

## APPENDIX A

## 1975 Student Questionnaire Responses

Two forms of student questionnaires were constructed, the first of which was the Spectrum Student Questionnaire (SSQ). For students of the same age whose teachers had not participated in the Spectrum workshop the Student Questionnaire (SQ) was developed.

The questionnaires were administered to a total of 634 students. Included in the sample were students of nine Spectrum teachers, and eight non-Spectrum Control teachers. Responses to each of the two forms of questionnaire are presented in tabular form along with total sample size and a breakdown of number of students responding from each grade level. In some cases a student may have had more than one Spectrum teacher and consequently filled out more than one questionnaire.

Below appear the matching questions from the SSQ and the SQ along with the percent of Spectrum and non-Spectrum students who selected each response. The question numbers and the wording of the questions corresponds to the SSQ. The number in parentheses is the number of the matching question on the SQ. Where SSQ questions ask for comparisons with non-Spectrum classes the corresponding question on the SQ asks students to compare their class with other non-Spectrum classes.

Proportions of Students by Response for Synchronous Questions  
on SSQ and SQ for 7th and 8th grade

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3(1). This class is taught \_\_\_\_\_ different from classes where the teacher doesn't use the different styles.

	<u>SSQ</u>	<u>SQ</u>
1. completely	.17	.15
2. much	.27	.13
3. somewhat	.48	.60
4. no	.07	.12

4(2). Compared with my non-Spectrum classes, in this class we have \_\_\_\_\_ problems because students act up.

	<u>SSQ</u>	<u>SQ</u>
1. many more	.08	.25
2. more	.17	.27
3. the same number	.37	.21
4. fewer	.29	.19
5. much fewer	.08	.07

5(3). Students can make decisions about how good their work is.

	<u>SSQ</u>	<u>SQ</u>
1. strongly agree	.13	.15
2. agree	.64	.59
3. disagree	.16	.17
4. strongly disagree	.06	.09

8(4). Compared with my non-Spectrum classes, we waste \_\_\_\_\_ time getting started to work in this class.

	<u>SSQ</u>	<u>SQ</u>
1. very much	.12	.13
2. much	.15	.11
3. some	.33	.31
4. little	.30	.36
5. no	.09	.09

9(8). Compared with my non-Spectrum classes, in this class we go \_\_\_\_\_.

	<u>SSQ</u>	<u>SQ</u>
1. much faster	.08	.05
2. faster	.32	.18
3. about the same pace	.37	.59
4. slower	.16	.17
5. much slower	.07	.02

10(16). In this class I get \_\_\_\_\_ work done compared with my non-Spectrum classes.

	<u>SSQ</u>	<u>SQ</u>
1. much more	.09	.08
2. more	.32	.26
3. the same amount of	.38	.48
4. less	.13	.15
5. much less	.07	.03

12(9). Compared with my non-Spectrum classes, in this class I find it \_\_\_\_\_ to pay attention.

	<u>SSQ</u>	<u>SQ</u>
1. much easier	.18	.16
2. a little easier	.27	.25
3. about the same	.33	.30
4. a little harder	.12	.20
5. much harder	.09	.09

13(10). I like it when the teacher works privately with me.

	<u>SSQ</u>	<u>SQ</u>
1. strongly agree	.06	.17
2. agree	.28	.44
3. disagree	.41	.31
4. strongly disagree	.20	.07

14(11). I trust this teacher \_\_\_\_\_ any of my non-Spectrum teachers.

	<u>SSQ</u>	<u>SQ</u>
1. much more than	.04	.17
2. more than	.13	.28
3. about the same as	.58	.45
4. less than	.14	.10
5. much less than	.11	.02

15(12). The kids fool around \_\_\_\_\_ in this class than my non-Spectrum classes.

	<u>SSQ</u>	<u>SQ</u>
1. much more	.08	.23
2. more	.15	.30
3. about the same	.22	.15
4. less	.32	.20
5. much less	.14	.07

16(13). I like this class \_\_\_\_\_ my non-Spectrum classes.

	<u>SSQ</u>	<u>SQ</u>
1. much more than	.10	.20
2. more than	.20	.32
3. the same as	.32	.29
4. less than	.20	.11
5. much less than	.17	.09

17(14). Compared with my non-Spectrum classes, in this class I know exactly what I'm supposed to be doing \_\_\_\_\_.

	<u>SSQ</u>	<u>SQ</u>
1. much more often	.13	.15
2. more often	.33	.31
3. the same amount	.37	.43
4. less often	.12	.09
5. much less often	.04	.02

18(15). This teacher works privately with me \_\_\_\_\_ my non-Spectrum teachers.

	<u>SSQ</u>	<u>SQ</u>
1. much more often than	.03	.04
2. more often than	.12	.16
3. about the same as	.47	.53
4. less than	.25	.16
5. much less than	.13	.09

Below appear the questions from the SSQ that are concerned with issues that are primarily Spectrum related.

