

Principals Make a Difference: An Analysis of Principal Leadership in High and Low Achieving Middle Schools

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Study Purpose (Leadership Differences)

PRINCIPAL LEADERSHIP

Differences by Achievement Groups

Low

**Medium
Low**

**Medium
High**

High

ACHIEVEMENT: COMMUNICATION ARTS AND MATHEMATICS

Purpose of the Study

- Analyze differences in leadership between high achieving and low achieving middle level schools
- Identify specific leadership skills or behaviors that are different in high and low achieving schools.

Study Design/Context

- Middle Level Leadership Center comprehensive two-year state-wide study
 - Phase I (2005-06): Principal Survey of ML School Programs and Practices
 - Phase II (2006-07): Teacher survey of leadership, climate, culture, efficacy, commitment, trust, assessment
- Of 323 schools, 270 participated in at least one of the phases
- Today we report initial findings for Phase II (186 schools)

Population & Respondents

- In 2006-2007 school year Missouri had **323 middle level schools** (any combination of grades 5 through 9 were the population for the study).
- Study included only schools with **two or more grades**.
- Study included only schools with **either grade 7 or grade 8**.
- 186 schools provided **40% or more useable faculty** returns and became the participating schools for the study.
- The school level was the unit of analysis.

Population and Sample Schools

Grade Configuration	Population	Useable Returns	% of Population
5-6-7	2	1	50%
5-6-7-8	47	23	49%
6-7	9	6	67%
6-7-8	186	111	60%
7-8	69	37	54%
7-8-9	2	1	50%
8-9	8	7	88%
Totals	323	186	58%

Comprehensive Leadership

9 Factors

- Audit of Principal Effectiveness
 - Organizational Direction
 - Organizational Relationships
 - Organizational Procedures
 - Teacher Relations
 - Student Relations
 - Interactive Processes
 - Affective Processes
 - Instructional Improvement
 - Curriculum Improvement

Transformational Leadership

6 Factors

Principal Leadership Questionnaire

- Principal Vision Identification
- Principal Modeling
- Principal Goal Acceptance
- Principal Individualized Support
- Principal Intellectual Stimulation
- Principal High Performance Expectations

Leadership Factors from Climate

3 of 6 Factors

- Organizational Climate Description Questionnaire—Middle Level
 - Principal Supportive Behavior
 - Principal Directive Behavior
 - Principal Restrictive Behavior

Leadership Factors from Culture (1 of 6 Factors) and Trust (1 of 3 factors)

- School Culture Survey
 - Collaborative Leadership
- Omnibus Trust Scale
 - Faculty Trust in Principal

Composition of Dependent Variables (Achievement Indices)

- Building level percentages of students at each of four achievement levels were averaged for grades 6 through 8 to obtain overall building percentages.
- The achievement level percentages were then used to compute an index value.
- The index was created by using different multipliers for each achievement level and then dividing by 100.
 - MAP INDEX Formula:
 - $((\% \text{ Below Basic} \times 600 + \% \text{ Basic} \times 700 + \% \text{ Proficient} \times 800 + \% \text{ Advanced} \times 900) / 100)$
 - A MAP Index score can range from a low of 600 (100% of students scored in the “below basic” level) to a high of 900 (100% of students scored in the “advanced” level).

Data Collection

- Data were collected during the 2006-2007 school year.
- Each teacher in each middle level school in Missouri was mailed a survey.
 - Four survey forms were developed to collect the data for the 45 factors/scales studied
 - 20 of the 45 factors/scales were “leadership” factors
 - Each school that chose to participate distributed one of the four surveys in systematic alternating fashion to each teacher
 - 40% useable teacher response rate was the criterion for inclusion of the school in the study

Data Analysis Process

Test of Difference Analyses

- Correlations were run for each Leadership factor with Free/Reduced Lunch to determine degree of relationships with F/R Lunch (minimal relationships found)
- Schools were **sorted into quartiles** by Communication Arts achievement and Mathematics Achievement using Missouri Assessment Program state-wide standardized achievement test.
- ANOVA with Post-Hoc tests were run to identify **leadership factors** that were significantly different across the achievement quartiles.
- ANOVA with Post-Hoc tests were then run to identify the significant **leadership items** within the significant factors.

Findings

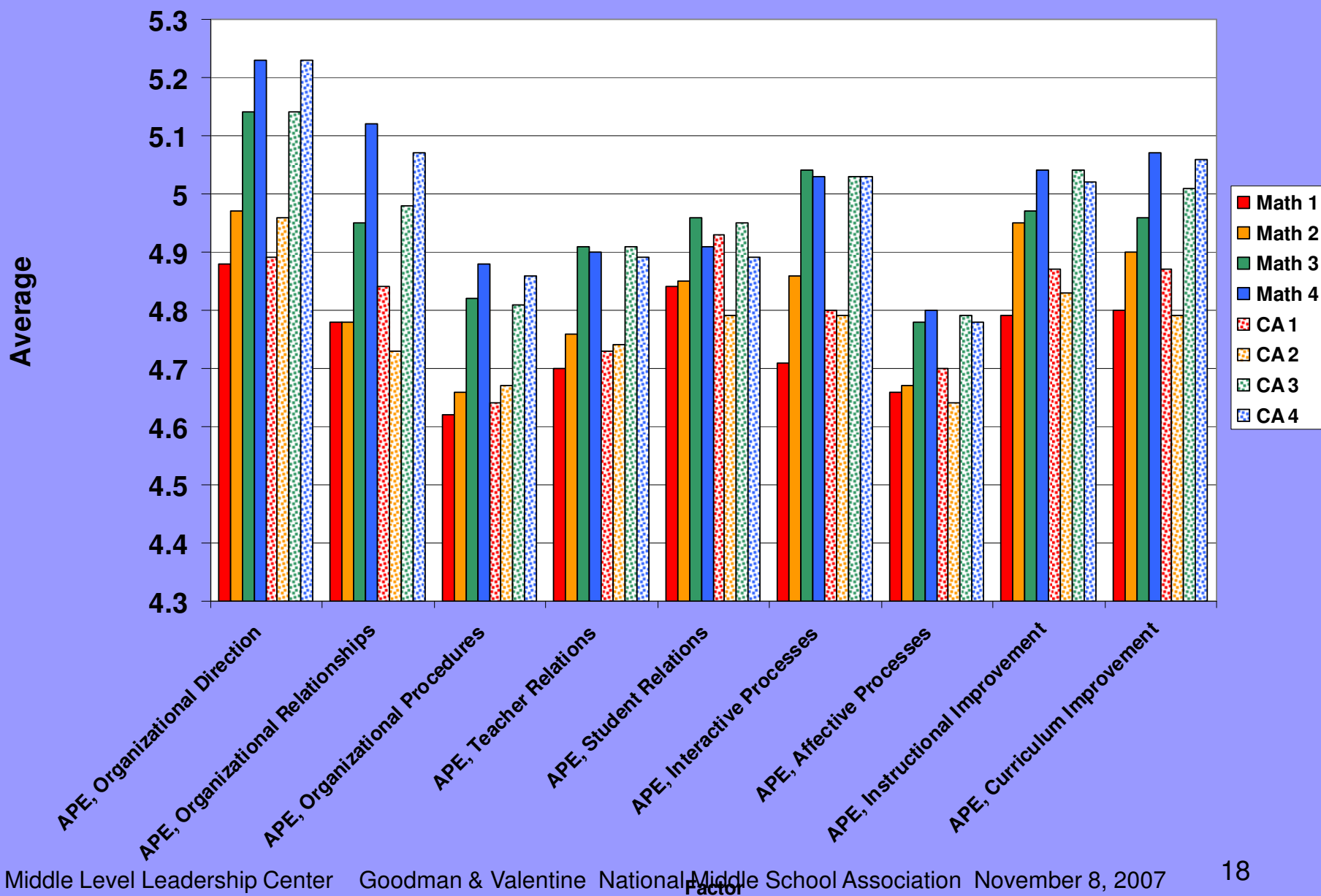
Mathematics Quartiles (20)	1	2	3	4	1-4	2-4	3-4	1-2	1-3	2-3
Organizational Direction	4.88	4.97	5.14	5.23	X					
Organizational Relationships	4.78	4.78	4.95	5.12	X	X				
Organizational Procedures	4.62	4.66	4.82	4.88						
Teacher Relations	4.70	4.76	4.91	4.90						
Student Relations	4.84	4.85	4.96	4.91						
Interactive Processes	4.71	4.86	5.04	5.03						
Affective Processes	4.66	4.67	4.78	4.80						
Instructional Improvement	4.80	4.90	4.96	5.07						
Curriculum Improvement	4.80	4.90	4.96	5.07						
Collaborative Leadership	4.13	4.50	4.53	4.62	X			X	X	
Vision Identification	4.41	4.74	4.81	4.87	X					
Modeling	4.38	4.69	4.77	4.84	X					
Goal Acceptance	4.45	4.76	4.87	4.87	X				X	
Individualized Support	4.59	4.90	4.93	4.98	X					
Intellectual Stimulation	4.37	4.74	4.78	4.78	X			X	X	
High Performance Expectations	4.69	4.96	4.94	4.98						
Faculty Trust in Principal	4.77	4.92	4.99	5.07						
Supportive Principal Behavior	2.87	3.03	2.95	3.11						
Directive Principal Behavior	2.16	2.13	2.09	1.96	X*					
Restrictive Principal Behavior	2.31	2.16	2.14	2.11						

Communication Arts Quartiles	1	2	3	4	1-4	2-4	3-4	1-2	1-3	2-3
Organizational Direction*	4.89	4.96	5.14	5.23						
Organizational Relationships	4.84	4.73	4.98	5.07		X				
Organizational Procedures	4.64	4.67	4.81	4.86						
Teacher Relations	4.73	4.74	4.91	4.89						
Student Relations	4.93	4.79	4.95	4.89						
Interactive Processes	4.80	4.79	5.03	5.03						
Affective Processes	4.70	4.64	4.79	4.78						
Instructional Improvement	4.87	6.32	5.04	5.02						
Curriculum Improvement	4.87	4.79	5.01	5.06						
Collaborative Leadership	4.23	4.38	4.50	4.67	X					
Vision Identification*	4.51	4.62	4.76	4.92						
Modeling	4.41	4.63	4.74	4.88	X					
Goal Acceptance	4.55	4.70	4.76	4.93	X					
Individualized Support	4.64	4.79	4.89	5.07	X					
Intellectual Stimulation*	4.46	4.62	4.75	4.83						
High Performance Expectations	4.70	4.87	4.93	5.05						
Faculty Trust in Principal	4.85	4.73	5.08	5.09						
Supportive Principal Behavior	2.86	2.99	2.96	3.16	X					
Directive Principal Behavior	2.17	2.09	2.10	1.99						
Restrictive Principal Behavior	2.32	2.14	2.12	2.14						

