

Missouri Mathematics and Science Teacher Professional Development Inventory
 Missouri Center for Mathematics and Science Teacher Education
 University of Missouri-Columbia

Please respond to the following items as directed in each item.

1. Do you consider yourself primarily a mathematics or science teacher? (Check one.)

Teaching Position	Check one:
Primarily a mathematics teacher	119
Primarily a science teacher	122
Neither (please return blank survey in envelope provided)	9

2. How strongly do you agree/disagree with the following statements? (Check one box on each line.)

Statements	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Students generally learn best in classes with students of similar abilities.	4	52	15	114	47
b. I feel supported by colleagues to try out new ideas in teaching.	1	16	11	130	82
c. I have time during the regular school week to work with my peers on curriculum and instruction.	70	104	4	49	13
d. I am well-informed about the National Standards for the grades I teach.	6	58	15	116	45
e. I am well-informed about the Missouri Framework for the grades I teach.	3	15	11	138	73
f. I am well-informed about the Missouri Grade Level Expectations for the grades I teach.	5	23	9	123	78

3. In the past 12 months, have you participated in the following activities? (Check one box on each line.)

Professional Activity	YES	NO
a. Facilitated professional development in science or mathematics subject matter	107	134
b. Facilitated professional development in science or mathematics teaching	109	132
c. Mentored another teacher as part of a formal arrangement that is recognized or supported by the school or district, not including supervision of student teachers	83	158
d. Received local, state, or national grants or awards for science/math teaching	32	205
e. Served on a school or district science/math curriculum committee	151	90
f. Served on a school or district science/math textbook selection committee	110	131

4. In the past 3 years, have you participated in the following professional development activities? (Check one box on each line.)

Professional Development Activity	YES	NO
a. Completed a college/university science/math course (Do not include undergraduate degree requirements)	103	138
b. Completed a college/university course in the teaching of science/math (Do not include undergraduate degree requirements)	84	157
c. Observed other teachers teaching science/math as part of your own professional development (formal or informal)	140	100
d. Met with a local group of teachers on a regular basis to study/discuss science/math teaching issues	140	100
e. Collaborated on science/math teaching issues with a group of teachers at a distance using telecommunications	32	209
f. Served as a mentor and/or peer coach in science/math teaching, as part of a formal arrangement that is recognized or supported by the school or district (Do not include supervision of student teachers)	65	173
g. Attended a workshop on science/math teaching	178	62
h. Attended a professional science/math teaching conference specify: _____	126	110
i. Read professional literature.	208	30
j. Other, specify: _____ _____	24	

5. How many hours have you spent on professional development in science/math subject matter or the teaching of science/math during each of the following time periods? (Include attendance at professional meetings, workshops, and conferences, as well as job-embedded professional development, but do not include formal courses for which you received college credit or time you spent providing professional development for other teachers.) (Make one check in each column.)

Hours of Professional Development	Last 12 Months	Last 3 Years
None	18	8
Less than 6 hours	50	10
6-15 hours	71	42
16-35 hours	65	54
More than 35 hours	32	121

6. What professional development topics would help you become a better science/mathematics teacher?
(For each chart, check all that apply.)

Check all that apply:	Earth Science
61	a. Earth's features and physical processes
55	b. The solar system and the universe
67	c. Climate and weather
10	d. Other, specify: _____

Check all that apply:	Biology
33	a. Structure and function of human systems
42	b. Plant biology
24	c. Animal behavior
44	d. Interactions of living things/ecology
61	e. Genetics and evolution
10	f. Other, specify: _____

Check all that apply:	Chemistry
53	a. Structure of matter and chemical bonding
39	b. Properties and states of matter
55	c. Chemical reactions
66	d. Energy and chemical change
15	e. Other, specify: _____

Check all that apply:	Physics
59	a. Forces and motion
51	b. Energy
57	c. Light and sound
73	d. Electricity and magnetism
68	e. Modern physics (e.g., special relativity)
7	f. Other, specify: _____

