

District-wide Surveys Technical Report

Updated September 2019

Introduction

The School District of Philadelphia District-wide Surveys represent a unique opportunity for students, parents & guardians, teachers, and principals in Philadelphia's District and Charter schools to share their perspectives and provide feedback about how they experience and perceive their schools. Our goal is that the feedback from the surveys be rigorous, actionable data that can be used to improve our city's schools.

This report describes the framework that guided survey development, the administration of the surveys, the processes of survey reliability testing and validation, and the construction of school-level scores for reports. With an eye toward the Action Plan 3.0 goal of creating an equitable system of schools, survey feedback provides a more complete picture of Philadelphia schools than relying solely on traditional measures of school success. By considering the perspectives of different groups in a school, the data derived from these surveys can help pinpoint what is working well in a school along with areas that need to be improved.

Survey Framework

Building on the extensive research on effective schools and comprehensive school reform, and the work of Bryk and his colleagues at The University of Chicago Consortium on School Research,¹ in 2014 we (along with staff from the University of Pennsylvania) worked collaboratively with school stakeholders to refine and further develop Philadelphia's District-wide Surveys. The four surveys (student, parent & guardian, teacher, and principal) are designed to measure five key constructs related to school improvement:²

1. **Climate** -- Areas affecting the school environment: school mission and vision, respectful relationships, student safety and support, and challenges to student learning.
2. **Instruction** -- Student engagement and how students, parents/guardians, and teachers feel about the quality of teaching and learning at their school.
3. **Leadership** -- How school leaders communicate and implement their school vision, how they manage their responsibilities, and how they perceive their level of autonomy.

¹ Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J. Q. (2010). *Organizing Schools for Improvement: Lessons from Chicago*. Chicago, IL: The University of Chicago Press.

² These constructs draw on Bryk and colleagues' (2010) work in Chicago, which identified five essential supports for school improvement. We altered the language of the essential supports to make the terms more publically accessible and reflect the broader set of questions covered by the surveys. The original names of the five essential supports identified by Bryk and his colleagues are school leadership, parent-community ties, professional capacity, student-centered learning climate, and instructional guidance.

4. **Professional Capacity** -- How school staff work together, what types of professional development teachers receive, and if teachers feel supported in growing and innovating in their classrooms.
5. **Parent/Guardian-Community Ties** -- How schools reach out to and communicate with parents/guardians, what parents/guardians think about these efforts, and how parents/guardians are getting involved with their child's education.

Additionally, each of the five main constructs is comprised of sub-constructs that can be used for a closer look at specific areas where leaders and stakeholders might target their attention. For many (but not all) constructs, the surveys ask similar questions of multiple respondent groups (e.g., teachers, students, and parents/guardians) to allow comparison of different views.

Table 1: Constructs and Survey Instrument Alignment

| | Climate | Instruction | Leadership | Professional Capacity | Parent/Guardian Community Ties |
|-----------------|----------------|--------------------|-------------------|------------------------------|---------------------------------------|
| Parent/Guardian | X | X | X | | X |
| Student | X | X | | | |
| Teacher | X | X | X | X | X |
| Principal | X | X | X | X | X |

Responses to four surveys provide a more complete picture of Philadelphia schools than relying solely on traditional measures of school success. By considering the perspectives of different groups in a school, this feedback can help identify what is working well along with areas that need to be improved.

For example, survey results may show that a school is successful in the area of **Instruction**, but is experiencing challenges in **Parent/Guardian-Community Ties**. The survey also includes questions that are not aligned to one of the five research-based constructs but are of interest to stakeholders across our schools and city. These include questions about school lunches, transportation, and District programs.

Survey Development & Administration

Development

In the spring of 2014, the School District of Philadelphia (SDP) Office of Research and Evaluation (ORE) administered pilot surveys to students and parents/guardians across the city. These surveys served as the foundation for the Student and Parent & Guardian District-wide Surveys. To create the Principal and Teacher District-wide Surveys, we combined the original SDP survey items with items from other surveys used nationally that had documented reliability and validity. After the initial draft surveys were created, SDP and University of Pennsylvania Graduate School of Education (Penn GSE) researchers and practitioners reviewed them. The next phase of

development involved collecting feedback on the draft surveys from Philadelphia stakeholders. These efforts included focus groups and cognitive interviews³ with students, teachers, school administrators, principals, parents/guardians, and staff from the SDP Office of Family and Community Engagement. Stakeholders who provided feedback were representative of a variety of schools, grades, subjects, and communities. Over the six-month period of survey development, each survey went through over 10 rounds of intensive review and revisions.

