## Appendix F

## Additional Equity Cross-tabulations

## Additional Equity Cross-tabulations

Chapters 2-7 report data on several key indicators, disaggregated by one or more equity factors: the prior achievement level of students in the class, the percentage of non-Asian minority students in the class, the percentage of students in the school eligible for free/reduced-price lunch, school size, community type, and region. This appendix includes data on each of these indicators by all relevant equity factors. Each table title includes a reference to the related table in the body of the report.

Table F-1 (Table 2.3 - Science)
Science Classes Taught by Teachers with Varying Experience Teaching Science, by Equity Factors


Table F-2 (Table 2.3 - Mathematics) Mathematics Classes Taught by Teachers with Varying Experience Teaching Mathematics, by Equity Factors

|  | Percent of Classes |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-2 years |  | 3-5 years |  | 6-10 years |  | 11-20 years |  | $\geq 21$ years |  |
| Prior Achievement Level of Class |  |  |  |  |  |  |  |  |  |  |
| Mostly High Achievers | 8 | (1.5) | 12 | (1.5) | 22 | (2.4) | 32 | (2.3) | 26 | (1.9) |
| Average/Mixed Achievers | 13 | (1.0) | 16 | (1.0) | 23 | (1.1) | 29 | (1.2) | 18 | (1.1) |
| Mostly Low Achievers | 15 | (2.0) | 14 | (1.8) | 22 | (2.1) | 33 | (2.4) | 16 | (2.0) |
| Percent of Non-Asian Minority Students in Class |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Lowest Quartile | 12 | (1.6) | 11 | (1.3) | 20 | (1.9) | 32 | (2.2) | 24 | (2.1) |
| Second Quartile | 8 | (1.2) | 14 | (1.4) | 24 | (1.8) | 34 | (2.0) | 20 | (1.6) |
| Third Quartile | 15 | (1.8) | 16 | (1.6) | 21 | (1.6) | 27 | (1.9) | 21 | (1.8) |
| Highest Quartile | 14 | (1.8) | 16 | (1.5) | 25 | (1.8) | 32 | (2.1) | 13 | (1.4) |
| Percent of Students in School |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Lowest Quartile | 12 | (2.2) | 13 | (1.4) | 24 | (1.9) | 30 | (2.1) | 22 | (2.0) |
| Second Quartile | 12 | (1.0) | 13 | (1.4) | 24 | (1.7) | 32 | (2.0) | 19 | (1.5) |
| Third Quartile | 12 | (1.4) | 16 | (1.8) | 22 | (1.8) | 30 | (1.8) | 21 | (1.6) |
| Highest Quartile | 14 | (1.6) | 19 | (1.9) | 21 | (1.7) | 31 | (2.1) | 15 | (1.6) |
| School Size |  |  |  |  |  |  |  |  |  |  |
| Smallest Schools | 16 | (1.9) | 14 | (1.4) | 21 | (1.8) | 30 | (2.0) | 20 | (1.9) |
| Second Group |  | (1.1) | 17 | (1.8) | 21 | (1.4) | 30 | (1.8) | 22 | (1.7) |
| Third Group | 11 | (1.4) | 15 | (1.6) | 24 | (1.6) | 31 | (1.8) | 18 | (1.6) |
| Largest Schools | 13 | (1.7) | 14 | (1.4) | 24 | (1.8) | 32 | (2.0) | 17 | (2.0) |
| Community Type |  |  |  |  |  |  |  |  |  |  |
| Rural | 13 | (1.6) | 15 | (1.6) | 21 | (1.6) | 31 | (2.1) | 20 | (1.7) |
| Suburban | 12 | (1.2) |  | (1.0) | 24 | (1.1) | 31 | (1.4) | 19 | (1.3) |
| Urban | 14 | (1.2) | 16 | (1.7) | 21 | (1.6) | 29 | (1.8) | 19 | (1.7) |
| Region |  |  |  |  |  |  |  |  |  |  |
| Midwest |  | (1.5) | 15 | (1.9) | 21 | (2.0) | 30 | (1.9) | 22 | (1.8) |
| Northeast |  | (1.6) | 15 | (1.7) | 22 | (1.9) | 33 | (2.2) | 20 | (2.4) |
| South |  | (1.5) |  | (1.2) | 23 | (1.2) | 28 | (1.5) | 17 | (1.3) |
| West | 8 | (1.0) | 13 | (1.5) | 25 | (2.0) | 36 | (2.5) | 19 | (1.7) |