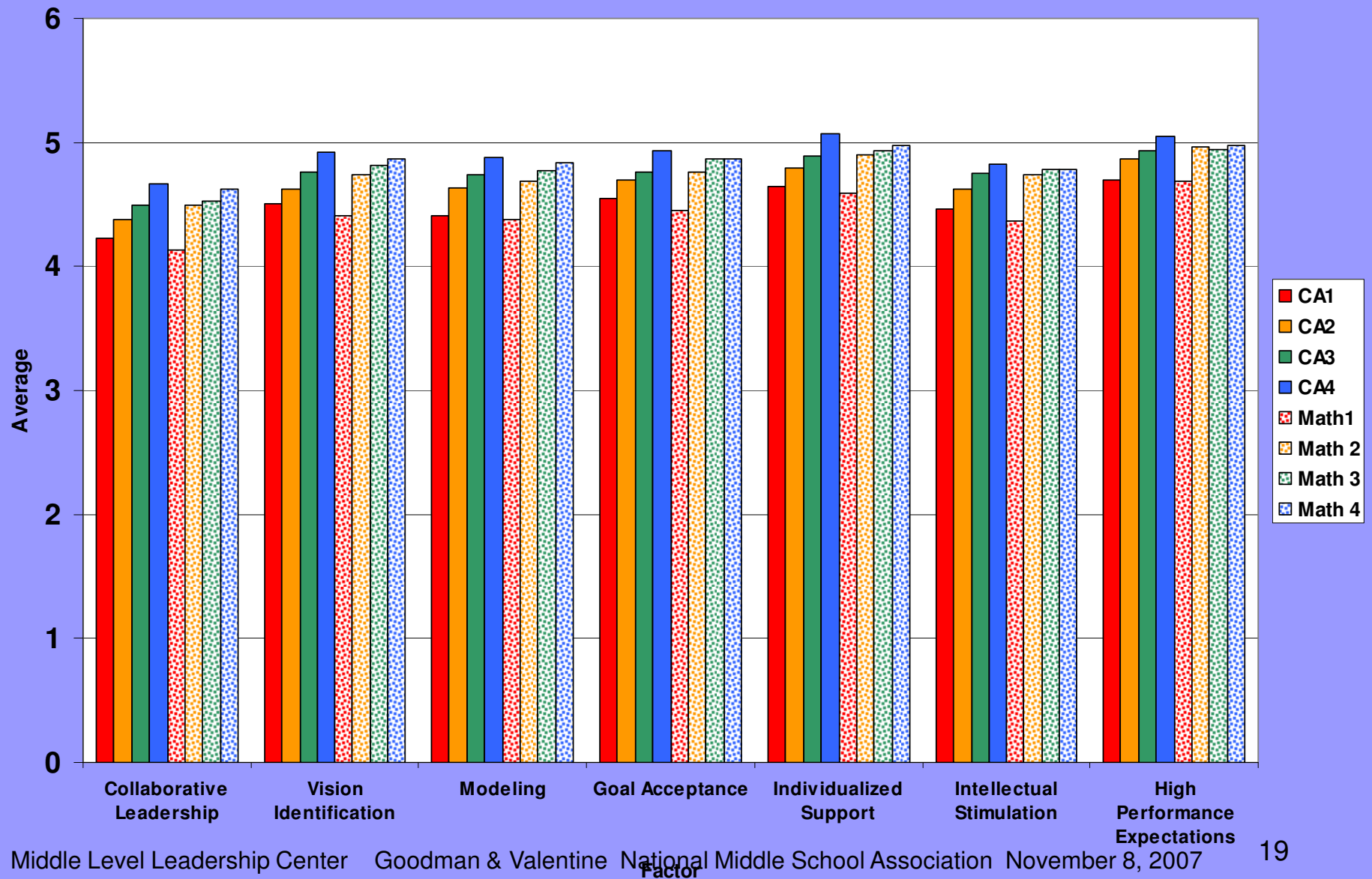
Summary of Leadership Factors with Significant Differences among Achievement Levels (15 of 40 tests were significant)

Mathematics (9/20 significant)	1	2	3	4	1-4	2-4	3-4	1-2	1-3	2-3
Organizational Direction*	4.88	4.97	5.14	5.23	X					
Organizational Relationships	4.78	4.78	4.95	5.12	X	X				
Collaborative Leadership	4.13	4.50	4.53	4.62	X			X	X	
Vision Identification*	4.41	4.74	4.81	4.87	X					
Modeling	4.38	4.69	4.77	4.84	X					
Goal Acceptance	4.45	4.76	4.87	4.87	X				X	
Individualized Support	4.59	4.90	4.93	4.98	X					
Intellectual Stimulation*	4.37	4.74	4.78	4.78	X			X	X	
Directive Principal Behavior*	2.16	2.14	2.09	1.96	X					
Communication Arts (6/20)	1	2	3	4	1-4	2-4	3-4	1-2	1-3	2-3
Organizational Relationships	4.84	4.73	4.98	5.07		X				
Collaborative Leadership	4.23	4.38	4.50	4.67	X					
Modeling	4.41	4.63	4.74	4.88	X					
Goal Acceptance	4.55	4.70	4.76	4.93	X					
Individualized Support	4.64	4.79	4.89	5.07	X					
Supportive Principal Behavior	2.86	2.99	2.96	3.16	X					

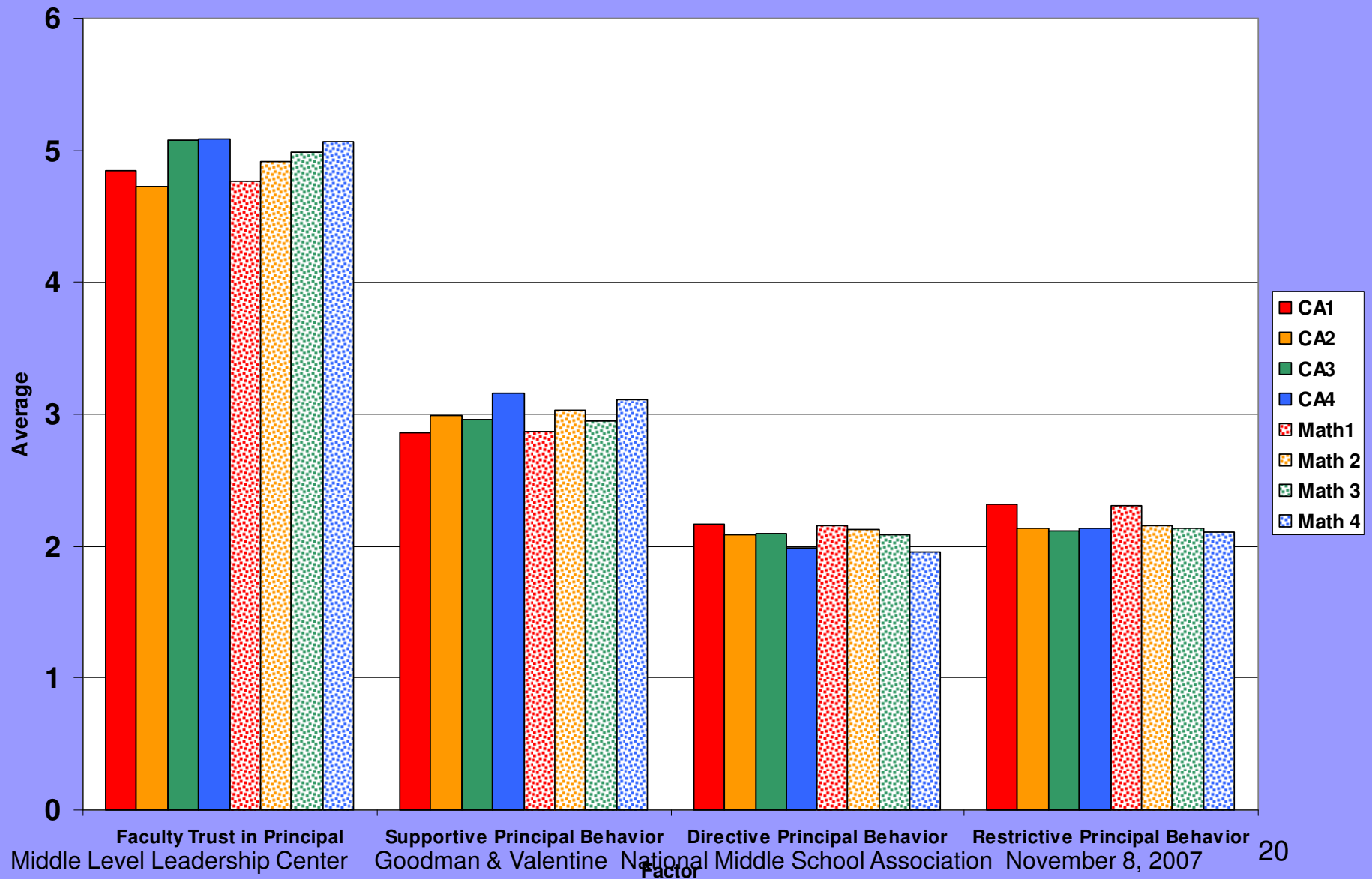
APE Factors, Comparison by Achievement Quartiles



Culture and Transformational Leadership Factors, Comparison by Achievement Quartiles