Administration

Each year, ORE carefully plans the timing and duration of the administration windows for each of the surveys to optimize participant access and response rates. The surveys are primarily administered online via SurveyMonkey. However, schools are also provided with paper copies of the Parent & Guardian survey. In the 2014-2015 school year, the number of paper copies was equal to approximately 5% of the school's enrollment (i.e., a school with 500 students received 25 paper surveys). Beginning in the 2015-2016 school year, schools were asked to request paper copies up to a maximum of 10% of their school's enrollment.

Photocopying or otherwise duplicating these surveys is prohibited. To accommodate the diverse populations served by SDP, the Parent & Guardian survey is translated into eight languages. All nine languages (including English) are available online. In the 2014-2015 school year, schools with non-English speaking populations were provided with surveys translated into Spanish and Chinese based on the percentage of enrolled students with a home language on file other than English. Since then, ORE asks principals to request paper copies in English, Spanish, and Chinese. The administration windows for each survey are outlined in Table 2. In response to feedback from stakeholders, we extended the window beginning in the 2015-2016 school year.

Table 2: Survey Administration Windows

| | Student | Parent/Guardian | Teacher | Principal |
|-----------|----------------------------|----------------------------|----------------------------|----------------------------|
| 2014-2015 | May 4 – June 19, 2015 | April 20 – June 19, 2015 | May 18 – June 19, 2015 | May 18 – June 19, 2015 |
| 2015-2016 | March 31 – June 27, 2016 | March 31 – June 27, 2016 | April 3 – May 27, 2016 | April 3 – May 27, 2016 |
| 2016-2017 | April 3 – June 23, 2017 | April 3 – June 23, 2017 | April 3 – June 5, 2017 | April 3 – June 5, 2017 |
| 2017-2018 | February 12 – June 8, 2018 | February 12 – June 8, 2018 | March 1 – June 1, 2018 | March 1 – June 1, 2018 |
| 2018-2019 | January 28 – June 7, 2019 | January 28 – June 7, 2019 | February 25 – June 7, 2019 | February 25 – June 7, 2019 |

³ Cognitive interviews are when a respondent talks through each survey question, indicating any confusion or problems with the question.

To ensure the validity of responses, students and parents & guardians are required to enter a unique District Student ID number in order to access the surveys. Charter teachers and principals are provided with secure links to the survey via their email accounts. District teacher and principals access the survey through their employee portal. Efforts to increase response rates include sending email reminders, mailing letters home, scheduling robo-calls, and providing schools with posters and flyers with information about the surveys.

Response Rates

Surveys must meet a minimum number of items answered to be counted as a response. The following rules are applied to determine the response rates for each respondent group. Duplicate responses are removed so that each individual has one response.

Student Survey

- The number of students for each school is based on enrollment as of May 31. There are three Educational Options Program (EOP) schools that operate on a trimester schedule ending before May 31. For these schools only, the number of households was based on enrollment as of May 15.
- Student responses are attributed to the school they were enrolled in at the time they took the survey (this means if a student changed schools during the survey window, they may count as a response for one school but for enrollment at a different school).

Parent/Guardian Survey

- The denominator for the parent/guardian response rate uses the total number of unique primary households at each school. Households may be counted more than once if students associated with that household attend different schools. .
- Each parent/guardian is prompted to enter their child's student ID in order to complete the survey. Parent responses are attributed to the school their student was enrolled in at the time the parent took the survey.

Teacher Survey

District:

- The number of teachers for each school is based on the number of active K-12 teachers as of May 31. Teachers on leave as of this date are not included.
- Teacher responses are attributed to the school the teacher was assigned to at the time they took the survey.
- This year, we asked teachers if they taught at more than one school, and if so, to choose a school for the survey. Teachers in this category counted as a response for the school they listed.

Charter:

- Charter schools provide a list of active K-12 teachers before the survey window opens. This list is used for attributing teachers to schools. Charter schools may reach out during the survey window to provide updates as necessary.

Principal Survey

District:

- The response rate is based on one principal per school.
- Principal responses are attributed to the school the principal was assigned to at the time they took the survey.

Charter:

- The Charter office provides a list of principals before the survey window opens. This list is used for attributing principals to schools. Charter schools may have several administrators (e.g., a principal and a chief executive officer) and ORE asks for the Charter office to identify the instructional lead for the school. In some cases this may still result in more than one principal being invited to take the survey for a Charter school.

Table 3 shows survey response rates for each respondent group for the 2014-2015 through 2018-2019 school years.

