



## MMP Classroom Observations

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**Powerful Teaching and Learning™** describes what many refer to as student-centered teaching and constructivist learning, which has a sound base in instructional and learning theory (Abbot & Fouts, 2003). In Washington State, several studies have revealed strong correlations between student achievement and the presence of Powerful Teaching and Learning™ in schools (Brown & Fouts, 2003; Fouts, Brown, & Thieman, 2002).

The STAR Classroom Observation Protocol™ is a research-based instrument designed to measure the degree to which Powerful Teaching and Learning™ is present during a classroom observation. The STAR Protocol helps participants view Powerful Teaching and Learning™ through the lens of 5 Essential Components and 15 Indicators.

As part of the program evaluation for the Microsoft Math Partnership (MMP), three researchers from The BERC Group conducted classroom observations at fifteen of the MMP-funded schools from March to May of 2008. In all, the researchers observed 97 classroom lessons. Researchers observed each classroom for approximately 25 minutes. The goal of this data collection is to determine the extent to which general instructional practices of teachers participating in MMP are aligned with Powerful Teaching and Learning™. Results for the Essential Components and the Overall Component of the STAR Protocol are displayed in Table 1.

On the Overall Component of the STAR Protocol, the majority of scores for the MMP schools fell in the *Somewhat/Very* range (54%). Overall, constructivist teaching was clearly observable in 18% of the classrooms (i.e., 18% of the observed lessons received a score of *Very*).

The first Essential Component of the STAR Protocol, *Skills*, measures whether students were actively reading, writing, and/or communicating during a lesson. The majority (69%) of the scores for this component fell at or above a 3, indicating that students in most of the classrooms were practicing skills during their lessons. However, in some cases, students were

practicing skills at a level much too low to be relevant or engaging. Examples of this include students completing simple worksheets or copying information directly from text.

The second Essential Component of the STAR Protocol, *Knowledge*, measures whether students demonstrate conceptual understanding during a lesson. Approximately half (51%) of the scores for this component fell at or below a 2, indicating many students were demonstrating little conceptual knowledge during their lessons.

The third Essential Component of the STAR Protocol, *Thinking*, measures whether students demonstrate metacognition and/or reflection during a lesson. This component was one of the weakest, with 66% of lessons scoring at or below a 2. Only 7% of the lessons scored at the highest level of 4 for this component. In most classes, students were rarely given time to reflect on their own learning, and most teachers did not encourage thinking by asking open-ended questions.

The fourth Essential Component of the STAR Protocol, *Application*, measures whether students extend their learning into relevant contexts. Like *Thinking*, this component was one of the weakest, with only 18% of lessons scoring 3 or higher in this area. There were few instances of teachers and students relating disciplinary knowledge to other subject areas, to personal experiences, and to contexts outside the classroom.

The fifth Essential Component of the STAR Protocol, *Relationships*, measures whether the interpersonal interactions in the classroom reflect a supportive learning

environment. Over half (66%) of the scores for this component fell at or above a 3, indicating strong and supportive interactions between students and teachers. On the other hand, only 26% of lessons scored a 4 in this area. In many cases, lessons lacked sufficient challenge, and the observer perceived student activities to be below grade-level. Additionally, students only occasionally collaborated with one another to share knowledge or to work on projects. In classrooms where *Relationships* were well developed students appeared to be more engaged in the work. Finally, while some lessons emphasized differentiated instruction by allowing for student choice, many lessons did not provide the appropriate level of rigor for a diverse group of students.

Overall, the strengths of the instruction observed in MMP classes was in the development of student skills and in classrooms reflecting a supportive learning environment. The weakest areas of instruction in the classes observed was the development of student metacognitive thinking skills and application of the material to relevant contexts. We recommend staff members work together to generate additional ideas to develop higher-order questions that allow students to articulate their thinking strategies, to express their opinions, and to make connections to text or to self as well as ways to extend student learning using meaningful applications.

**References:**

Abbott, M. L. & Fouts, J. T. (2003). *Constructivist teaching and student achievement: The results of a school-level classroom observation study in Washington*. Lynnwood, WA: Washington School Research Center, Seattle Pacific University. Available at: <http://www.spu.edu/orgs/research/currentresearch.html>

Brown, C. J. & Fouts, J. T. (2003). *Classroom instruction in Achievers grantee high schools: A baseline report*. Seattle, WA: The Bill & Melinda Gates Foundation. Available at: <http://www.gatesfoundation.org/education/researchandevaluation>

Fouts, J.T., Brown, C., & Thieman, G.Y. (2002). *Classroom instruction in Gates grantee schools: A baseline report*. Seattle, WA: Fouts & Associates.

Table 1.  
MMP STAR Protocol Results

<i>Essential Components Results</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<b>SKILLS: Did students actively read, write, and/or communicate?</b>	0%	6%	25%	39%	30%
<b>KNOWLEDGE: Did students demonstrate depth of conceptual knowledge?</b>	0%	17%	34%	32%	18%
<b>THINKING: Did students demonstrate thinking through reflection and/or metacognition?</b>	3%	30%	30%	27%	7%
<b>APPLICATION: Did students extend their learning into relevant contexts?</b>	32%	26%	24%	10%	8%
<b>RELATIONSHIPS: Do interpersonal interactions reflect a supportive learning environment?</b>	0%	4%	30%	40%	26%
<i>Overall Component Results</i>		<i>Not at all</i>	<i>Very little</i>	<i>Somewhat</i>	<i>Very</i>
<b>OVERALL: How well was this lesson aligned with Powerful Teaching and Learning?</b>		<b>11%</b>	<b>35%</b>	<b>36%</b>	<b>18%</b>