Trust and Climate Leadership Factors, Comparison by Achievement Quartiles

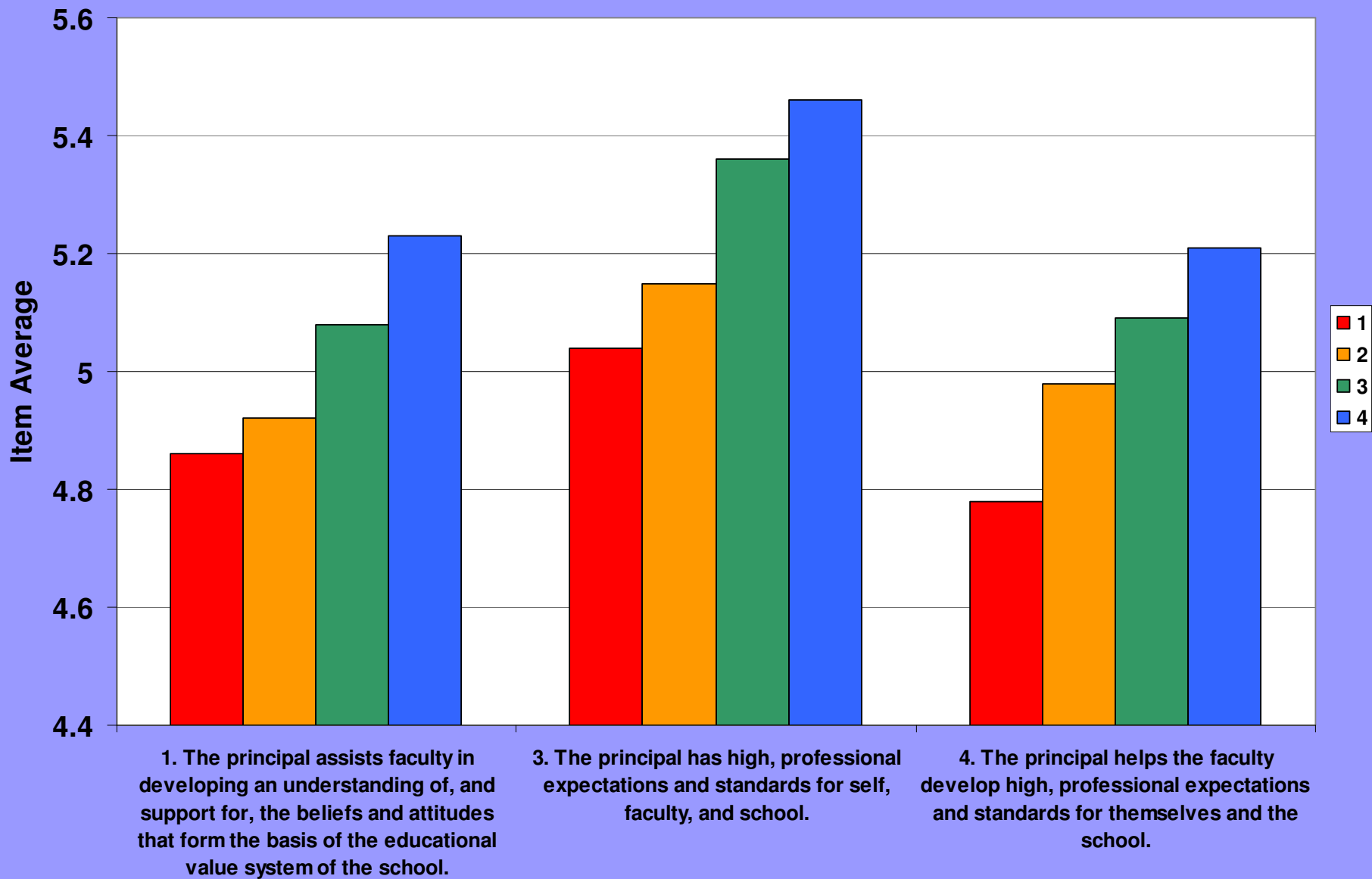


Organizational Direction: Mathematics

The degree to which the principal provides direction for the school through work with faculty to develop goals, establish expectations, and promote appropriate change. (1-4)

<u>Significant Organizational Direction Items</u>	1	2	3	4
The principal assists faculty in <u>developing an understanding of, and support for, the beliefs and attitudes</u> that form the basis of the educational value system of the school. (1-4)	4.86	4.92	5.08	5.23
The principal <u>has high, professional expectations and standards</u> for self, faculty, and school. (1-4)	5.04	5.15	5.36	5.46
The principal <u>helps the faculty develop high, professional expectations and standards</u> for themselves and the school. (1-4)	4.78	4.98	5.09	5.21

Math, Organizational Direction, Significant Items

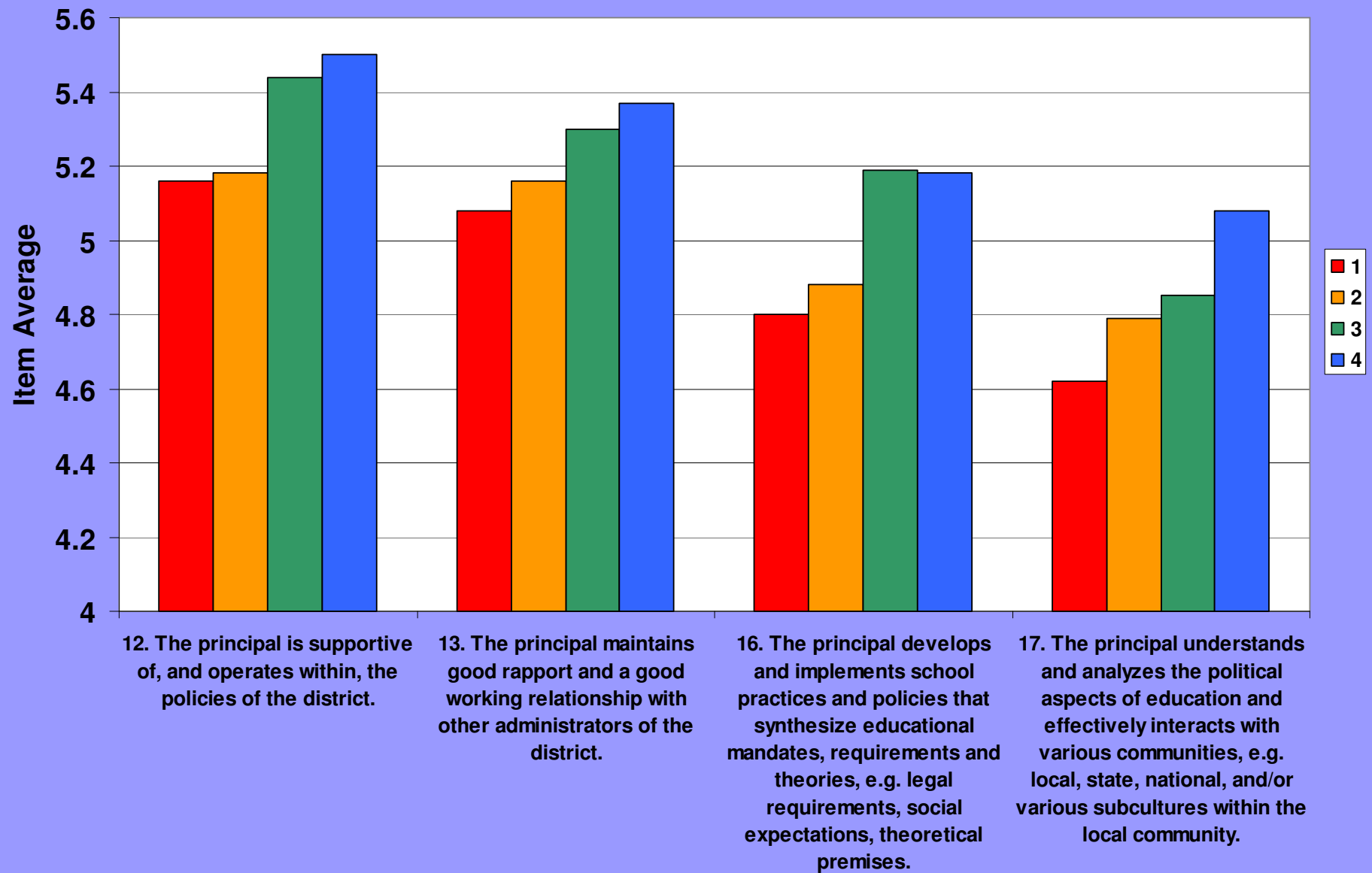


Organizational Relationships: Mathematics

The degree to which the principal promotes positive working relationships between the school, the community the school serves, and other educators and agencies that work with the school. (1-4) (2-4)

<u>Significant Organizational Relationships Items</u>	1	2	3	4
12. The principal is <u>supportive of, and operates within, the policies</u> of the district. (1-4)	5.16	5.18	5.44	5.50
13. The principal maintains <u>good rapport and a good working relationship with other administrators</u> of the district. (1-4) (2-4)	5.08	5.16	5.30	5.37
16. The principal <u>develops and implements school practices and policies that synthesize</u> educational mandates, requirements and theories, e.g. legal requirements, social expectations, theoretical premises. (1-4) (1-3)	4.80	4.88	5.19	5.18
17. The principal <u>understands and analyzes the political aspects of education and effectively interacts</u> with various communities, e.g. local, state, national, and/or various subcultures within the local community. (1-4)	4.62	4.79	4.85	5.08