Table 3: Response Rate and Number by Respondent Group⁴

| | | Student | Parent/Guardian | Teacher | Principal |
|---------|--------|----------------|------------------------|----------------|------------------|
| 2014-15 | Rate | 33% | 7% | 53% | 64% |
| | Number | 46,695 | 13,360 | 5,423 | 185 |
| 2015-16 | Rate | 50% | 13% | 51% | 73% |
| | Number | 73,187 | 25,911 | 5,688 | 241 |
| 2016-17 | Rate | 50% | 16% | 56% | 57% |
| | Number | 72,580 | 30,968 | 6,515 | 184 |
| 2017-18 | Rate | 54% | 17% | 54% | 60% |
| | Number | 80,101 | 33,334 | 6,652 | 199 |
| 2018-19 | Rate | 61% | 23%* | 56% | 56% |
| | Number | 89,496 | 35,055 | 6,663 | 185 |

*Beginning in 2018-19, the number of households is used to calculate the parent/guardians response rate.

⁴ Parent & Guardian and Student response percentages are based on student enrollment records as of May 31. Teacher response percentages are based on District teachers with an “active status” on record as of May 31. For charter school teachers, the response percentage is based on the emails provided by Charter schools during the survey administration period.

Data Validation and Reliability Testing

Item Reliability

In order to assess the internal consistency of the survey items within each construct and sub-construct, ORE calculated Cronbach’s alphas for each of the five constructs by combining all questions related to that topic. Cronbach’s alpha is a common measure of reliability that can be used to evaluate the extent to which a group of items are related (Cronbach, 1951). We originally ran reliability testing in 2014-2015 and updated it again in 2018-2019. All scale reliabilities, with the exception of two, fell within the 0.70 and 0.95 range, which indicates an acceptable internal consistency between items within each topic and subtopic without item redundancy (Nunnally & Bernstein, 1994). The lower alpha level for the **Parent/Guardian Community Ties** topic on the principal survey may be explained by the limited number of questions included in the topic (usually, the more items a dimension has the higher the reliability). Table 4 provides the alphas for the five topics as measured across the four surveys.

Table 4: Cronbach’s Alpha for Survey Constructs (Topics), 2018-2019⁵

| Constructs | Student | Parent | Teacher | Principal |
|---------------------------------------|----------------|---------------|----------------|------------------|
| Climate | 0.84 | 0.68 | 0.95 | 0.93 |
| Instruction | 0.91 | 0.91 | 0.81 | 0.85 |
| Leadership | -- | 0.94 | 0.92 | 0.70 |
| Professional Capacity | -- | -- | 0.90 | 0.88 |
| Parent/Guardian Community Ties | -- | 0.87 | 0.90 | 0.64 |

Construct Validity and Factor Analysis

After determining the internal reliability of the constructs and sub-constructs, we used exploratory factor analysis (EFA) to explore the dimensionality of the topics. EFA is used to explore the possible underlying factor structure (Child, 1990; Thorndike, Cunningham, Thorndike, & Hagen, 1991). In our data validation, we used EFA to explore whether each of the five constructs related to school improvement represented a latent factor. EFA was purposely chosen as the type of analysis to analyze the surveys to provide an unbiased, theory-neutral validity check on our survey constructs and sub-constructs.

In 2014-2015 and again in 2016-2017, EFA was run for the surveys. An oblique rotation method—“direct oblim”—was used in order to simplify the structure of the factor loadings. In their research, Bryk and colleagues (2010) found that the five essential supports (analogous to our five topics) all

⁵ The reported reliabilities are the values that resulted after the exploratory factor analyses were run.

related to one another and correlated with student achievement. Consequently, oblique rotation was chosen over other rotation methods as it allows for factors to be correlated (Costello & Osborne, 2005). Following best practice, in our EFA, we specified a minimum loading value of 0.3 (Costello & Osborne, 2005), and used the Kaiser criterion, specifying that all factors must have eigenvalues greater than 1.0 (Ford, MacCallum, & Tait, 1986; Kaiser, 1970).

Overall, the EFAs confirmed the validity of the five constructs and their sub-constructs. In the few cases where the EFAs did not, we refined the survey scales by eliminating the questions that did not align with the other questions in that construct. In this way we were able to ensure we had reliable measures of each topic and subtopic.

Construct Scoring

With the goal of maximizing the ability to use the data to target areas for school improvement, we developed a system that provides each school with a score for each of the five constructs.

Thresholds

In order to ensure that school-level scores were representative of a school's community, we applied the thresholds shown in Table 5 to the survey to determine if a school had enough survey responses to warrant analysis. If these schools-level thresholds are not met, then that school's data is suppressed.

