THE POWER AND POTENTIAL OF PERCEPTUAL DATA TO INFORM IMPROVEMENT
Missouri Student Success Network

March 12, 2008
Bill Elder, Ph.D.
Howard Jones, Ed.D.
University of Missouri
Office of Social and Economic Data Analysis
Missouri School Improvement Program (MSIP): Theory of Action

- Resources deployed
- to engage educational processes to
- bring about student performance
- within a demographic context
MSIP Advanced Questionnaire
Indicators of Educational Process

• A voice for all key stakeholders
  – (students, faculty, parents, staff)
• All MSIP Districts
  – @ 100 districts a year (five-year cycle)
  – All districts have at least two prior analyses – third underway
• Uses 100 percent sample of respondents
  – Very large Ns permit disaggregation
## Cycle 4 Advance Questionnaire - Certificated Faculty

**Frequency Distribution Report**  
**COLUMBIA 93 School District**

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Number Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - My school collaborates with community agencies to meet the needs of students</td>
<td>374</td>
<td>522</td>
<td>200</td>
<td>48</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>3 - There are effective supports in place to assist students who are in jeopardy of academic failure</td>
<td>422</td>
<td>501</td>
<td>141</td>
<td>24</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>4 - I emphasize the importance of effort with students</td>
<td>1,061</td>
<td>734</td>
<td>108</td>
<td>9</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>5 - In our school, there is adequate support for classroom teachers to address special education students’ IEP goals</td>
<td>287</td>
<td>652</td>
<td>222</td>
<td>22</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>6 - There is adequate collaboration between special education staff and classroom teachers in our school</td>
<td>322</td>
<td>612</td>
<td>206</td>
<td>18</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>7 - There is adequate professional development for teachers working with special education students in our school</td>
<td>164</td>
<td>509</td>
<td>200</td>
<td>14</td>
<td>2</td>
<td>43</td>
</tr>
<tr>
<td>8 - My school’s administration protects instructional time available to teachers from interruptions.</td>
<td>423</td>
<td>501</td>
<td>108</td>
<td>22</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>9 - Our principal uses classroom management as part of our evaluation</td>
<td>541</td>
<td>720</td>
<td>152</td>
<td>10</td>
<td>3</td>
<td>45</td>
</tr>
<tr>
<td>10 - Clear rules that promote good behavior are enforced in our school</td>
<td>675</td>
<td>589</td>
<td>72</td>
<td>10</td>
<td>3</td>
<td>35</td>
</tr>
<tr>
<td>11 - Clear rules regarding behavior have been established in my classroom</td>
<td>685</td>
<td>467</td>
<td>32</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
How would you describe the quality of education available to you in this school?

<table>
<thead>
<tr>
<th>sec12</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCELLENT</td>
<td>962</td>
<td>22.51</td>
</tr>
<tr>
<td>GOOD</td>
<td>2136</td>
<td>49.93</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>966</td>
<td>22.61</td>
</tr>
<tr>
<td>BELOW AVERAGE</td>
<td>106</td>
<td>2.43</td>
</tr>
<tr>
<td>POOR</td>
<td>103</td>
<td>2.41</td>
</tr>
</tbody>
</table>

Frequency Missing = 32

How many hours each week do you usually spend in extra-curricular activities associated with school? - excluding sports?

<table>
<thead>
<tr>
<th>sec13</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>1773</td>
<td>41.30</td>
</tr>
<tr>
<td>1 TO 2 HRS.</td>
<td>563</td>
<td>13.11</td>
</tr>
<tr>
<td>3 TO 5 HRS.</td>
<td>306</td>
<td>7.10</td>
</tr>
<tr>
<td>6 TO 10 HRS.</td>
<td>428</td>
<td>9.97</td>
</tr>
<tr>
<td>11 TO 15 HRS.</td>
<td>153</td>
<td>3.56</td>
</tr>
<tr>
<td>MORE THAN 20</td>
<td>110</td>
<td>2.58</td>
</tr>
</tbody>
</table>
Question-12: How would you describe the quality of education available to you in this school?