Math, Organizational Relationships, Significant Items

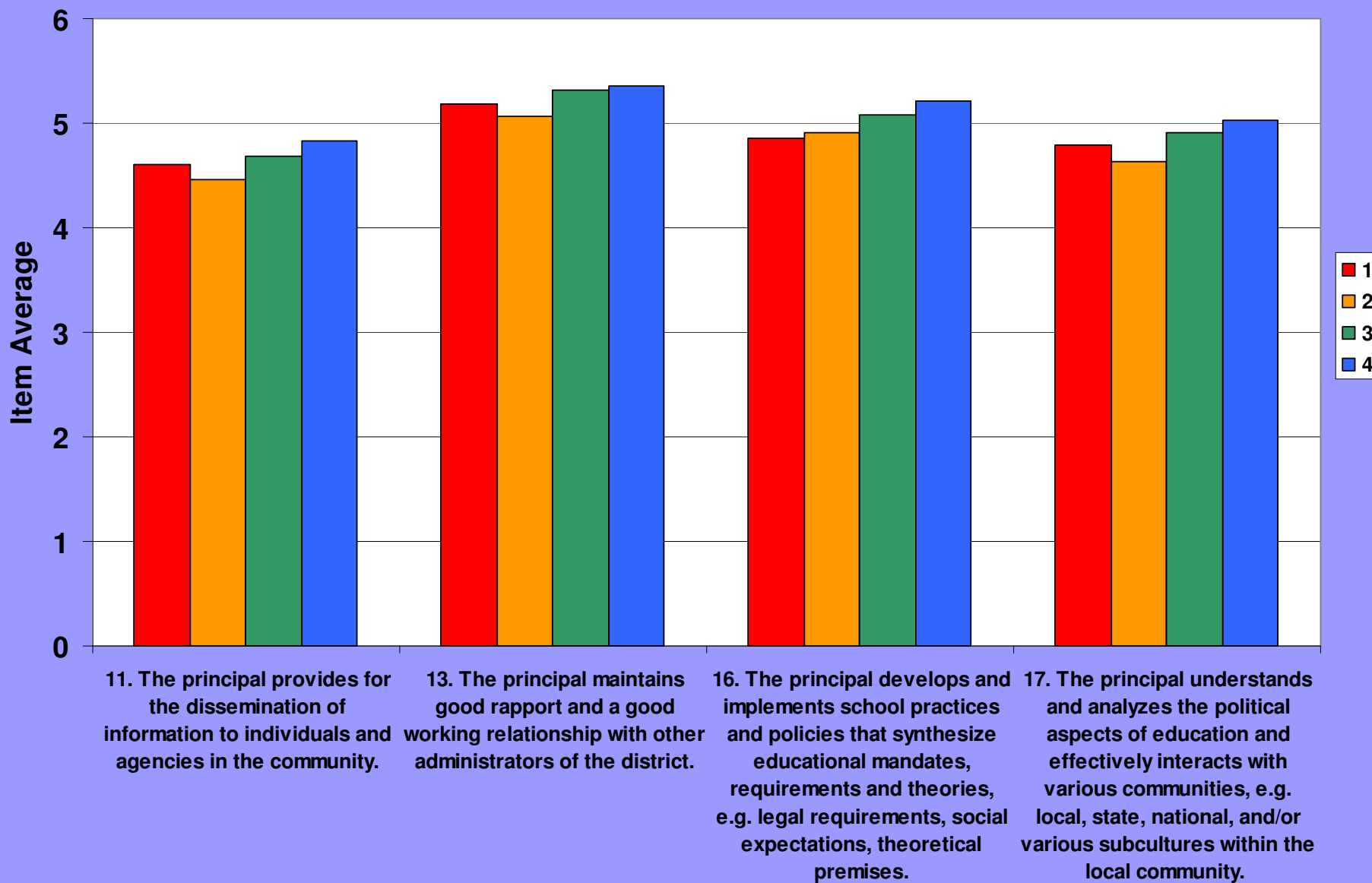


Organizational Relationships: Communication Arts

The degree to which the principal promotes positive working relationships between the school, the community the school serves, and other educators and agencies that work with the school. (2-4)

<u>Significant Organizational Relationships Items</u>	1	2	3	4
11. The principal <u>provides for the dissemination of information</u> to individuals and agencies in the community. (2-4)	4.61	4.46	4.69	4.83
13. The principal <u>maintains good rapport and a good working relationship</u> with other administrators of the district. (2-4) (2-3)	5.18	5.06	5.31	5.36
16. The principal <u>develops and implements school practices and policies that synthesize educational mandates, requirements and theories</u> , e.g. legal requirements, social expectations, theoretical premises. (1-4)	4.86	4.91	5.08	5.21
17. The principal <u>understands and analyzes the political aspects of education</u> and effectively interacts with various communities, e.g. local, state, national, and/or various subcultures within the local community. (2-4)	4.79	4.63	4.91	5.02

Communication Arts, Organizational Relationships, Significant Items

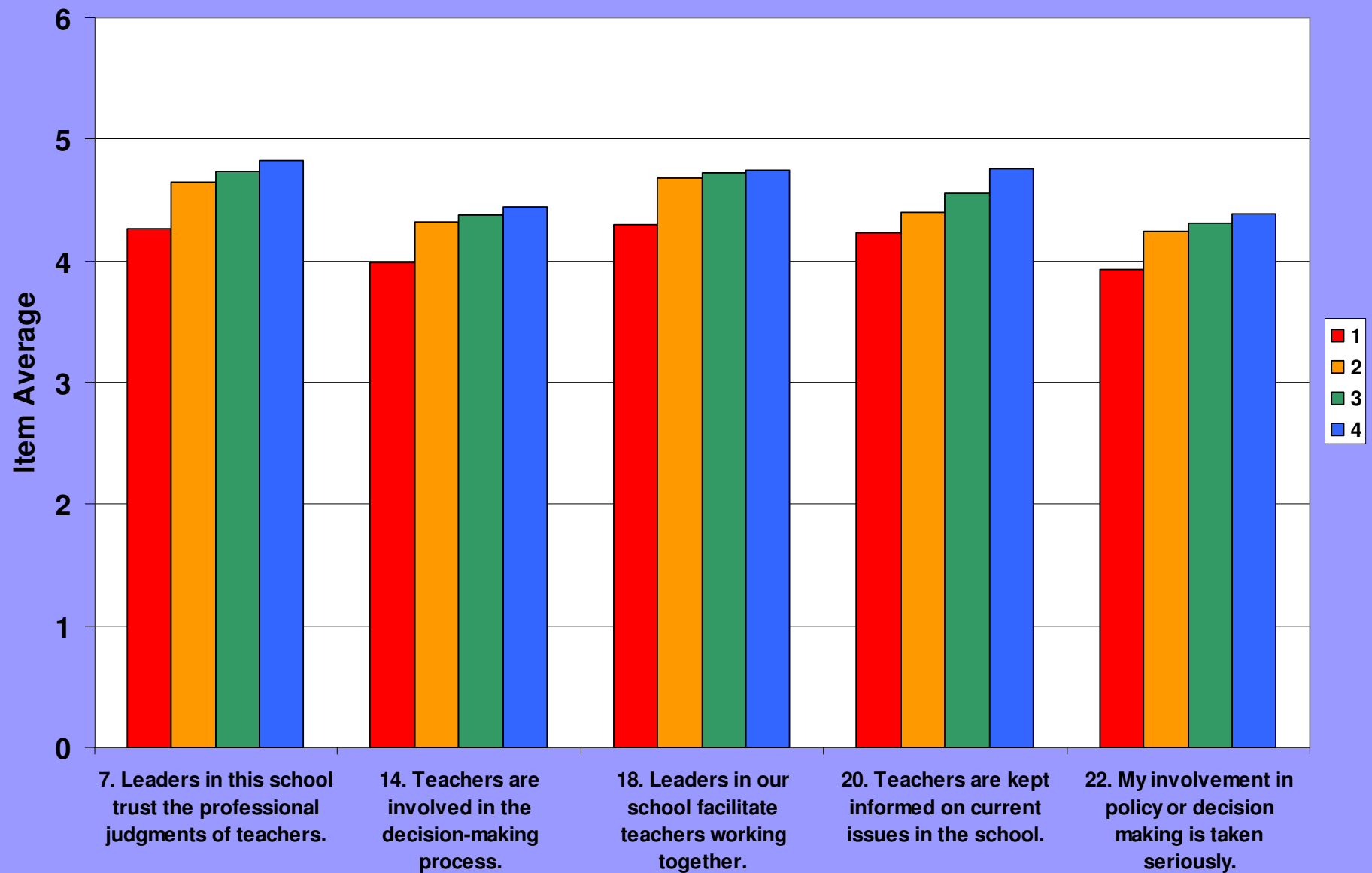


Collaborative Leadership: Mathematics (part 1)

The degree to which school leaders establish and maintain collaborative relationships with school staff. (1-2) (1-3) (1-4)

<u>Significant Collaborative Leadership Items</u>	1	2	3	4
7. Leaders in this school trust the professional judgments of teachers. (1-4) (1-3)	4.27	4.65	4.73	4.83
14. Teachers are involved in the decision-making process. (1-4) (1-3)	3.99	4.32	4.38	4.44
18. Leaders in our school facilitate teachers working together. (1-4) (1-3)	4.30	4.68	4.72	4.75
20. Teachers are kept informed on current issues in the school. (1-4)	4.23	4.40	4.56	4.76
22. My involvement in policy or decision-making is taken seriously. (1-4)	3.93	4.24	4.31	4.39

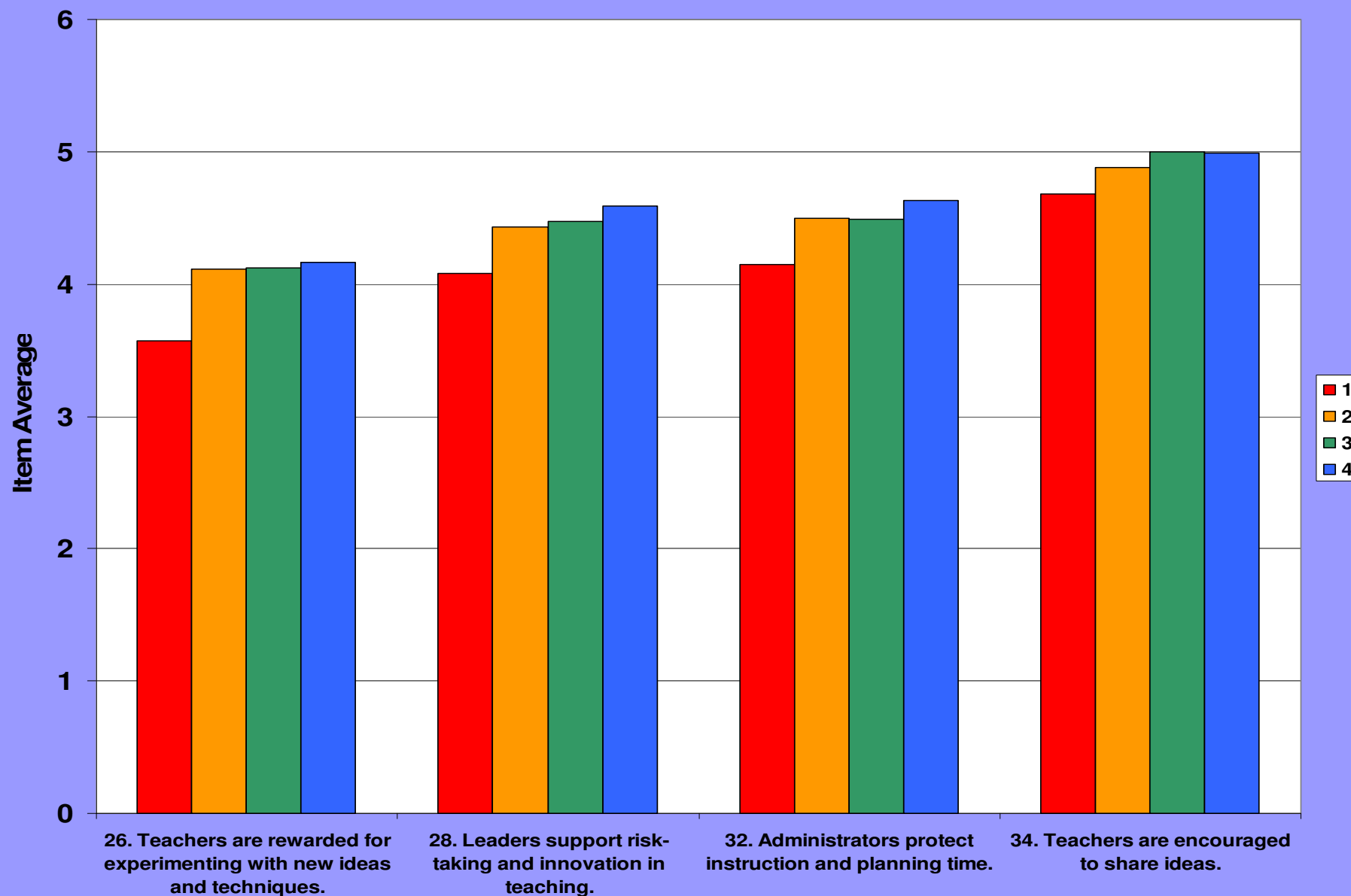
Mathematics, Collaborative Leadership, Significant Items



