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Element 2 of the PIIC 4 Quadrant Framework is collecting and using data (read more about the 4 Quadrant Framework [here](#)). PIIC emphasizes collecting, analyzing, and using data to identify student needs, assess the effectiveness of classroom instructional practice, and measure student progress. PIIC professional development and mentoring includes a focus on building coaches' capacity to apply data from multiple sources.

Data are often thought to be a matter of scores and percentages generated by student assessments, particularly PSSAs and Keystone exams. But these assessments are focused on classroom output as the standard ways we assess what students have learned. It is equally important to gather data about learning inputs, like what a teacher is doing in a class, how students are behaving in class, what is said, what is attended to, and what students and teachers perceive and believe.

For example, attendance data can reveal a great deal about student engagement; a school or classroom with high absenteeism is an environment not successfully engaging its students. Recording a teacher's pathway around a classroom during various parts of a lesson, including tracking how much time is spent at various places in the room, is another piece of useful data; increasing a teacher's awareness of the patterns of his or her teaching is an important component in encouraging deliberation and reflection in instruction.

Test scores and the other data are quantitative: they are usually expressed in numbers of various kinds. But qualitative data—the expression of descriptions and characteristics—also provide important information for informing decisions. The Before and After conversations between a coach and a teacher can be important sources of qualitative data by asking questions that, for example, elicit a teacher's perceptions and beliefs regarding a class of students. In this example, a coach generates data that can support the decisions that need to be made to strengthen a lesson. Surveying students about their perceptions and opinions of a course and comparing their responses to the teacher's answers to the same questions can also be enlightening, providing both the coach and the teacher with insight into what may or not be effective in how instruction is delivered.

Although the discussion of data in the educational context often makes collecting and applying

data seem like a cut-and-dried matter of number crunching, for coaches and teachers, the effective use of multiple sources of data provide an opportunity to look beyond the numbers.

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