Response Proportions for Questions Specific to Spectrum  
from SSQ for 7th and 8th Grade

---

1. Which style do you like the best?

SSQ

1.	A	.04
2.	B	.29
3.	C	.18
4.	D	.25
5.	F	.23

2. In which style do you seem to learn best?

SSQ

1.	A	.13
2.	B	.38
3.	C	.13
4.	D	.19
5.	F	.16

6. I find \_\_\_\_\_ of the decisions in the different styles confusing.

SSQ

1.	most	.09
2.	many	.04
3.	some	.33
4.	few	.31
5.	none	.23

7. I wish all my teachers used different styles.

SSQ

1.	strongly agree	.09
2.	agree	.36
3.	disagree	.31
4.	strongly disagree	.19

8. My teacher makes decisions which were supposed to be mine.

SSQ

1.	very often	.12
2.	often	.16
3.	sometimes	.34
4.	seldom	.28
5.	never	.10

19. Which style do you like least?

SSQ

- |      |     |
|------|-----|
| 1. A | .62 |
| 2. B | .08 |
| 3. C | .11 |
| 4. D | .08 |
| 5. F | .06 |

20. I wish different styles were used in all my classes.

SSQ

- |                      |     |
|----------------------|-----|
| 1. strongly agree    | .11 |
| 2. agree             | .26 |
| 3. disagree          | .31 |
| 4. strongly disagree | .24 |

21. When I am in a Spectrum class I \_\_\_\_\_ making the decisions shifted to me.

SSQ

- |                     |     |
|---------------------|-----|
| 1. like very much   | .23 |
| 2. like             | .39 |
| 3. don't care about | .26 |
| 4. dislike          | .02 |
| 5. hate             | .04 |

## APPENDIX B

Discriminant Analysis of Overlapping  
1975 Student Questionnaire Responses

SSQ#	Descriptor	Standardized (Scaled) Discriminant Weights
3	class taught differently	-1.51
4	# discipline problems	4.40
5	student self-evaluation	-3.07
8	wasted time starting	-3.63
9	class pace	-4.02
10	amount of work done	-1.81
12	easiness to pay attention	-7.56
13	like individual interactions	10.61
14	trust for teacher	14.88
15	amount of time fooling around	10.85
16	I like this class	10.61
17	know what to do in class	-1.98
18	# teacher-student interactions	-5.63

Group Means on Discriminant Function:

Spectrum 1.186

Control 1.890

Significance Tests:

Wilks Lambda = .887

Hotelling's  $T^2$  Coefficient = 86.431Distributed as an F ratio:  $F = 6.531$  with 13 and 668 degrees of freedom

Bartlett's V statistics for testing overall significance:

 $\chi^2 = 80.586$  with 13 degrees of freedom

## APPENDIX C

## 1976 Student Questionnaire Responses

1. In this class we go at a \_\_\_\_\_ pace.

	<u>Spectrum</u>	<u>Control</u>
1. very fast	.06	.05
2. fast	.35	.23
3. average	.55	.62
4. slow	.03	.08
5. very slow	.01	.03

2. How often in this class do students misbehave?

	<u>Spectrum</u>	<u>Control</u>
1. Once or twice a week	.42	.43
2. About once a period	.29	.23
3. About 2 to 4 times a period	.19	.23
4. About 5 to 10 times a period	.05	.08
5. Over 10 times a period	.05	.04

3. It usually takes about \_\_\_\_\_ minutes before we get started to work on the subject matter in this class.

	<u>Spectrum</u>	<u>Control</u>
1. Over 20 minutes	.03	.01
2. 10 - 20 minutes	.05	.04
3. 5 - 10 minutes	.29	.23
4. 1 - 5 minutes	.53	.54
5. Almost none	.10	.20

4. About how much of the time would you say you are hard at work in this class?

	<u>Spectrum</u>	<u>Control</u>
1. Almost all of the time	.25	.22
2. About 3/4 of the time	.36	.32
3. About 1/2 of the time	.26	.24
4. About 1/4 of the time	.09	.14
5. Almost none of the time	.05	.08



5. In this class I pay close attention \_\_\_\_\_ of the time.

	<u>Spectrum</u>	<u>Control</u>
1. Almost all	.45	.39
2. About 3/4	.32	.33
3. About 1/2	.14	.17
4. About 1/4	.06	.06
5. Almost none	.03	.05

6. I like it when the teacher walks around the room and stops briefly at my desk to check my work or help me with a problem.

	<u>Spectrum</u>	<u>Control</u>
1. Strongly Agree	.16	.18
2. Agree	.53	.49
3. Disagree	.20	.20
4. Strongly Disagree	.09	.12

7. When I have a problem learning something this teacher usually

	<u>Spectrum</u>	<u>Control</u>
1. embarrasses me by letting everyone know.	.07	.05
2. makes me feel foolish for not knowing something	.05	.07
3. doesn't make me feel either bad or good.	.20	.25
4. makes me feel like I could probably learn it.	.35	.36
5. keeps my problem to himself and then helps me.	.33	.27

8. There are some kids fooling around in this class \_\_\_\_\_ of the time.

	<u>Spectrum</u>	<u>Control</u>
1. Almost all	.21	.17
2. About 3/4	.13	.12
3. About 1/2	.12	.17
4. About 1/4	.27	.24
5. Almost none.	.27	.29

9. I like this class.

	<u>Spectrum</u>	<u>Control</u>
1. Strongly Agree	.27	.29
2. Agree	.49	.45
3. Disagree	.17	.16
4. Strongly Disagree	.07	.10