Collaborative Leadership: Mathematics (part 2)

<u>Significant Collaborative Leadership Items</u>	1	2	3	4
26. Teachers are <u>rewarded for experimenting</u> with new ideas and techniques. (1-4) (1-2) (1-3)	3.57	4.11	4.12	4.16
28. Leaders <u>support risk-taking and innovation</u> in teaching. (1-4) (1-2)	4.08	4.43	4.47	4.59
32. Administrators <u>protect instruction and planning</u> time. (1-4)	4.15	4.50	4.49	4.63
34. Teachers are <u>encouraged to share</u> ideas. (1-3)	4.68	4.88	5.00	4.99

Mathematics, Collaborative Leadership, Significant Items (Part 2)

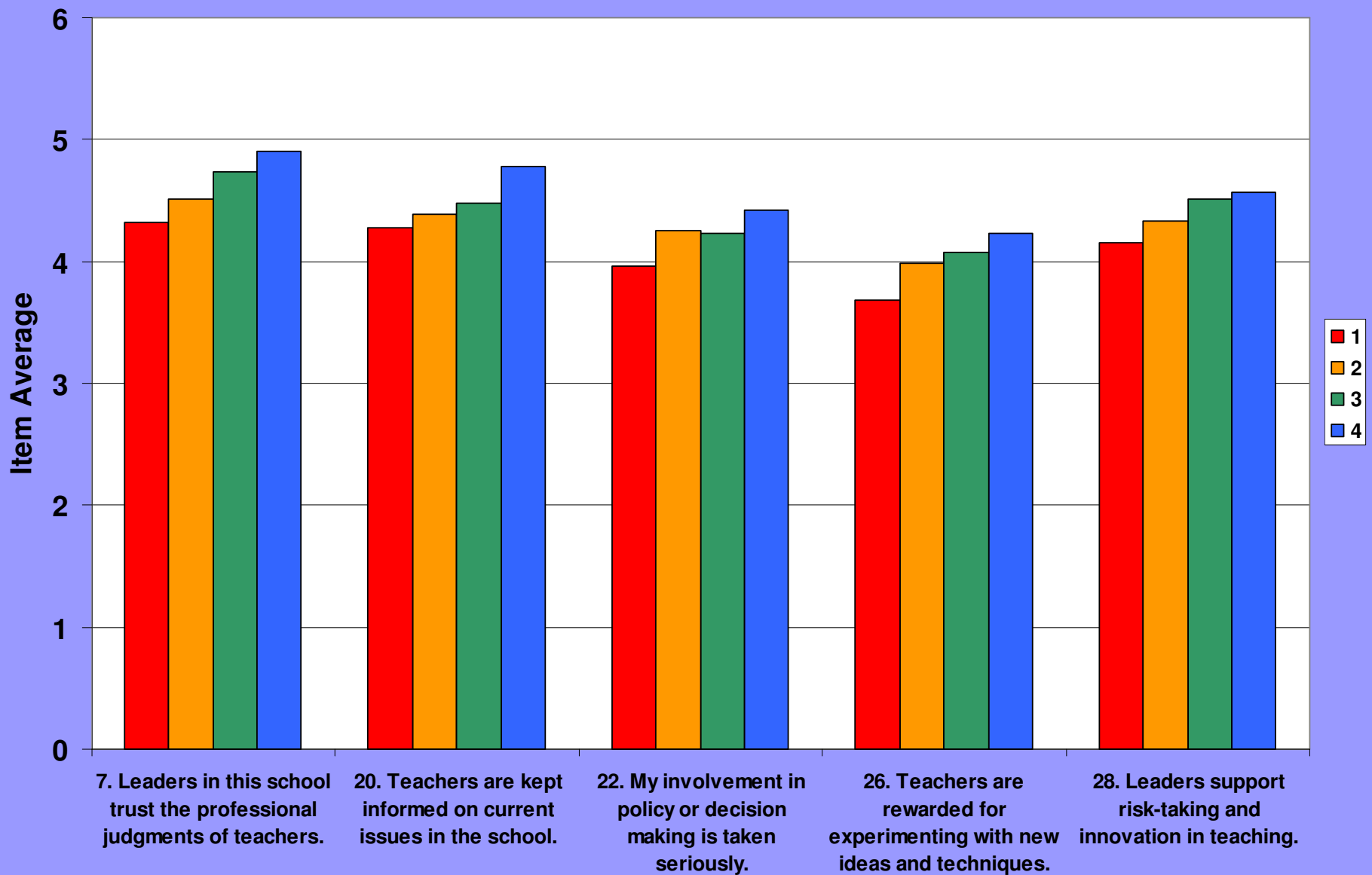


Collaborative Leadership: Communication Arts

The degree to which school leaders establish and maintain collaborative relationships with school staff. (1-4)

<u>Significant Collaborative Leadership Items</u>	1	2	3	4
7. Leaders in this school trust the professional judgments of teachers. (1-4) (1-3)	4.32	4.51	4.73	4.90
20. Teachers are kept informed on current issues in the school. (1-4) (2-4)	4.28	4.39	4.48	4.78
22. My involvement in policy or decision-making is taken seriously. (1-4)	3.96	4.25	4.23	4.42
26. Teachers are rewarded for experimenting with new ideas and techniques. (1-4)	3.68	3.98	4.07	4.42
28. Leaders support risk-taking and innovation in teaching. (1-4)	4.15	4.33	4.51	4.57

Communication Arts, Collaborative Leadership, Significant Items

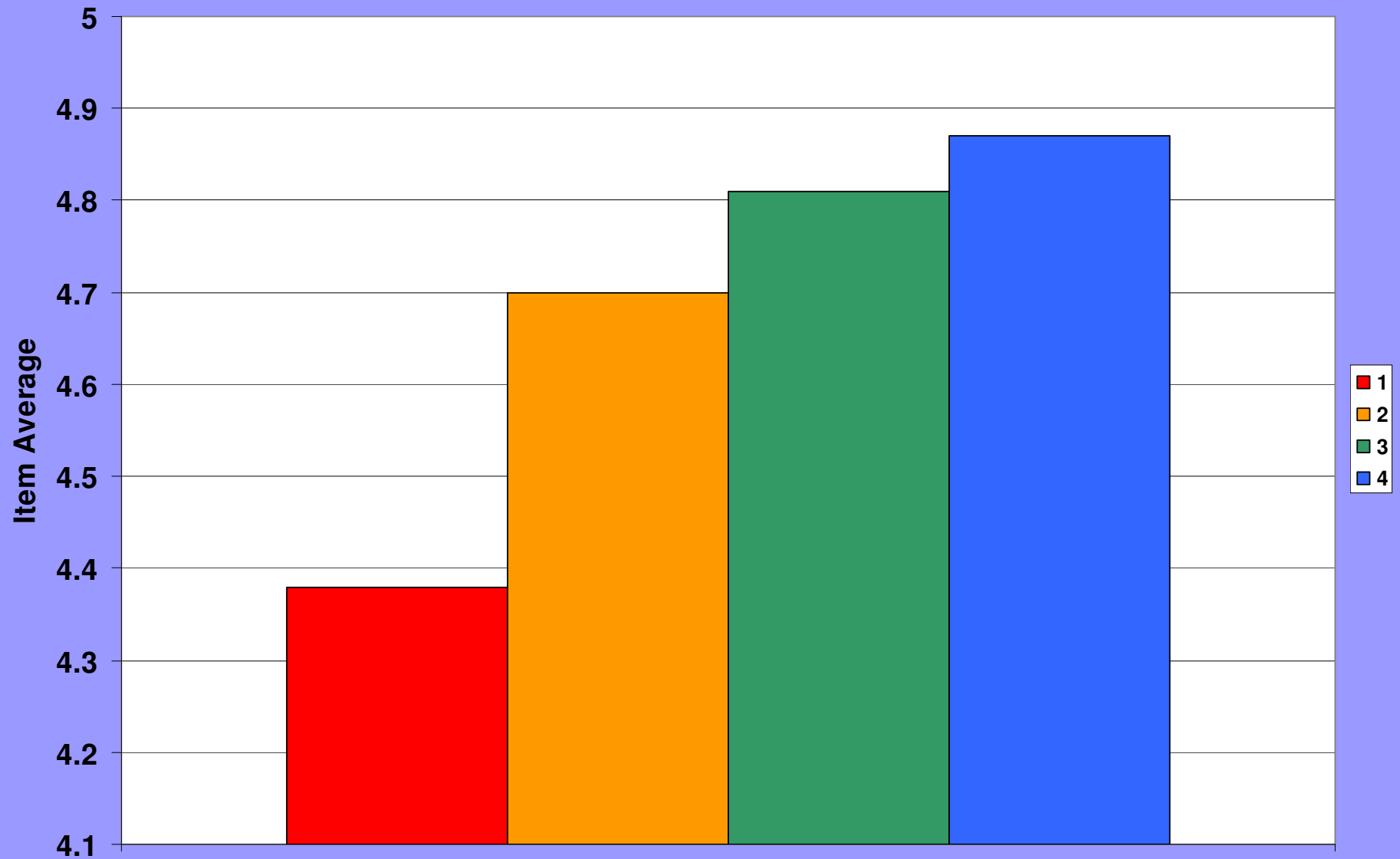


Vision Identification: Mathematics

The degree to which the principal identifies new opportunities for the organization and develops, articulates, and inspires others with a vision of the future. (1-4)

<u>Significant Vision Identification Items</u>	1	2	3	4
41. My principal <u>gives the faculty a sense of overall purpose</u> for its leadership role. (1-4) (1-3)	4.38	4.70	4.81	4.87

