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Using CFAs and observations to measure growth in inquiry-based middle school science teaching[1] GORDON AUBRECHT, Ohio State University at Marion, BILL SCHMITT, Science Center of Inquiry, JENNIFER ESSWEIN, Education Northwest, JESSICA CREAMER, Education Specialist — We work with inservice middle-school and high-school teachers in two high-needs urban school districts in Ohio. We estimate that new teachers who attend the summer institutes received at least 188 hours of professional development involvement. We expect to see changes in teacher practice as a result. We first look at publicly available information to observe changes. In addition, we analyzed common formative assessments (CFAs) administered to middle and high school students across a broad range of science subjects including biology, geology, physics, etc. For the analysis of CFAs, we established a rubric with four defining parameters: reasoning, clarity, analysis, and correctness. Teachers worked with PER faculty to improve their teaching methodology and CFAs were used to analyze and quantify changes in student learning across the four rubric parameters that resulted from the intervention. We also explain our attempt to quantify changes in teacher practice by using staff observations and self-reported measures such as RTOP and other self-assessments to quantify changes in teachers and teaching practice.

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