10. In this class I know exactly what I'm supposed to be doing \_\_\_\_\_ of the time.

	<u>Spectrum</u>	<u>Control</u>
1. Almost all	.46	.46
2. About 3/4	.32	.30
3. About 1/2	.13	.16
4. About 1/4	.06	.05
5. Almost none	.03	.03

11. This teacher stops by my desk to check my work or help me with a problem \_\_\_\_\_.

	<u>Spectrum</u>	<u>Control</u>
1. Over 4 or 5 times a class period.	.05	.03
2. About 2 or 3 times a class period.	.22	.15
3. About once a class period.	.31	.20
4. About once or twice a week.	.23	.23
5. Almost never.	.20	.38

12. I feel that I do my best work in this class.

	<u>Spectrum</u>	<u>Control</u>
1. Strongly Agree	.21	.23
2. Agree	.46	.44
3. Disagree	.24	.25
4. Strongly Disagree	.08	.08

13. In this class during part of the period I work with another student on schoolwork:

	<u>Spectrum</u>	<u>Control</u>
1. Every day	.29	.04
2. About three times a week	.26	.07
3. About once a week	.19	.14
4. About once a month	.07	.14
5. Almost never	.18	.60

14. I am pleased with the amount I am learning in this class.

	<u>Spectrum</u>	<u>Control</u>
1. Strongly Agree	.28	.30
2. Agree	.55	.50
3. Disagree	.11	.13
4. Strongly Disagree	.06	.07

15. How much of the time do you find the schoolwork in this class interesting?

	<u>Spectrum</u>	<u>Control</u>
1. All of the time	.14	.17
2. About 3/4 of the time	.33	.27
3. About 1/2 of the time	.25	.26
4. About 1/4 of the time	.15	.15
5. Almost never	.13	.15

16. I like the way this teacher runs this class.

	<u>Spectrum</u>	<u>Control</u>
1. Strongly Agree	.28	.31
2. Agree	.46	.48
3. Disagree	.17	.13
4. Strongly Disagree	.08	.08

17. I feel I would learn more if this class was taught in a different way.

	<u>Spectrum</u>	<u>Control</u>
1. Strongly Agree	.12	.13
2. Agree	.19	.18
3. Disagree	.46	.40
4. Strongly Disagree	.20	.26

18. The teacher in this class is very friendly toward students.

	<u>Spectrum</u>	<u>Control</u>
1. Strongly Agree	.42	.37
2. Agree	.43	.43
3. Disagree	.09	.13
4. Strongly Disagree	.04	.07

19. Out of every period I would say we waste \_\_\_\_\_ minutes in this class.

	<u>Spectrum</u>	<u>Control</u>
1. Almost no	.21	.21
2. 1 - 5	.37	.36
3. 5 - 10	.31	.29
4. 10 - 20	.09	.10
5. Over 20	.03	.04

## Spectrum Students Only

20. Which style do you like best?
- |            |     |
|------------|-----|
| 1. Style A | .03 |
| 2. Style B | .37 |
| 3. Style C | .30 |
| 4. Style D | .14 |
| 5. Style F | .14 |
21. Why do you like that style best? (Choose only one, please)
- |   |     |
|---|-----|
| 1. I work harder.                                 | .20 |
| 2. I work with other students.                    | .43 |
| 3. We sit anywhere we want.                       | .19 |
| 4. The teacher comes around to work with us more. | .05 |
| 5. The teacher lets kids fool around more.        | .09 |
22. In which style do you seem to learn best?
- |            |     |
|------------|-----|
| 1. Style A | .14 |
| 2. Style B | .50 |
| 3. Style C | .17 |
| 4. Style D | .09 |
| 5. Style F | .08 |
23. This class is taught \_\_\_\_\_ different from classes where the teacher doesn't use different styles.
- |               |     |
|---------------|-----|
| 1. Completely | .16 |
| 2. Much       | .22 |
| 3. Somewhat   | .54 |
| 4. No         | .08 |
24. I find \_\_\_\_\_ of the decisions in the different styles confusing.
- |         |     |
|---------|-----|
| 1. Most | .06 |
| 2. Many | .07 |
| 3. Some | .22 |
| 4. Few  | .40 |
| 5. None | .24 |
25. I wish all my teachers used the different teaching styles.
- |                      |     |
|----------------------|-----|
| 1. Strongly Agree    | .09 |
| 2. Agree             | .33 |
| 3. Disagree          | .33 |
| 4. Strongly Disagree | .21 |

26. Which style do you like least?
- |            |     |
|------------|-----|
| 1. Style A | .77 |
| 2. Style B | .07 |
| 3. Style C | .05 |
| 4. Style D | .04 |
| 5. Style F | .06 |
27. Why do you like that style least? (Choose only one, please)
- |   |     |
|---|-----|
| 1. I work harder.                                 | .12 |
| 2. The teacher lets kids fool around more.        | .10 |
| 3. The teacher is too strict with us.             | .70 |
| 4. The teacher comes around to work with us more. | .03 |
| 5. I work with other students.                    | .03 |
28. I wish the different styles were used in all my classes.
- |                      |     |
|----------------------|-----|
| 1. Strongly Agree    | .07 |
| 2. Agree             | .34 |
| 3. Disagree          | .32 |
| 4. Strongly Disagree | .23 |
29. When I am in class I \_\_\_\_\_ making the decisions shifted to me.
- |                     |     |
|---------------------|-----|
| 1. like very much   | .33 |
| 2. like             | .42 |
| 3. don't care about | .20 |
| 4. dislike          | .02 |
| 5. hate             | .03 |
30. What style does your teacher use most of the time?
- |             |     |
|-------------|-----|
| 1. No style | .11 |
| 2. Style B  | .70 |
| 3. Style C  | .08 |
| 4. Style D  | .07 |
| 5. Style F  | .04 |
31. Our teacher uses Style A (where the teacher makes all the decisions)  
\_\_\_\_\_.
- |                                |     |
|--------------------------------|-----|
| 1. Every day                   | .05 |
| 2. About 3 periods a week      | .07 |
| 3. About once a week           | .15 |
| 4. About once or twice a month | .27 |
| 5. Almost never.               | .45 |