Mathematics, Vision Identification, Significant Items



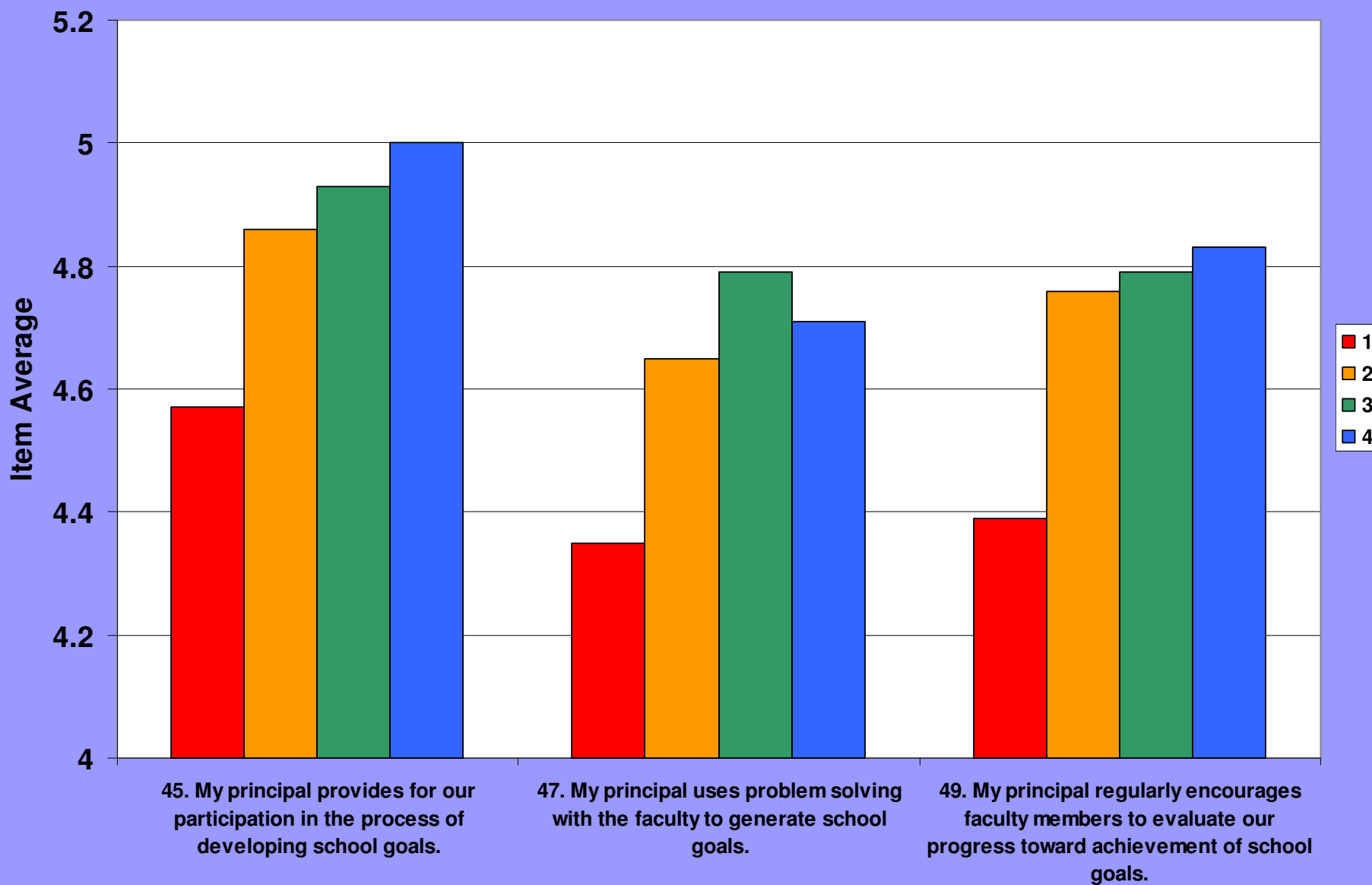
41. My principal gives the faculty a sense of overall purpose for its leadership role.

Goal Acceptance: Mathematics

The degree to which the principal promotes cooperation among organizational members and assists them in working together toward common goals. (1-4) (1-3)

<u>Significance Goal Acceptance Items</u>	1	2	3	4
45. My principal <u>provides for our participation</u> in the process of developing school goals. (1-4) (1-3)	4.57	4.86	4.93	5.00
47. My principal <u>uses problem solving</u> with the faculty to generate school goals. (1-3)	4.35	4.65	4.79	4.71
49. My principal <u>regularly encourages faculty</u> members to evaluate our progress toward achievement of school goals. (1-4) (1-3) (1-2)	4.39	4.76	4.79	4.83

Mathematics, Goal Acceptance, Significant Items

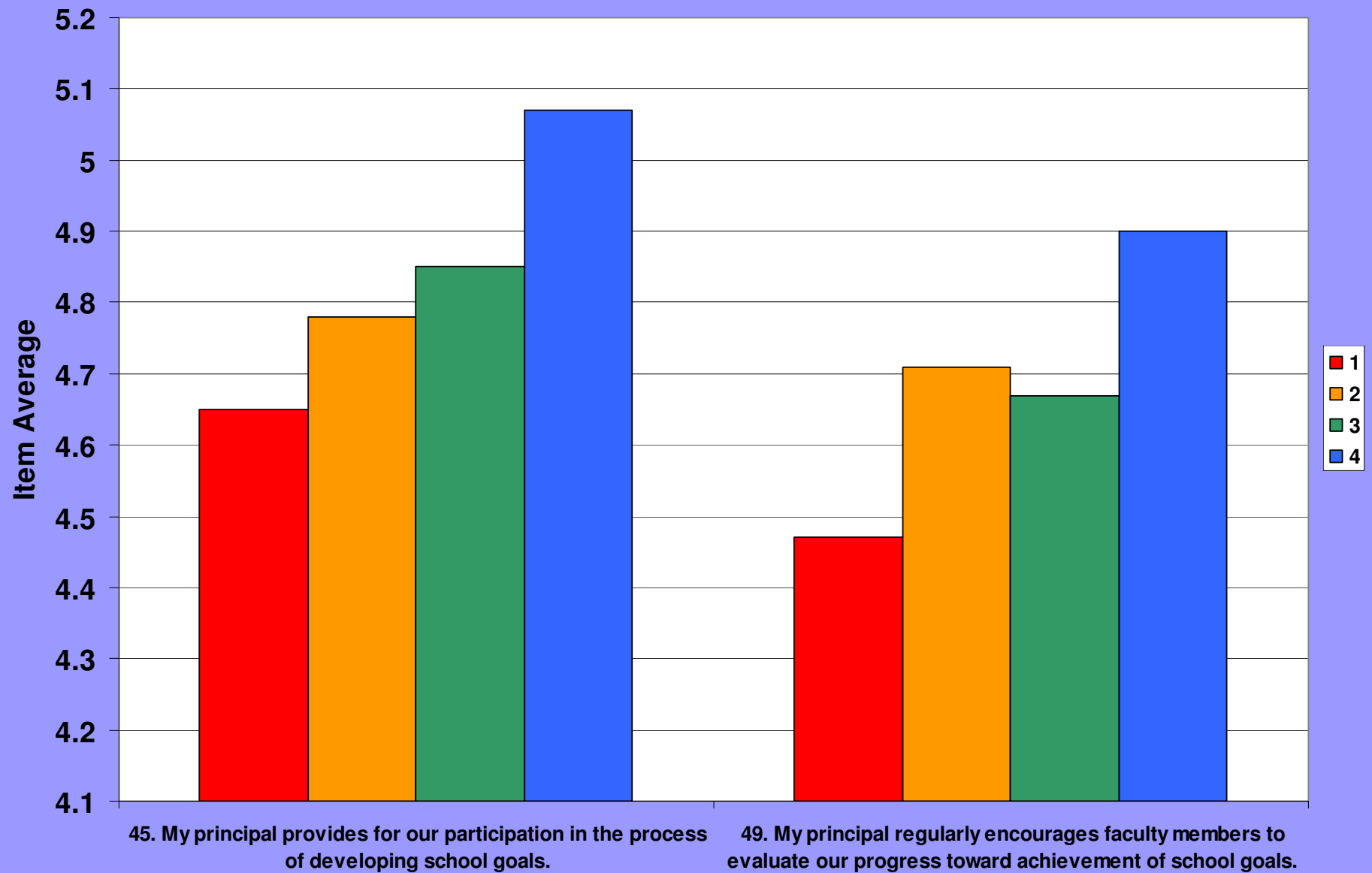


Goal Acceptance: Communication Arts

The degree to which the principal promotes cooperation among organizational members and assists them in working together toward common goals. (1-4)

<u>Significant Goal Acceptance Items</u>	1	2	3	4
45. My principal <u>provides for our participation</u> in the process of developing school goals. (1-4)	4.65	4.78	4.85	5.07
49. My principal <u>regularly encourages faculty</u> members to evaluate our progress toward achievement of school goals. (1-4)	4.47	4.71	4.67	4.90