Table 5: Survey Participation Rate Thresholds

| Survey | Threshold |
|-------------------|---|
| Student | 50 students or 25% of students at a schools, whichever is greater |
| Parent & Guardian | 10% of a school's enrollment |
| Teacher | 25 teachers or 25% of teaching staff at a school |
| Principal | N/A |

Scoring Procedure

ORE excludes survey items from scoring that do not have clear polarity (positive or negative) and required more complex interpretations. Items selected for scoring are grouped according to sub-construct and construct. Before calculating the scores, all responses reverse coded and transformed to be on a 0-3 scale. The steps taken to create the school-level scores are detailed below.

For each respondent category (student, parent & guardian, and teacher), a sub-construct score is calculated by summing the responses to all questions in that sub-construct and then dividing by the total number of items that were answered that comprise the sub-construct. To create construct-level scores, the relevant sub-construct scores are averaged.

School-level scores reflect an average of the scores for each respondent group. For example, a school's overall **Climate** score is equal to the average of the climate scores from the Student, Parent

& Guardian, and Teacher surveys. Schools can potentially receive a school-level score for each of the five constructs related to improvement (Climate, Instruction, Leadership, Professional Capacity, and Parent & Guardian-Community Ties).

Contact Information

If you have any questions, please contact The Office of Research and Evaluation at schoolsurveys@philasd.org.

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Appendix A: Survey Constructs and Sub-constructs by Respondent Type

Parent/Guardian

| Construct | Sub-construct | Number of Items |
|-----------------------------------|-------------------------------------|------------------------|
| Climate | Bullying | 3 |
| | Safety/Building condition | 3 |
| | Overall | 6 |
| Instruction | Overall | 7 |
| Parent/Guardian Community Ties | Communication Quality | 9 |
| | Parent/Guardian-School Relationship | 5 |
| | Parent/Guardian Involvement | 4 |
| | Overall | 18 |
| School Leadership | Overall | 5 |
| Other | Attendance | 7 |
| | Community Services | 7 |
| | Healthy Food Access | 6 |
| | Reading | 4 |

Student

| Construct | Sub-construct | Number of Items |
|------------------|------------------------------|------------------------|
| Climate | Bullying | 18 |
| | Safety/Building condition | 10 |
| | Belonging | 5 |
| | Overall | 33 |
| Instruction | Overall | 15 |
| Other | Student Beliefs | 11 |
| | College and Career Readiness | 8 |
| | Food Services | 12 |
| | Health and Nutrition | 8 |

Teacher

| Construct | Sub-construct | Number of Items |
|-----------------------------------|-----------------------------------|------------------------|
| Climate | Student Centered Learning Climate | 13 |
| | Respect | 9 |
| | Challenges: Classroom Level | 7 |
| | Challenges: School Level | 18 |
| | Challenges: External | 5 |
| | Attendance | 4 |
| | School Discipline | 10 |
| | Overall | 66 |
| Instruction | Overall | 15 |
| Parent/Guardian Community Ties | Overall | 8 |

| | | |
|-----------------------|---------------------------------|-----------|
| School Leadership | Expectations and Feedback | 6 |
| | Inclusive Leadership | 5 |
| | Classroom-level decision making | 11 |
| | Overall | 21 |
| Professional Capacity | Innovation | 5 |
| | Quality of PD | 7 |
| | Quality of PD: Delivery | 6 |
| | Quality of PD: Consistency | 5 |
| | Peer Collaboration | 7 |
| | Overall | 30 |

Principal

| Construct | Sub-construct | Number of Items |
|--------------------------------|-----------------------------------|------------------------|
| Climate | Student Centered Learning Climate | 5 |
| | Challenges: School Level | 16 |
| | Challenges: External | 11 |
| | Challenges: Attendance | 5 |
| | Interpersonal Relationships | 7 |
| | Overall | 44 |
| Instruction | Data Use | 10 |
| | External Supports | 6 |
| | Overall | 16 |
| Parent/Guardian Community Ties | Overall | 4 |
| School Leadership | Managerial | 8 |
| | Instructional | 3 |
| | School-level decision making | 9 |
| | Overall | 20 |
| Professional Capacity | Peer Collaboration | 4 |
| | Quality of PD: Delivery | 7 |
| | Overall | 11 |
| Other | District Assistance | 5 |
| | Student and Family Interactions | 3 |
| | Data Systems | 24 |
| | Student Discipline | 4 |
| | Transportation | 17 |
| | School Focus | 9 |