32. Our teacher uses Style B (the Practice Style) \_\_\_\_\_.
- |                                |     |
|--------------------------------|-----|
| 1. Every day                   | .35 |
| 2. About 3 periods a week      | .31 |
| 3. About once a week           | .17 |
| 4. About once or twice a month | .10 |
| 5. Almost never                | .16 |
33. Our teacher uses Style C (where students work in partners) \_\_\_\_\_.
- |                                |     |
|--------------------------------|-----|
| 1. Every day                   | .04 |
| 2. About 3 periods a week      | .14 |
| 3. About once a week           | .31 |
| 4. About once or twice a month | .35 |
| 5. Almost never                | .15 |
34. Our teacher uses Style D (where students choose their own level)  
\_\_\_\_\_.
- |                                |     |
|--------------------------------|-----|
| 1. Every day                   | .07 |
| 2. About 3 periods a week      | .10 |
| 3. About once a week           | .14 |
| 4. About once or twice a month | .34 |
| 5. Almost never                | .33 |
35. Our teacher uses Style F (where we are asked to express our own ideas and feelings) \_\_\_\_\_.
- |                                |     |
|--------------------------------|-----|
| 1. Every day                   | .06 |
| 2. About 3 periods a week      | .05 |
| 3. About once a week           | .13 |
| 4. About once or twice a month | .21 |
| 5. Almost never                | .53 |
36. How often does your teacher use any of the styles?
- |                         |     |
|-------------------------|-----|
| 1. Every day            | .46 |
| 2. About 4 times a week | .17 |
| 3. About 3 times a week | .11 |
| 4. About once a week    | .14 |
| 5. About once a month   | .09 |

## APPENDIX D

## Discriminant Analysis of 1976 Student

## Questionnaire Responses

SQ#	Descriptor	Standardized (scaled) Discriminant Weights
1	class pace	-12.77
2	discipline problems	- 4.67
3	wasted time starting	-10.93
4	time hard at work	- 8.62
5	time paying close attention	- 5.68
6	like individual interactions	2.84
7	trust for teacher	3.13
8	amount of time fooling around	- 3.34
9	I like this class	- .83
10	know what to do in class	- 3.32
11	# teacher-student interactions	- 7.93
12	do best work in this class	3.75
13	work with other students	-46.00
14	amount of learning	- .87
15	interestingness of schoolwork	2.25
16	like how class is run	12.79
17	learn more if class taught differently	- 1.72
18	teacher friendly toward students	- 7.82
19	overall waste time	- 5.24

Group Means on Discriminant Function:

Spectrum -4.234

Control -2.703

Significance Tests:

Wilk's Lambda = .754

Hotelling's  $T^2$  Coefficient = 767.525Distributed as an F ratio:  $F = 40.087$  with 19 and 2336 degrees of freedom

Bartlett's V statistic for testing overall significance:

 $\chi^2 = 661.63$  with 19 degrees of freedom.

## APPENDIX E

## Responses to Questions on the 1975 Teacher Questionnaire

	<u>Spectrum responses</u>	<u>Control responses</u>
<u>Preparation</u>		
STQ 4. Preparation for using the Spectrum in my classes takes more time than it is worth.		
1. Strongly agree		
2. Agree	.10	
3. Disagree	.57	
4. Strongly disagree	.31	
TQ 3. To the best of my knowledge, compared with other teachers whom I know in my school, I spend _____ time preparing for my classes.		
1. Much more	.27	
2. More	.38	.55
3. About the same	.27	.35
4. Less		.10
5. Much less		
6. Omitted	.05	
<u>Efficiency in Time Use</u>		
STQ20. I spend _____ time giving directions and instructions in class when I use Spectrum teaching compared with non-Spectrum.		
1. Much more		
2. More	.31	
3. The same amount	.26	
4. Less	.15	
5. Much less	.26	
TQ19. Compared with other teachers I seem to have to spend _____ time giving directions in class.		
1. Much more		
2. More	.05	.15
3. About the same	.52	.65
4. Less	.26	.15
5. Much less	.05	.05
6. Omitted	.10	
STQ14. We cover _____ material since I implemented the Spectrum.		
1. Much more		
2. More	.47	
3. About the same	.42	
4. Less	.10	
5. Much less		



<u>Spectrum</u>	<u>Control</u>
<u>responses</u>	<u>responses</u>

Discipline

STQ16. I have \_\_\_\_\_ discipline problems since implementing the Spectrum.