Check all that apply:	Mathematics
48	a. Numeration and number theory
23	b. Computation
34	c. Estimation
40	d. Measurement
33	e. Pre-algebra
44	f. Algebra
57	g. Patterns and relationships
53	h. Geometry and spatial sense
42	i. Functions (including trigonometric functions) and pre-calculus concepts
59	j. Data collection and analysis
71	k. Probability
68	l. Statistics
69	m. Topics from discrete mathematics
31	n. Mathematical structures
40	o. Calculus
86	p. Technology (calculators, computers) in support of mathematics
9	q. Other, specify: _____

Check all that apply:	Teaching and Learning
148	a. Inquiry or problem-based strategies in science/math
114	b. Inquiry or problem-based science/math curriculum
74	c. Classroom management in science/math
115	d. Developing conceptual understanding in science/math
138	e. How students learn particular topics in science/math
87	f. Designing instruction for special education students in science/math
85	g. Designing instruction for gifted students in science/math
44	h. Designing instruction for ESL students in science/math
140	i. Connecting science/math to the real world
58	j. Involving girls and minorities in science/math
95	k. Involving parents in their children's science/math education
159	l. Using technology to teach science/math
87	m. Assessing student learning in science/math
106	n. Using the Missouri Frameworks and Grade Level Expectations to design instruction in science/math
106	o. Questioning and classroom discussion techniques for science/math
91	p. Cooperative/collaborative learning in science/math
104	q. Writing in science/math
170	r. Developing critical thinking in science/math
12	s. Other, specify: _____

7. What are 3 characteristics of effective professional development?

8. What are 3 characteristics of ineffective professional development?

9. Rank **three** statements from the list below that are the primary obstacles for your participation in science/mathematics professional development. **Please rank only three, with 1 being the greatest obstacle.**

25.31 % Lack of financial support from school/district

7.47 % Low value placed on professional development by school/district

10.79 % School/district reluctance to release me from classroom responsibilities

37.34 % Location of professional development not convenient

7.47 % Unavailability of substitutes

40.25 % Time conflicts

23.65 % Unawareness of available professional development

21.99 % Lack of interest in professional development topics available

17.84 % Lack of relevance to job

29.88 % Cost

29.46 % Family responsibilities

10.37 % Other (please specify) _____

10. If you could design your ideal professional development experience, what would it look like?

When? How long? How often? _____

Where? _____

What topics? _____

What kinds of activities for participants? _____

Who would participate? _____

Who would facilitate the professional development? _____

What would be the benefits of participating? _____

Anything else? _____

Demographic Information

a. Gender: (58) Male (179) Female

b. Undergraduate degree:

Institution: _____

Major:

(76) Science (specify): _____

(60) Mathematics

(68) Education

(33) Other (specify): _____

c. Graduate degree:

Institution: _____

Degree/Major: _____

d. To which science/mathematics professional organizations do you belong? (Check all that apply.)

(62) NSTA: National Science Teachers Association

(35) STOM: Science Teachers of Missouri

(55) NCTM: National Council of Teachers of Mathematics

(37) MCTM: Missouri Council of Teachers of Mathematics

(36) Other, specify: _____

e. How would you characterize the school system in which you teach? (Check one.)

(32) urban

(76) suburban

(122) rural

(5) other, explain: _____

f. What is your **primary** teaching assignment?

(53) middle/junior high science

(63) secondary science

(9) AP/honors science

(46) middle/junior high mathematics

(58) secondary mathematics

(6) AP/honors mathematics

(3) Other, specify: _____

g. Are you certified to teach the subject(s) you are teaching?

(114) Yes

(6) No

Certification(s)/endorsement(s) held: _____

- h. How many years have you taught including this school year? (Check one.)
(17) 0-2
(48) 3-5
(49) 6-10
(38) 11-15
(21) 16-20
(30) 21-25
(37) 26+
- i. When did you last complete a science/math course for college credit? (Check one.)
(148) In the last 5 years
(48) 6-10 years ago
(34) 11-20 years ago
(8) More than 20 years
- j. When did you last complete an education course for college credit? (Check one.)
(162) In the last 5 years
(38) 6-10 years ago
(21) 11-20 years ago
(15) More than 20 years

Comments:

Thanks for taking time to complete this survey.

Please return completed survey and signed consent form by February 28, 2005 to:

Sandra Abell
Missouri Center for Mathematics and Science Teacher Education
303 Townsend Hall
University of Missouri-Columbia
Columbia, MO 65211