Communication Arts, Goal Acceptance, Significant Items

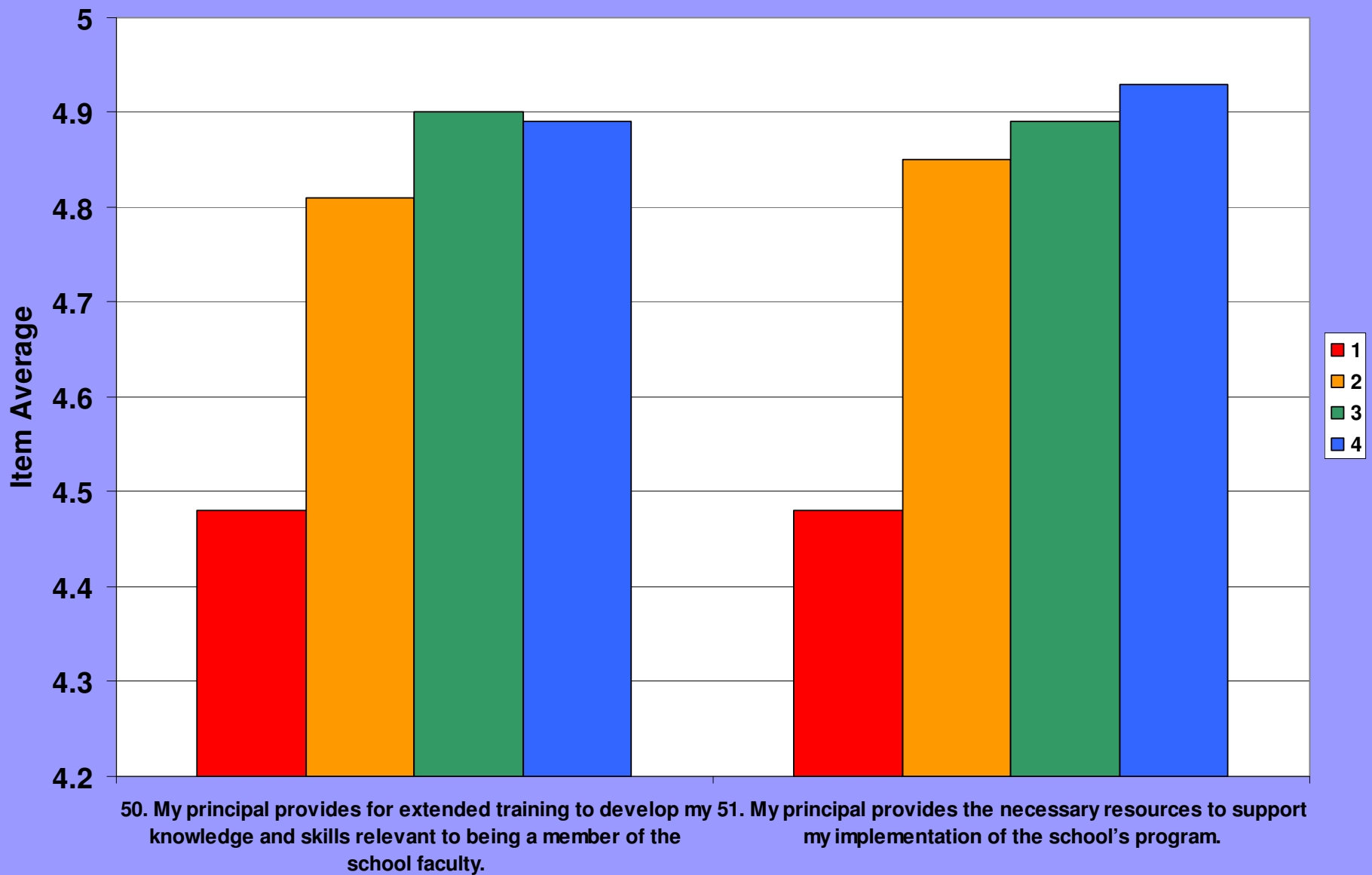


Individualized Support: Mathematics

The degree to which the principal demonstrates respect for organizational members and concern about their personal feelings and well-being. (1-4)

<u>Significant Individualized Support Items</u>	1	2	3	4
50. My principal <u>provides for extended training</u> to develop my knowledge and skills relevant to being a member of the school faculty. (1-4) (1-3)	4.48	4.81	4.90	4.89
51. My principal <u>provides the necessary resources</u> to support my implementation of the school's program. (1-4) (1-3) (1-2)	4.48	4.85	4.89	4.93

Mathematics, Individualized Support, Significant Items

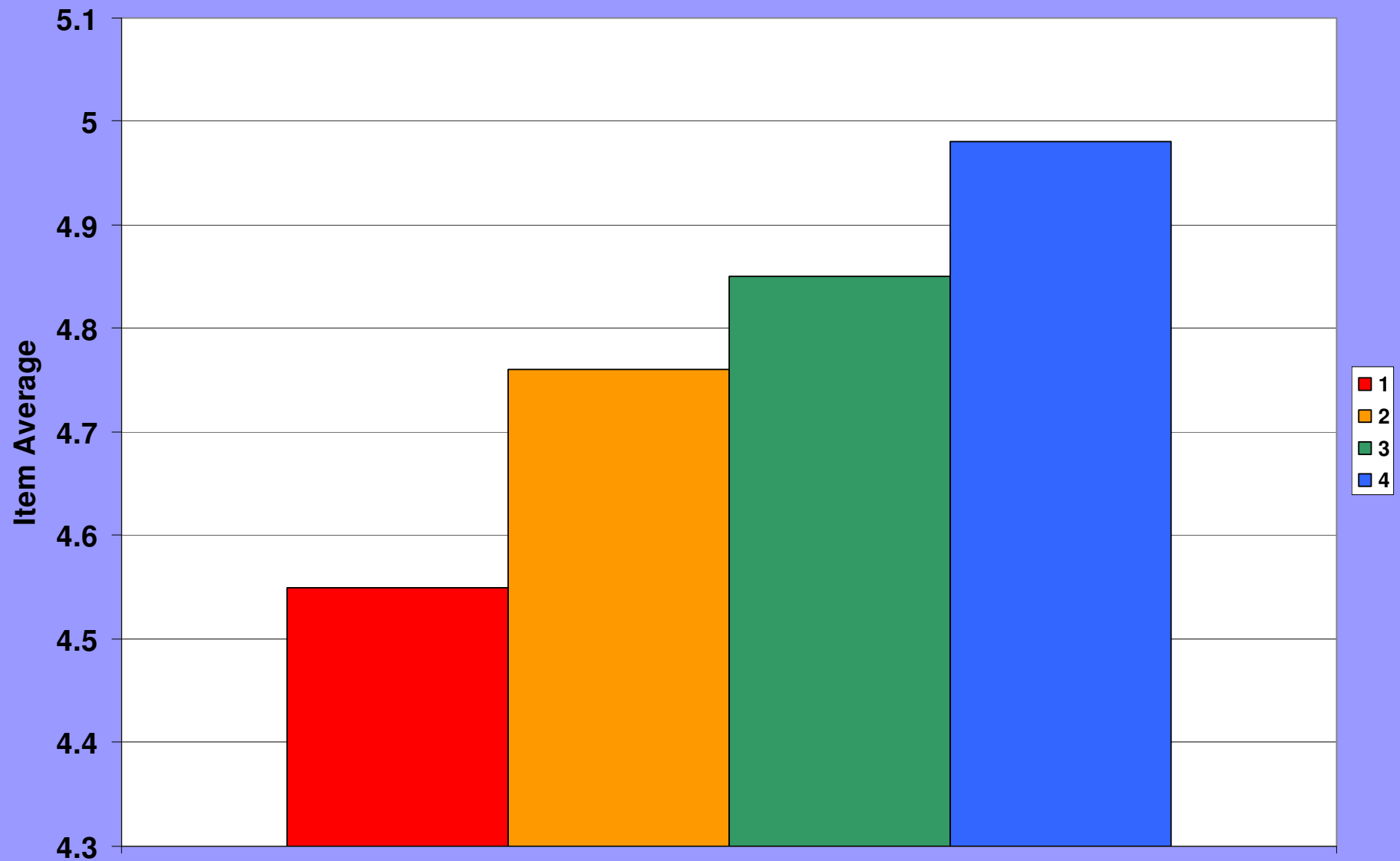


Individualized Support: Communication Arts

The degree to which the principal demonstrates respect for organizational members and concern about their personal feelings and well-being. (1-4)

<u>Significant Individualized Support Items</u>	1	2	3	4
51. My principal <u>provides the necessary resources</u> to support my implementation of the school's program. (1-4)	4.55	4.76	4.85	4.98

Communication Arts, Individualized Support, Significant Items



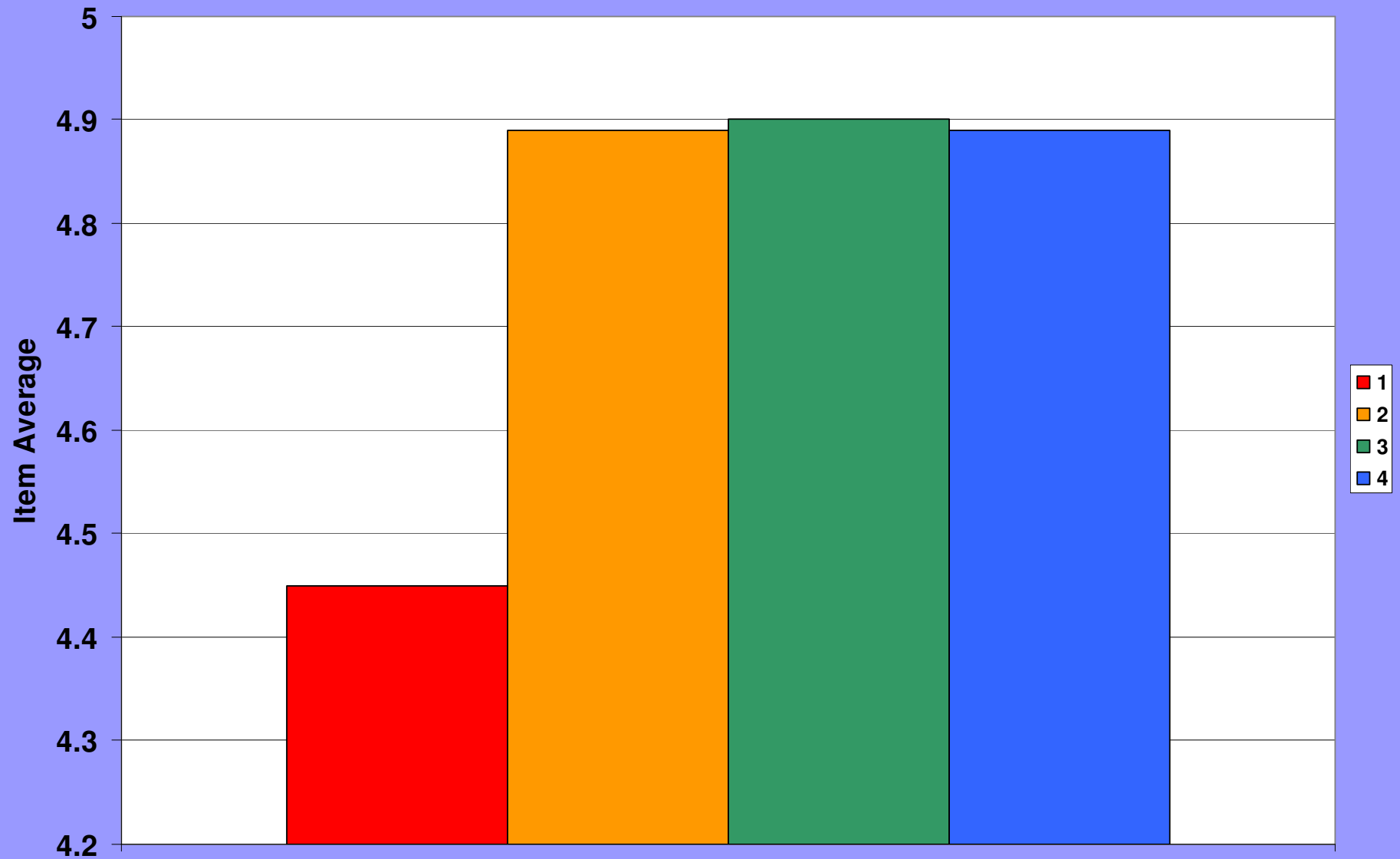
51. My principal provides the necessary resources to support my implementation of the school's program.