- |                       |     |  |
|-----------------------|-----|--|
| 1. Many more          |     |  |
| 2. More               |     |  |
| 3. The same number of | .52 |  |
| 4. Fewer              | .42 |  |
| 5. Many fewer         |     |  |
| 6. Omitted            | .05 |  |

TQ15. To the best of my knowledge, compared with other teachers whom I know, I would say that I have \_\_\_\_\_ discipline problems.

- |                       |     |     |
|-----------------------|-----|-----|
| 1. Many more          |     |     |
| 2. More               | .05 | .15 |
| 3. The same number of | .10 | .25 |
| 4. Fewer              | .68 | .55 |
| 5. Many fewer         | .10 | .05 |
| 6. Omitted            | .05 |     |

Clarity of Roles and Role Expectation

TQ 8. To the best of my knowledge, compared with other teachers whom I know, I would say that my explanations in class concerning subject matter are \_\_\_\_\_ clear.

- |              |     |     |
|--------------|-----|-----|
| 1. Much more | .00 | .05 |
| 2. More      | .56 | .30 |
| 3. Equally   | .36 | .65 |
| 4. Less      |     |     |
| 5. Much less |     |     |
| 6. Omitted   | .09 |     |

STQ18. Students find it easy to follow prescribed roles.

- |                      |     |
|----------------------|-----|
| 1. Strongly Agree    | .15 |
| 2. Agree             | .78 |
| 3. Disagree          | .06 |
| 4. Strongly Disagree |     |

TQ17. My students find it easy to follow my directions.

- |                      |     |     |
|----------------------|-----|-----|
| 1. Strongly Agree    | .05 | .10 |
| 2. Agree             | .78 | .80 |
| 3. Disagree          | .10 | .10 |
| 4. Strongly Disagree |     |     |
| 5. Omitted           | .05 |     |

	<u>Spectrum</u> <u>responses</u>	<u>Control</u> <u>responses</u>
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Confidence in Learning Progress

STQ12. My students are learning \_\_\_\_\_ since we began using the Spectrum.

- |                   |     |  |
|-------------------|-----|--|
| 1. Much more      | .05 |  |
| 2. More           | .42 |  |
| 3. About the same | .47 |  |
| 4. Less           |     |  |
| 5. Much less      |     |  |
| 6. Omitted        | .05 |  |

TQ11. This year in my classes my students learned \_\_\_\_\_ than if they had been in my classes last year.

- |  |     |     |
|--|-----|-----|
| 1. Much more                             | .10 | .10 |
| 2. More                                  | .73 | .60 |
| 3. Less                                  | .05 | .20 |
| 4. Much less                             |     |     |
| 5. (I don't know, this is my first year) |     |     |
| 6. Omitted                               | .10 |     |

TQ20. My classes seem to work \_\_\_\_\_ than classes taught by other teachers.

- |                    |     |     |
|--------------------|-----|-----|
| 1. Much harder     | .15 | .05 |
| 2. Harder          | .31 | .35 |
| 3. Somewhat harder | .36 | .40 |
| 4. Less hard       |     | .15 |
| 5. Much less hard  |     | .05 |
| 6. Omitted         | .15 |     |

TQ13. To the best of my knowledge, compared with other teachers whom I know in my subject field, I would say we cover \_\_\_\_\_ material in my class.

- |                   |     |     |
|-------------------|-----|-----|
| 1. Much more      |     | .15 |
| 2. More           | .52 | .25 |
| 3. About the same | .31 | .60 |
| 4. Less           |     |     |
| 5. Much less      |     |     |
| 6. Omitted        | .15 |     |

STQ21. Students work \_\_\_\_\_ diligently when in a Spectrum style compared with the way my students worked before I began using the Spectrum.

- |              |     |  |
|--------------|-----|--|
| 1. Much more | .15 |  |
| 2. More      | .47 |  |
| 3. Equally   | .36 |  |
| 4. Less      |     |  |
| 5. Much less |     |  |

<u>Spectrum responses</u>	<u>Control responses</u>
-------------------------------	------------------------------

Time Spent With Individuals in Class

STQ19. I have spent \_\_\_\_\_ time with individuals in my class since implementing the Spectrum.

- |                       |     |
|-----------------------|-----|
| 1. Much more          | .15 |
| 2. More               | .42 |
| 3. The same amount of | .42 |
| 4. Less               |     |
| 5. Much less          |     |

TQ18. To the best of my knowledge, compared with other teachers whom I know, I would say I spend \_\_\_\_\_ time working privately with individuals.

- |                   |     |     |
|-------------------|-----|-----|
| 1. Much more      | .05 | .10 |
| 2. More           | .47 | .45 |
| 3. About the same | .36 | .40 |
| 4. Less           |     | .05 |
| 5. Much less      |     |     |
| 6. Omitted        | .10 |     |

Perceived Student Attitude

STQ13. My students seem \_\_\_\_\_ in years before I used the Spectrum.

- |                          |     |
|--------------------------|-----|
| 1. Much happier than     | .05 |
| 2. Somewhat happier than | .42 |
| 3. About as happy as     | .47 |
| 4. Less happy than       |     |
| 5. Much less happy than  |     |
| 6. Omitted               | .05 |

TQ12. This year I would say that my students seemed \_\_\_\_\_ than last year.

