

How did various populations of students perform? (Consider factors such as gender, race, and socioeconomic status.)

What are other data telling us about student performance?

How are the data similar or different in various grade levels, content areas, and individual classes?

What surprises us?

What confirms what we already know?

Source: *Becoming a Learning School* (Tool 10.5 on supplemental CD), by Joellen Killian and Pat Roy, 2009, Oxford, OH: NSDC. Copyright 2009 by National Staff Development Council. Adapted with permission.

Data summary statement example

Data summary statement:

Fourth-grade Vietnamese immigrant boys are underachieving in science.

Evidence:

Achievement scores, teacher observation, and chapter (textbook) tests.

Why questions:

Q: Why do 4th-grade Vietnamese immigrant boys underachieve in science?

A: They have difficulty with English language. (Supporting data or facts: language assessment.)

Q: Why does the fact that Vietnamese boys have difficulty with English contribute to low performance in science?

A: They have difficulty understanding the concepts and applying them in practice. (Supporting data or facts: observation and student input.)

Q: Why do 4th-grade Vietnamese immigrant boys underachieve in science?

A: Curriculum does not match assessment. (Supporting data or facts: Curriculum is based on 1985 framework, assessment is based on 1995 framework.)

Q: Why does the mismatch between curriculum and assessment contribute to the low performance in boys?

A: There is misalignment between what is taught and what is being assessed. (Supporting data or facts: comparison of 1985 and 1995 frameworks.) Upon further examination, all students are having some difficulty in science.

Source: *Comprehensive School Reform: Research-Based Strategies to Achieve High Standards*, by Sylvie Hale, 2000, San Francisco: WestEd. Copyright 2000 by WestEd.

Data summary statement worksheet

Write a statement below summarizing the data. A data summary statement does not offer a solution nor does it describe a cause or lay blame.

1. Review your Data Summary Sheet for each of your data sources. Be as complete as possible. Think about other possible summary tables that might also be created. For example, after completing the sample data summary sheet, you may notice that girls in 4th through 6th grades are underachieving in mathematics. You could create another data summary table in which you break out the girls by ethnicity to see if a pattern emerges.

2. Summarize the data by writing a statement based on the data. As you review the data, consider:
 - Which student subgroups appear to need priority assistance, as determined by test scores, grades, or other assessments? Consider subgroups by grade level, ethnicity, gender, language background (proficiency and/or home language), categorical programs (e.g., migrant, special education), economic status, classroom assignment, years at our school, attendance.
 - In which subject areas do students appear to need the most improvement? Also, consider English language development.
 - In which subject areas do the “below proficient” student subgroups need the most assistance?
 - What evidence supports your findings?

3. For each data summary statement, brainstorm all the possible reasons why the data show what they do. For each reason, identify data or facts that support that assertion. If no data exist, determine how to locate data that would support the assertion. Continue asking “Why?” until the root cause of the problem or need has been identified. The information will be valuable in the next two stages.

Source: *Professional Learning Plans: A Workbook for States, Districts, and Schools*, by Joellen Killion, p. 59. Copyright 2013, Learning Forward.

Learning Forward

Member Services

504 S. Locust St.
Oxford, OH 45056

Member info: 800-727-7288

NON-PROFIT ORG.

U.S. POSTAGE

PAID

CINCINNATI, OH

PERMIT NO. 770

Tools for Learning Schools is published four times a year by Learning Forward, 504 S. Locust St., Oxford, OH 45056, for \$49 of each membership. © Copyright, Learning Forward, 2017. All rights reserved.



BUSINESS OFFICE

504 S. Locust St.
Oxford OH 45056
513-523-6029
800-727-7288
Fax: 513-523-0638
office@learningforward.org
www.learningforward.org

LEARNING FORWARD STAFF

Stephanie Hirsh

Executive director

Frederick Brown

Deputy executive director

Anthony Armstrong

Associate director of marketing

Eric Celeste

Associate director of publications

Tracy Crow

Director of communications

Elizabeth Foster

Associate director of standards, research, and strategy

Carrie Freundlich

Associate director of conferences and meetings

Melinda George

Director of policy and partnerships

Michael Lanham

Chief operating officer

Michelle King

Associate director of communities

Tom Manning

Associate director of consulting and networks

Matt Rodriguez

Senior web developer

Renee Taylor-Johnson

Associate director of business services

Carol François

Learning ambassador

Shirley Hord

Scholar laureate

Joellen Killion

Senior advisor

BOARD OF TRUSTEES

Scott Laurence

President

Alan Ingram

President-elect

John Eyolfson

Past president

Valeria Brown

Steve Cardwell

Sharon Contreras

Monica Martinez

E. Leigh Wall

Editor: Eric Celeste

Designer: Sue Chevalier

COPY/REPRINT POLICY

Please see www.learningforward.org/publications/permissions-policy for details and a form to submit a request.

BACK COPIES

Articles from all Learning Forward publications are available at no additional charge to members in the members-only area of the Learning Forward web site.

POSTMASTER: Send address changes to Learning Forward, 504 S. Locust St., Oxford, OH 45056.

Becoming a Learning Team

These tools are taken from *Becoming a Learning Team: A Guide to a Teacher-Led Cycle of Continuous Improvement* (Learning Forward, 2016), the new book in Learning Forward's series that includes *Becoming a Learning School* (NSDC, 2009) and *Becoming a Learning System* (Learning Forward, 2014). At the core of the discussions throughout this book lie three ideas about learning:

- Teachers, leaders, and students benefit most from a system of professional learning over sporadic instances of professional development.
- Collaborative learning is at the heart of an effective system of continuous learning.
- Teacher teams are intentional about their own learning.

The story examines the importance of data for learning teams. The tools provided focus on one part of the data portion of the five-stage learning cycle: Crafting data summary statements.

Order today at www.learningforward.org/bookstore: \$45 for nonmembers, \$36 for members.