Intellectual Stimulation: Mathematics

The degree to which the principal challenges organizational members to reexamine some of the assumptions about their work and rethink how it can be performed. (1-4)(1-2)(1-3)

<u>Significant Intellectual Stimulation Items</u>	1	2	3	4
56. My principal <u>stimulates me to think about what I am doing</u> for the school's students. (1-4) (1-2) (1-3)	4.45	4.89	4.90	4.89

Mathematics, Intellectual Stimulation, Significant Items



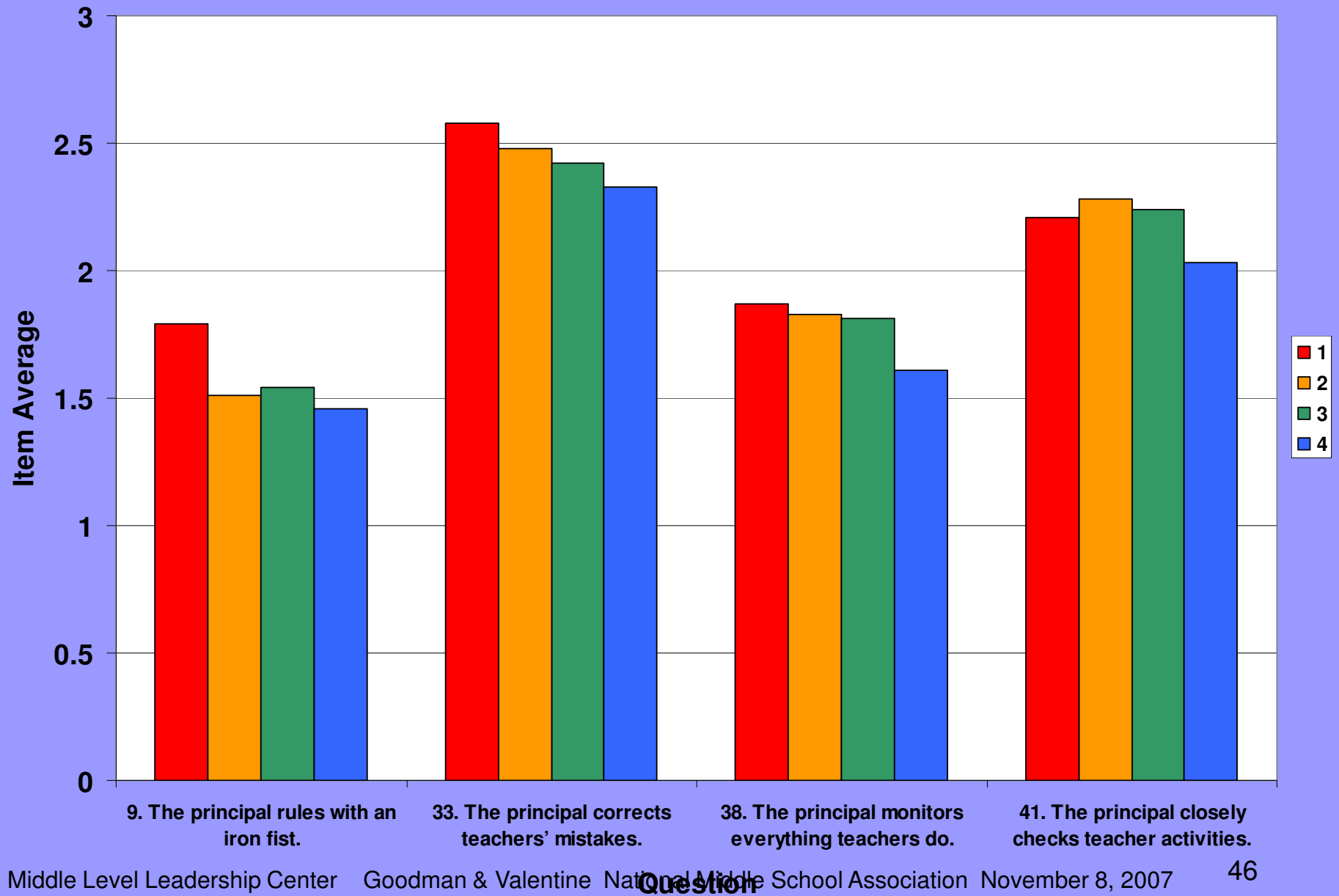
56. My principal stimulates me to think about what I am doing for the school's students.

Directive Principal Behavior: Mathematics

The degree to which the principal uses rigid, domineering behavior, maintaining close and constant monitoring over virtually all aspects of teacher behavior in the school. (1-4)

<u>Significant Directive Principal Behavior Items</u>	1	2	3	4
9. The principal <u>rules with an iron fist</u> . (1-4) (1-2)	1.79	1.51	1.54	1.46
33. The principal <u>corrects teachers' mistakes</u> . (1-4)	2.58	2.48	2.42	2.33
38. The principal <u>monitors everything teachers</u> do. (1-4)	1.87	1.83	1.81	1.61
41. The principal <u>closely checks teacher</u> activities. (2-4)	2.21	2.28	2.24	2.03

Mathematics, Directive Principal Behavior, Significant Items

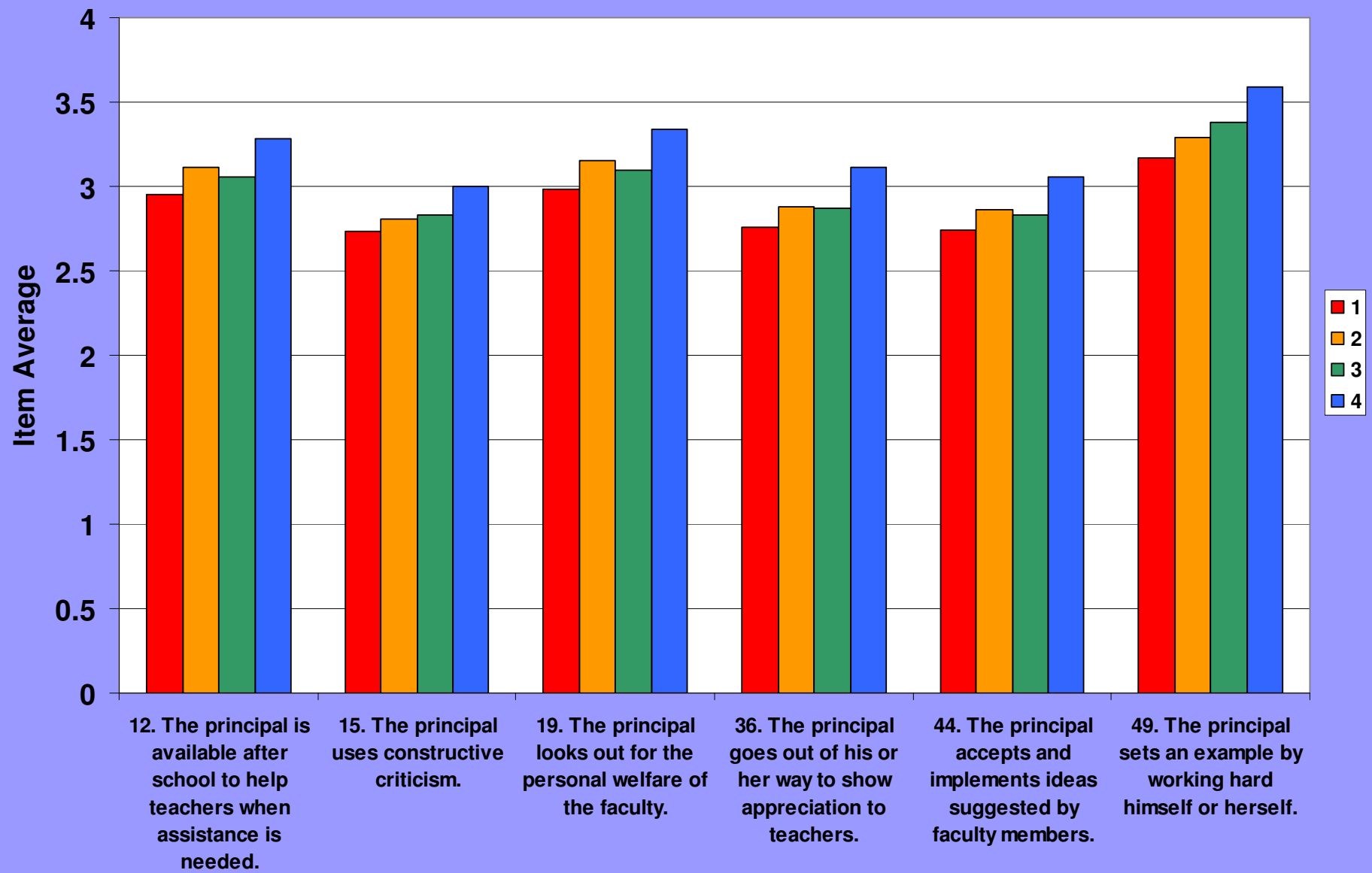


Supportive Principal Behavior: Communication Arts

The degree to which the principal behavior is directed toward both the social and task needs of the faculty, and is helpful and genuinely concerned about teachers. (1-4)

<u>Communication Arts</u>	1	2	3	4
12. The principal is <u>available after school</u> to help teachers when assistance is needed. (1-4)	2.95	3.11	3.06	3.28
15. The principal <u>uses constructive criticism</u> . (1-4)	2.73	2.81	2.83	3.00
19. The principal looks out for the personal welfare of the faculty. (1-4)	2.98	3.15	3.10	3.34
36. The principal <u>goes out of his or her way</u> to show appreciation to teachers. (1-4)	2.76	2.88	2.87	3.11
44. The principal <u>accepts and implements ideas</u> suggested by faculty members. (1-4)	2.74	2.86	2.83	3.06
49. The principal <u>sets an example</u> by working hard himself or herself. (1-4)	3.17	3.29	3.38	3.59

Communication Arts, Supportive Principal Behavior, Significant Items



Implications

- Work closely with faculty to establish school direction, goals, and expectations.
- Build positive working relationships with external agencies that support the work of the school.
- Establish and maintain collaborative relationships with the staff (meaningful engagement and involvement)
- Foster collaborative relationships among the staff (meaningful faculty meeting conversations)

Implications

- Identify and communicate new opportunities and directions for the school
- Inspire others to work collectively toward the new directions
- Engage faculty in meaningful, cooperative work toward common goals
- Understand the personal and professional needs of individual teachers
- Provide the necessary support so individual teachers can be successful

Implications

- Challenge faculty to rethink their assumptions about the work of teaching
- Minimize the amount of directive, authoritative personnel management in favor of more participative, empowering and supportive leadership

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