- |                                   |     |     |
|-----------------------------------|-----|-----|
| 1. Much happier                   |     | .20 |
| 2. Somewhat happier               | .52 | .15 |
| 3. The same in terms of happiness | .42 | .55 |
| 4. Less happy                     |     | .10 |
| 5. Much less happy                |     |     |
| 6. Omitted                        | .05 |     |

STQ17. My students like learning by different styles.

- |                      |     |
|----------------------|-----|
| 1. Strongly Agree    | .21 |
| 2. Agree             | .68 |
| 3. Disagree          | .10 |
| 4. Strongly Disagree |     |

	<u>Spectrum</u> <u>responses</u>	<u>Control</u> <u>responses</u>
--	-------------------------------------	------------------------------------

Personal Characteristics

STQ10. My experience as a teacher before Spectrum training has been more useful than the Spectrum training program.

- |                      |     |  |
|----------------------|-----|--|
| 1. Strongly Agree    |     |  |
| 2. Agree             | .36 |  |
| 3. Disagree          | .47 |  |
| 4. Strongly Disagree | .15 |  |

TQ 9. My experience as a teacher has been and probably will be more useful than any teacher training program.

- |                      |     |     |
|----------------------|-----|-----|
| 1. Strongly Agree    | .31 | .45 |
| 2. Agree             | .31 | .40 |
| 3. Disagree          | .21 | .10 |
| 4. Strongly Disagree |     | .05 |
| 5. Omitted           | .15 |     |

STQ 5. I was using most of the techniques before I ever heard of the Spectrum.

- |                      |     |  |
|----------------------|-----|--|
| 1. Strongly Agree    |     |  |
| 2. Agree             | .21 |  |
| 3. Disagree          | .63 |  |
| 4. Strongly Disagree | .15 |  |

STQ 6. Most of the Spectrum is nothing new--just new labels on old ideas.

- |                      |     |  |
|----------------------|-----|--|
| 1. Strongly Agree    |     |  |
| 2. Agree             | .21 |  |
| 3. Disagree          | .42 |  |
| 4. Strongly Disagree | .31 |  |
| 5. Omitted           | .05 |  |

STQ23. Spectrum takes away a teacher's individuality.

- |                      |     |  |
|----------------------|-----|--|
| 1. Strongly Agree    |     |  |
| 2. Agree             | .10 |  |
| 3. Disagree          | .42 |  |
| 4. Strongly Disagree | .47 |  |

STQ24. I think all teachers could benefit from the Spectrum.

- |                      |     |  |
|----------------------|-----|--|
| 1. Strongly Agree    | .42 |  |
| 2. Agree             | .52 |  |
| 3. Disagree          | .05 |  |
| 4. Strongly Disagree |     |  |

## Items Not Summarized

Personal Characteristics

TQ 4. To the best of my knowledge, compared with other teachers whom I know, I look forward to each teaching day \_\_\_\_\_ eagerly.

1. Much more	.10	.25
2. More	.31	.30
3. Equally	.47	.45
4. Less		
5. Much less		
6. Omitted	.10	

TQ 5. To the best of my knowledge, compared with other teachers whom I know, I would say that I show \_\_\_\_\_ enthusiasm in the classroom.

1. Much more	.15	
2. More	.47	.70
3. Equal	.26	.30
4. Less		
5. Much less		
6. Omitted	.10	

STQ 3. Students are capable of evaluating \_\_\_\_\_ of their work.

1. Most	.10	
2. Much	.63	
3. Some	.26	
4. Little		
5. None		

TQ 2. Students are capable of doing the evaluation of \_\_\_\_\_ of their own work.

1. All		.10
2. Much	.63	.40
3. Some	.31	.45
4. Little		.05
5. None		
6. Omitted	.05	

TQ16. My students like it when I change my methods and my approach to my subject(s).

1. Strongly Agree	.18	.30
2. Agree	.66	.60
3. Disagree	.11	.10
4. Strongly Disagree		
5. Omitted	.05	

	<u>Spectrum responses</u>	<u>Control responses</u>
TQ21. I feel I am very well prepared for my classes _____ of the time.		
1. All	.10	.05
2. Most	.68	.90
3. Some	.15	.05
4. Little		
5. None		
6. Omitted	.05	
STQ11. My teaching philosophy precludes the use of some of the teaching styles.		
1. Strongly Agree		
2. Agree	.10	
3. Disagree	.57	
4. Strongly Disagree	.31	
TQ14. To the best of my knowledge, compared with other teachers whom I know, I would say that my teaching philosophy is _____ firm and established.		
1. Much more		.10
2. More	.26	.30
3. Equally	.57	.35
4. Less	.21	.20
5. Much less		.05
6. Omitted	.05	
TQ 6. To the best of my knowledge, compared with other teachers whom I know, I would say that I show _____ overall warmth toward my students in class.		
1. Much more	.15	.25
2. More	.47	.40
3. Equal	.21	.25
4. Less	.05	.10
5. Much less		
6. Omitted	.10	
TQ 7. In my classes the activities and lessons are _____ varied.		
1. Extremely	.00	.20
2. Very	.47	.45
3. Moderately	.47	.30
4. Not very	.00	.05
5. Omitted	.05	

