

District-Wide Surveys Technical Report

Updated October 2020

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 publicly 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

*Added in 2018-19

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.

Support Staff Survey

In 2019-20, ORE developed and administered a new survey to non-instructional school-based staff, including counselors, nurses, and classroom aides. The first year of data collection was designed as a pilot year. Therefore, findings from this survey are not included in the response rates or 2019-20 results.

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.

In 2019, five years after the initial development of the surveys, we revisited the surveys by inviting stakeholder feedback from students, parents/guardians, teachers, principals, and central office staff about possible additions, subtractions, clarifications, and other revisions. To gather feedback about the surveys, we offered in-person focus group sessions and distributed an online feedback form using SurveyMonkey. ORE reviewed and coded the feedback based on stakeholder and type of feedback (types of feedback included add question, remove question, re-word question, and add clarifying text).

When reviewing stakeholder feedback and possible revisions, we considered many different interests and tensions, including the need to keep the wording of core questions consistent over time, the scope of the survey, gathering overall information about constructs vs. answers to specific survey questions, the applicability of the questions to all stakeholders, the length of the survey, the clarity of the questions, and maintaining the integrity of the constructs and sub-constructs, based on the results of a factor analysis, Cronbach's alpha calculations, and a longitudinal measurement invariance (LMI) analysis.

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

Table 2: Summary of Changes to the 2019-20 District-Wide Surveys

	Student Survey	Parent/Guardian Survey	Teacher Survey	Principal Survey
Questions Before Revisions	101	64	159	181
Number of Questions Added	11	3	3	1
Number of Questions Removed	4	3	4	36
Number of Questions Re-worded or Replaced	4	8	7	21
Number of Clarifications Added	5	7	6	5
Number of Questions After Revisions	107	64	158	131

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 could 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	May 3 – May 27, 2016	May 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
2019-2020*	February 3 – June 15, 2020	February 3 – July 15, 2020	February 3 – June 15, 2020	February 3 – June 15, 2020

* Due to the COVID-19 pandemic, all students transitioned to digital learning on March 16, 2020. This was in the middle of the survey window. The survey window was extended for all surveys, and respondents who had not already completed the survey were instructed to answer survey questions based on their overall experience for the entire school year.

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 teachers 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. In 2019-20, teachers and parents/guardians that completed the survey could enter into a raffle for a chance to win a gift card.

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

- For years prior to 2019-20, the denominator for the student response rate is based on enrollment as of May 31.
- In response to the school closures due to the COVID-19 pandemic, the enrollment snapshot date used to calculate student response rates in 2019-20 was changed to March 13, 2020. This was the last day that students were in school before schools transitioned to digital learning for the remainder of the 2019-20 school year.

- 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/guardian responses are attributed to the school their student was enrolled in at the time the parent took the survey.

Teacher Survey

District:

- For years prior to 2019-20, 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.
- In response to the school closures due to the COVID-19 pandemic, the employment snapshot date used to calculate teacher response rates in 2019-20 was changed to March 13, 2020. This was the last day that students were in school before the closures.
- Teacher responses are attributed to the school the teacher was assigned to at the time they took the survey.

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 2019-2020 school years.

Table 3: Response Rate and Number by Respondent Group

		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
2019-20^	Rate	32%	16%*	64%	48%
	Number	47,439	25,915	6,986	168

Note: 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 email addresses provided by Charter schools during the survey administration period.

^ In response to the school closures due to the COVID-19 pandemic, the enrollment and employment snapshot date used to calculate teacher response rates in 2019-20 was changed to March 13, 2020. This was the last day that students were in school before the closures.

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

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. The items that comprise each construct remained the same in 2019-2020, so Cronbach's alphas were not re-calculated. All scale reliabilities, with the exception of three, 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), 2018-2019⁴

Constructs	Student	Parent/Guardian	Teacher	Principal
Climate	0.84	0.68	0.95	0.93
Instruction	0.91	0.91	0.64	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.

⁴ The reported reliabilities are the values that resulted after the exploratory factor analyses were run. The items that comprise each construct were not changed in 2019-2020, so Cronbach's alphas were not re-calculated. Any new items added to the survey in 2019-2020 were categorized as "Other" for their construct and sub-construct and therefore not included in the scoring of the constructs or sub-constructs.

In 2014-2015 in 2016-2017, and in 2018-2019 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 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 school-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 school, 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 require more complex interpretations. Items selected for scoring are grouped according to sub-construct and construct. Before calculating the scores, all responses are reverse coded (if necessary) 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. If the response rate thresholds are met, schools 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: 2019-20 Survey Constructs and Sub-constructs by Respondent Type

Teacher

Construct	Sub-construct	Number of Items
Climate	Student Centered Learning Climate	13
	Respect	9
	Challenges: Classroom Level	7
	Challenges: School Level	17
	Challenges: External	5
	Attendance	4
	School Discipline	10
	Overall	65
Instruction	Overall	17
Parent/Guardian Community Ties	Overall	8
School Leadership	Expectations and Feedback	6
	Inclusive Leadership	5
	Classroom-level decision making	11
	Overall	22
Professional Capacity	Innovation	5
	Quality of PD	8
	Quality of PD: Delivery	6
	Quality of PD: Consistency	5
	Peer Collaboration	7
	Overall	31

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	6
Other	Attendance	8
	Community Services	7
	Healthy Food Access	5
	Reading	5
	Technology Access	1

Student

Construct	Sub-construct	Number of Items
Climate	Bullying	18
	Safety/Building Condition	7
	Belonging	5
	Overall	33
Instruction	Overall	15
Other	Student Beliefs	11
	College and Career Readiness	8
	Food Services	12
	Health and Nutrition	8

Principal

Construct	Sub-construct	Number of Items
	Challenges: School Level	16
	Challenges: External	11
	Challenges: Attendance	4
	Interpersonal Relationships	7
	Overall	38
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