A Longitudinal/Cross-Sectional Study of the Impact of *Mathematics in Context* on Student Mathematical Performance

Student Questionnaire

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Description of Student Questionnaire

The Student Questionnaire was designed to gather information on students' fixed characteristics, their interest in mathematics class, the nature of their communication about mathematics, and ways they use mathematics in other classes. Items 3, 6, 7, 8, 10, 11, 12, 13, 14, and 15 on the Student Questionnaire were adapted from Webb & Dowling (1993).

The purpose of the first section of the Student Questionnaire is to collect information about students' names, date of birth, and schools attended. On Items 1–3, students list their (a) first name, last name, and middle initial; (b) date of birth; and (c) grade level during the current school year. Students' date of birth was useful in calculating the mean age of each class and in tracking individual students over time, particularly when they have common names (e.g., Juan Perez, Jack Smith) or when they used nicknames one year and formal names another (e.g., Kathy, Kathleen). On Item 4, students entered the name of the school they attended in the current school year and the city and state in which the school was located. During the second and third years of the study, students also entered the name of the school they had attended in the previous school year. This information was especially important for tracking fifth-grade students who were promoted to middle school and for students in districts with high mobility rates (e.g., Districts 2, 4). On Item 5, students entered the name of their teacher.

In the second section of the Student Questionnaire, information was gathered on students' fixed characteristics. On Item 6, students identified their sex. On Item 7, students identified their ethnicity. Based on input from district personnel involved in the longitudinal study, two categories were added prior to the first administration of the questionnaire: Multiracial and Haitian. Students were also given the option of specifying inclusion in a second group. Analysis of these responses proved difficult for two reasons. First, some students marked Multiracial and indicated "White" and an ethnic group such as "Italian." These responses were coded as "White." Some students circled two categories such as "Hispanic" and "White." These responses were coded "Multiracial." Other students listed religions such as Muslim. These responses were coded as "Other." In the analysis of these data, responses for students who participated in the longitudinal study for two years or for three years were reviewed together to look for consistency in responses. On Item 8, students circled whether they thought they communicated better in English or another language.

The purpose of the third section of the Student Questionnaire was to collect information about students' favorite subjects, which was addressed in Item 9. Students circled the school subject they enjoyed the most: social studies, science, math, reading, writing, art, music, physical education, band, or self-identified subject.

In the fourth section of the Student Questionnaire, Items 10–12, students identified the frequency with which they talked about three items with their classmates, friends, or acquaintances about: (a) mathematical ideas and ways to solve problems, (b) mathematical problems assigned for homework, and (c) ways that mathematics was used outside of school. Students circled a response on a scale that included Never, Sometimes, Often, and Very Often.

In the final section of the Student Questionnaire, students responded to three open-ended questions. On Item 13, students listed three things they enjoyed most, and on Item 14 three things they enjoyed least about their mathematics class. On item 15, students identified ways their knowledge of mathematics and the way they learned mathematics helped them in other classes. Responses from students in Grades 5, 6, and 7 were very similar across grade levels. Because of the amount of time and resources used to code and synthesize responses to Items 13–15 for the first year of the study, responses on these items were not summarized for the following two years.

The Student Questionnaire was administered in the fall of each study year (see directions for administering the Student Questionnaire in this appendix). Teachers were instructed to assist students in completing Items 6–12 and to encourage students to complete Items 13–15.

Reference

Webb, N. L., & Dowling, M. (1993). *Evaluation study of the interactive mathematics program (IMP): A preliminary report on the results of questionnaires administered to teachers, students, and parents*. Madison, WI: University of Wisconsin–Madison.

Student Questionnaire

The Student Questionnaire is designed to collect information about students' background and their interests in studying mathematics. The Student Questionnaire should take less than one class period to complete.

Please ask students to clearly print their names and other requested information for Items 1–5.

Please assist students in circling the appropriate information for Items 6–8. Students may also need assistance in circling their responses to Items 9–12. Please encourage students to complete Items 13–15.

If a student is absent, please arrange for the student to complete the Student Questionnaire as soon as possible after returning to school.

After administering the questionnaire, please check that all students have clearly printed their names on the front of the questionnaire. Enclose the questionnaires (both completed and unused copies) in the provided envelopes for mailing to Madison.

We appreciate the work you have done in gathering information during the *Mathematics in Context* longitudinal study. We thank you for your continued participation and support.

Sincerely,

The Staff of the *Mathematics in Context* Longitudinal Study

Today's Date _____

STUDENT QUESTIONNAIRE

Please answer the questions on both sides of this paper as thoroughly as you can. Your responses will not affect your grade in any way, so answer as honestly as you can. When you finish answering all the questions, return this form to your teacher. Thank you for completing the information on this questionnaire.

1. Your Name:

_____

Last name First name Middle Initial

2. Date of birth: _____
Month - Day - Year

3. What grade are you in? _____grade__

4. Name of your school **THIS YEAR** _____

City: _____ State: _____

Name of your school **LAST YEAR** _____

City: _____ State: _____

5. Name of your teacher _____

6. What is your gender? (circle one)

Female …….. 1 Male…….. 2

7. How do you best describe yourself? (Circle as many as apply)

African American ……..… 1
American Indian, Eskimo, or Aleut … 2
Asian or Pacific Islander …… 3
Hispanic …… 4
White …… 5
Multiracial ……. 6
Haitian …….. 7
Other (specify) _____ 8

8. Do you communicate better in English than in any other language? (Circle one)

Yes…….. 1 No …….. 2

9. What class or subject area do you enjoy studying most? (Circle one)

Social Studies …….. 1
Science …… 2
Math …… 3
Reading …… 4
Writing …… 5
Art …… 6
Music …… 7
Physical Education ……... 8
Band …… 9
Other (specify) _____ 10

About how often do you talk about the following topics with your classmates, friends, and other acquaintances? (Please circle one for each item)

	Never	Sometimes	Often	Very Often
10. Mathematical ideas and ways to solve problems.	0	1	2	3
11. Mathematical problems assigned for homework.	0	1	2	3
12. The ways that mathematics is used outside of school.	0	1	2	3

13. What are three things that you enjoy the <u>most</u> about math class?

_____
_____
_____
_____

14. What are three things that you enjoy the <u>least</u> about math class?

_____
_____
_____
_____

15. How has your knowledge of mathematics and the way you learn mathematics helped you in other classes such as science and social studies?

_____
_____
_____
_____