	<u>Spectrum responses</u>	<u>Control responses</u>
TQ10. To the best of my knowledge, compared with other teachers whom I know, I would say that I like being a teacher _____.		
1. Much more	.15	.25
2. More	.57	.50
3. About the same	.21	.20
4. Less		.05
5. Much less		
6. Omitted	.05	
TQ22. On the whole my attitude toward teaching is _____.		
1. Very positive	.57	.47
2. Positive	.36	.48
3. Neutral		
4. Negative		.05
5. Very negative		
6. Omitted	.05	
TQ23. I see myself as a _____ teacher.		
1. Excellent	.15	.20
2. Good	.68	.60
3. Average	.10	.20
4. Below average		
5. Poor		
6. Omitted	.05	

Agreement with Spectrum Principles

(Spectrum Teachers Only)

STQ 1. I agree that teaching behavior is a chain of decision making.		
1. Strongly Agree	.63	
2. Agree	.31	
3. Disagree	.05	
4. Strongly Disagree		
STQ 2. Students are capable of making _____ subject matter decisions.		
1. Most	.00	
2. Many	.57	
3. Some	.42	
4. Few	.00	
5. No	.00	

STQ25. In the various styles, what proportion of the decisions shifted to them are your students capable of making? Please place one check per style in the appropriate cell.

	B	C	D	E	F
All	.68	.68	.63	.31	.52
Most	.26	.21	.26	.05	.10
Many		.05			.10
Some				.05	
None				.05	
Omitted	.05	.05	.10	.60	.28

Spectrum  
responses

STQ27. I find that I consistently have to remind \_\_\_\_\_ of my students what their roles are in any of the different styles.

1. All
2. Most
3. Several .31
4. Few .69
5. None

STQ26. It is not realistic to suppose that teachers will use more than two or three of the styles.

1. Strongly Agree
2. Agree .21
3. Disagree .57
4. Strongly Disagree .21

STQ 7. I adopted \_\_\_\_\_ of the ideas I learned during Spectrum training.

1. All .31
2. Many .52
3. Some .15
4. Few
5. None



Spectrum  
responses

STQ 8. I found Spectrum training tough on me emotionally.

- |    |                   |     |
|----|-------------------|-----|
| 1. | Strongly Agree    | .05 |
| 2. | Agree             | .42 |
| 3. | Disagree          | .36 |
| 4. | Strongly Disagree | .15 |

STQ 9. A lot of my questions were never really answered during the training program.

- |    |                   |     |
|----|-------------------|-----|
| 1. | Strongly Agree    | .10 |
| 2. | Agree             | .05 |
| 3. | Disagree          | .47 |
| 4. | Strongly Disagree | .36 |

STQ15. I don't think it is always necessary to be pure and perfect in the actual classroom.

- |    |                   |     |
|----|-------------------|-----|
| 1. | Strongly Agree    | .31 |
| 2. | Agree             | .52 |
| 3. | Disagree          | .15 |
| 4. | Strongly Disagree |     |

STQ22. In my classes I am \_\_\_\_\_ about the specific decisions as prescribed by Spectrum theory.

- |    |                       |     |
|----|-----------------------|-----|
| 1. | Very deliberate       |     |
| 2. | Deliberate            |     |
| 3. | Moderately deliberate | .63 |
| 4. | Not so deliberate     | .36 |
| 5. | Not at all deliberate |     |

## APPENDIX F

Two open-ended questions were given to teachers who were Spectrum Implementers on the 1975 questionnaire. A summary of their responses follows below. The categories are verbatim responses given by the teachers. A number in parentheses following a response indicates the number of teachers making that or a very similar response. The number of teachers responding was 19.

---

*In the space provided on this page please give us your comments about what you consider to be the strengths of the Spectrum.*

"forces consideration of preparation and materials sequencing" (7)

"provides more success for the learner" (1)

"verbal awareness" (2)

"student involvement in decision making process (responsibility)" (6)

"variety" (4)

"I give clearer and more concise directions" (2)

"clarity of expectations for teacher and learner behavior" (10)

"individualization" of teaching (2)

"we cover more material in less time, less time wasting" (2)

"students play the game of Spectrum, which they enjoy" (1)

"accountability" (1)

"fewer discipline problems" (1)

*In the space provided on this page please give us your comments about what you consider to be the weaknesses of the Spectrum.*

"amount of time to prepare materials" (7)

"lack of available materials" (3)

"need for secretarial help" (1)

"my more sophisticated students do not enjoy Spectrum as much as the less mature ones - they think Style C is too childish." (7th grade teacher) (1)

"interruptions of cameras in classes" (1)

"if students make only those decisions shifted to them there is less of an opportunity for the teacher to detect emotional or social conflicts, deviants, etc." (1)

the program is teacher oriented rather than student oriented (1)

"constant inspection leaves one's shortcomings continually exposed; a teacher must have high self-esteem and not threatened by constant inspection." (1)

"Spectrum is not a cure all and is best used with other strategies." (1)