District N = 7,371

Reference Group N = 62,319

MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
Missouri School Improvement Program

OSEDA Office of Social and Economic Data Analysis

University of Missouri Extension
MSIP Advanced Questionnaire
Indicators of Educational Process

• Includes questions based on critical research-based elements
  – First Effective Schools Research (Edmonds)
  – Recent Effective Schools Research (Marzano)
• Allows development of “additive scales” consistent with Effective Schools Research
Additive Scales

- Combines the responses from multiple related questions
- Allows development of more conceptually meaningful measures than single items
- Reliability of the scale assessed through correlation techniques
- Most additive scales developed through AQ have over .90 reliability
Examples of AQ Additive Scales

- **Leadership:** This scale identifies the degree to which leadership is perceived as effective in improving student learning.

- **School Climate:** This scale identifies the degree to which all students feel respected and valued.

- **Efficacy and Expectations:** This scale identifies the degree to which teachers and students believe that they are capable of impacting student achievement.
Research on Factors That Influence Student Achievement

**School Level**
- F1 Guaranteed and Viable Curriculum
- F2 Challenging Goals and Effective Feedback
- F3 Parental and Community Involvement
- F4 Safe and Orderly Environment
- F5 Collegiality and Professionalism

**Teacher Level**
- F6 Instructional Strategies
- F7 Classroom Management
- F8 Curriculum Design

**Student Level**
- F9 Home Environment
- F10 Learned Intelligence or Background
- F11 Knowledge
- F12 Motivation
Percent of Variance Explained in Achievement by Major Categories
(Marzano – McREL)

- Teacher Effects: 80.0%
- School Effects: 6.6%
- Student Characteristics: 13.4%
Missouri Analysis of AQ relation to MAP Performance

• Student and Faculty AQ responses related to MAP by scale by school building

• Student results n=357 schools

• Faculty results n=457 schools
SCHOOL CLIMATE SCALE
(Faculty)

1. Student opinions are valued by teachers and administrators.

2. Our school promotes an environment of mutual respect among students.

3. This school makes students feel they belong.

4. If students in this school have a problem, teachers will listen and help.
Faculty: School Climate explains 13.7% of the variance in Communication Arts achievement
Efficacy/Expectations Scale
(Faculty)

1. There are effective supports in place to assist students who are in jeopardy of academic failure.

2. I emphasize the importance of effort with students.

3. I have the skills necessary to meet the needs of all learners in my classroom.

4. I believe that I can positively impact student performance.
EFFICACY/EXPECTATIONS SCALE
(Faculty)

5. Students are held accountable for doing quality work.

6. All staff in our school hold high expectations for student learning.

7. There are avenues for recognizing and rewarding the accomplishments of all students.
Faculty: Efficacy & expectations explains 10.9% of the variance in Communication Arts achievement.
Instructional Leadership Scale
(Faculty)

1. The mission of this school is clearly defined.

2. All staff in our school hold high expectations for student learning.

3. There are open channels of communication among students, staff and administrators.
Faculty: instructional leadership explains 5.8% of the variance in Communication Arts achievement.
Leadership:

Marzano: leaders create a purposeful community—

“One with the collective efficacy and capacity to develop and use assets to accomplish goals that matter to all community members through agreed-upon processes.”

Not only for school, but also for the entire community enterprise.
Efficacy/Expectations Scale
(Students)

1. If I do well in school, it will help me when I grow up.
2. Being successful in school today will help me in my future.
3. I can do well in school.
4. I learn a lot in this school.
Efficacy/Expectations Scale
(Students)

5. My teachers think I can learn.
6. My family believes that I can do well in school.
7. My teachers expect very good work from me.
Students: Efficacy & expectations explains 17.2% of the variance in Communications Arts achievement.
Climate Scale

(Students)

1. My opinion is valued by teachers and administrators.

2. There is a feeling of belonging at my school.

3. Teachers in my school really care about me.
Climate Scale  
(Students)

4. I feel safe at school.
5. I like going to this school.
6. If a student has a problem there are teachers who will listen and help.
Students: School climate explains 16.4% of the variance in Communication Arts achievement
Development

• “Fourth Cycle” underway – uses additive scales in MSIP report to district

• MOSIS affords opportunity to link AQ to individual student data

• Web-base AQ affords opportunity to ask targeted questions

• New questions – new additive scales