## APPENDIX G

## Responses to Questions on the 1976 Teacher Questionnaire

	<u>Spectrum responses</u>	<u>Control responses</u>
1. How many distinct preparations do you have to make for each day's teaching:	3.5	3.5
2. Please indicate how much total preparation time you spend for the average day's teaching:	1.6 hr.	1.2 hr.
3. In my classes the activities and lessons are _____ varied.		
1. Extremely	.40	.05
2. Very	.30	.50
3. Moderately	.20	.40
4. Only slightly	.10	.05
4. On the average I would say I spend _____ minutes each class period dealing with discipline problems.	2.3	3.75
5. My experience as a teacher has been and probably will be more useful than any teacher training program.		
1. Strongly Agree	.60	.60
2. Agree	.20	.35
3. Disagree	.10	.05
4. Strongly Disagree	.10	
6. I would say that I am enjoying being a teacher this year.		
1. Strongly Agree	.60	.50
2. Agree	.40	.45
3. Disagree		.05
4. Strongly Disagree		
7. This year in my classes my students learned _____ than if they had been in my classes last year.		
1. Much more	.30	.10
2. More	.70	.80
3. Less		.05
4. Much less		
5. I don't know, this is my first year.		.05

	<u>Spectrum</u> <u>responses</u>	<u>Control</u> <u>responses</u>
8. I would say my students trust me not to make them appear foolish in front of their friends.		
1. Strongly Agree	.70	.25
2. Agree	.30	.75
3. Disagree		
4. Strongly Disagree		
9. I would say that my students generally find my classes interesting.		
1. Strongly Agree	.10	.10
2. Agree	.90	.85
3. Disagree		.05
4. Strongly Disagree		
10. If it came to a vote I would bet that more of my students would say they liked my classes than didn't.		
1. Strongly Agree	.10	.35
2. Agree	.90	.65
3. Disagree		
4. Strongly Disagree		
11. On the average, I would say that I have _____ discipline problems every class period.		
1. 0 - 1	.70	.80
2. 2 - 4	.30	.20
3. 5 - 10		
4. 10 - 15		
5. Over 15		
12. I would say I take time to get around to work with individuals during class time _____.		
1. Every day	.50	.30
2. About 3 or 4 days every week	.30	.15
3. About once or twice a week	.20	.50
4. About once or twice a month		.05
13. On the average, I would say I spend about _____ minutes giving directions to students in class.		
	4.8	9.7
14. I would say my classes work very hard.		
1. Strongly Agree	.30	.15
2. Agree	.70	.60
3. Disagree		.25
4. Strongly Disagree		

	<u>Spectrum responses</u>	<u>Control responses</u>
15. I feel discipline problems in my classes are _____ learning environment.		
1. mildly annoying but not disruptive of the	.80	.60
2. distracting to me and mildly disruptive of the	.20	.35
3. aggravating to me and disruptive of the		.05
4. very annoying to me and very disruptive of the		
16. On the whole I find that my students find it _____ to pay attention to what they're supposed to be doing in my classes.		
1. Very easy	.10	.10
2. Easy	.70	.75
3. Somewhat difficult	.20	.15
4. Difficult		
5. Very difficult		

Spectrum Teachers Only

17. Preparation for using the Spectrum in my classes takes more time than it is worth.		
1. Strongly Agree		
2. Agree	.20	
3. Disagree	.80	
4. Strongly Agree		
18. I adopted _____ of the ideas I learned during Spectrum training.		
1. All	.10	
2. Most	.40	
3. Many	.40	
4. Some		
5. Few		
No response	.10	
19. The Spectrum helps me get more subject matter taught than I used to.		
1. Strongly Agree	.20	
2. Agree	.50	
3. Disagree	.10	
4. Strongly Disagree	.10	
No response	.10	

Spectrum  
responses

20. My students are learning \_\_\_\_\_ since we began using the Spectrum.
- |                   |     |
|-------------------|-----|
| 1. Much more      |     |
| 2. More           | .70 |
| 3. About the same | .20 |
| 4. Less           |     |
| 5. Much less      |     |
| No response       | .10 |
21. I spend \_\_\_\_\_ time giving directions and instructions in class when I use Spectrum teaching compared with non-Spectrum.
- |                    |     |
|--------------------|-----|
| 1. Much more       |     |
| 2. More            | .10 |
| 3. The same amount |     |
| 4. Less            | .70 |
| 5. Much less       | .20 |
| No response        | .10 |
22. Students work \_\_\_\_\_ diligently when in a Spectrum style compared with the way my students worked before I began using the Spectrum.
- |              |     |
|--------------|-----|
| 1. Much more | .30 |
| 2. More      | .40 |
| 3. Equally   | .20 |
| 4. Less      |     |
| 5. Much less |     |
| No response  | .10 |
23. I think all teachers could benefit from the Spectrum.
- |                      |     |
|----------------------|-----|
| 1. Strongly Agree    | .50 |
| 2. Agree             | .40 |
| 3. Disagree          | .10 |
| 4. Strongly Disagree |     |
24. I have \_\_\_\_\_ discipline problems since implementing the Spectrum.
- |                             |     |
|-----------------------------|-----|
| 1. Many more                |     |
| 2. More                     |     |
| 3. About the same number of | .70 |
| 4. Fewer                    | .30 |
| 5. Considerably fewer       |     |
25. I find that my students seem to pay \_\_\_\_\_ attention to what they're supposed to be doing in my classes since I implemented the Spectrum.
- |                             |     |
|-----------------------------|-----|
| 1. Much more                | .10 |
| 2. More                     | .40 |
| 3. About the same amount of | .50 |
| 4. Less                     |     |
| 5. Much less                |     |