Table F-3 (Table 2.6)
Secondary Teachers with a Degree in Discipline, by Equity Factors

|  | Percent of Teachers |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Science |  | Mathematics |  |
| Prior Achievement Level of Class Mostly High Achievers Average/Mixed Achievers Mostly Low Achievers | 76 60 50 | $\begin{aligned} & (2.7) \\ & (1.9) \\ & (4.5) \end{aligned}$ | 61 53 49 | $\begin{aligned} & (2.8) \\ & (2.2) \\ & (2.9) \\ & \hline \end{aligned}$ |
| Percent of Non-Asian Minority Students in Class <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 68 65 62 58 | $\begin{aligned} & (3.6) \\ & (3.7) \\ & (3.1) \\ & (3.6) \\ & \hline \end{aligned}$ | 64 57 54 44 | $\begin{aligned} & (3.1) \\ & (3.0) \\ & (2.8) \\ & (3.1) \\ & \hline \end{aligned}$ |
| Percent of Students in School Eligible for FRL <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 68 57 62 58 | $\begin{aligned} & (3.1) \\ & (3.3) \\ & (3.7) \\ & (3.9) \end{aligned}$ | 56 53 54 51 | $\begin{aligned} & (3.5) \\ & (2.8) \\ & (3.1) \\ & (3.7) \\ & \hline \end{aligned}$ |
| School Size <br> Smallest Schools <br> Second Group <br> Third Group <br> Largest Schools | 60 64 63 62 | $\begin{aligned} & (3.3) \\ & (3.5) \\ & (3.1) \\ & (3.9) \\ & \hline \end{aligned}$ | 53 55 56 53 | $\begin{aligned} & (2.9) \\ & (3.3) \\ & (2.4) \\ & (3.4) \\ & \hline \end{aligned}$ |
| Community Type <br> Rural <br> Suburban <br> Urban <br> R | 59 63 63 | $\begin{aligned} & (2.8) \\ & (2.3) \\ & (3.8) \\ & \hline \end{aligned}$ | 55 55 52 | $\begin{aligned} & (3.2) \\ & (2.2) \\ & (2.7) \end{aligned}$ |
| Region Midwest Northeast South West | 61 <br> 68 <br> 62 <br> 60 | $\begin{aligned} & (3.9) \\ & (3.2) \\ & (2.4) \\ & (3.4) \\ & \hline \hline \end{aligned}$ | 63 61 51 43 | $\begin{aligned} & (3.4) \\ & (3.2) \\ & (2.2) \\ & (3.7) \\ & \hline \hline \end{aligned}$ |

Table F-4 (Table 2.19)
Secondary Science Classes Taught by Teachers with Substantial Background ${ }^{\dagger}$ in Subject of Selected Class, by Equity Factors

|  | Percent of Classes |  |
| :--- | ---: | :--- |
| Prior Achievement Level of Class |  |  |
| Mostly High Achievers | 69 | $(2.9)$ |
| Average/Mixed Achievers | 64 | $(2.1)$ |
| Mostly Low Achievers | 57 | $(6.4)$ |
| Percent of Non-Asian Minority Students in Class |  |  |
| Lowest Quartile | 63 | $(4.1)$ |
| Second Quartile | 69 | $(3.0)$ |
| Third Quartile | 63 | $(2.9)$ |
| Highest Quartile | 62 | $(3.6)$ |
| Percent of Students in School Eligible for FRL |  |  |
| Lowest Quartile | 67 | $(2.5)$ |
| Second Quartile | 67 | $(3.1)$ |
| Third Quartile | 61 | $(4.1)$ |
| Highest Quartile | 65 | $(4.4)$ |
| School Size |  |  |
| Smallest Schools | 61 | $(3.5)$ |
| Second Group | 70 | $(3.1)$ |
| Third Group | 65 | $(3.1)$ |
| Largest Schools | 61 | $(3.3)$ |
| Community Type |  |  |
| Rural | 66 | $(3.8)$ |
| Suburban | 65 | $(2.3)$ |
| Urban | 61 | $(2.7)$ |
| Region |  |  |
| Midwest | 70 | $(3.4)$ |
| Northeast | 74 | $(3.1)$ |
| South | 58 | $(2.3)$ |
| West | 60 | $(4.5)$ |

Defined as having either a degree or at least three advanced courses in the subject of their selected class.

Table F-5 (Table 2.35)
Class Mean Scores for Science Teacher
Perceptions of Preparedness Composites, by Equity Factors

|  | Mean Score |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Teach Students from Diverse Backgrounds | Encourage Students’ Interest in Science |  | Teach Science Content ${ }^{\dagger}$ |  | Implement Instruction in Particular Unit |  |
| Prior Achievement Level of Class Mostly High Achievers Average/Mixed Achievers Mostly Low Achievers | 57 $(1.8)$ <br> 56 $(1.0)$ <br> 51 $(2.5)$ | 80 69 65 | $\begin{aligned} & (1.3) \\ & (1.2) \\ & (2.8) \\ & \hline \end{aligned}$ | 83 79 73 | $\begin{aligned} & (1.1) \\ & (0.8) \\ & (3.7) \end{aligned}$ | 84 77 75 | $\begin{aligned} & (1.0) \\ & (0.5) \\ & (1.1) \end{aligned}$ |
| Percent of Non-Asian Minority <br> Students in Class <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 54 $(1.8)$ <br> 54 $(1.6)$ <br> 57 $(1.4)$ <br> 55 $(1.4)$ | 72 70 72 65 | $\begin{aligned} & (1.8) \\ & (1.7) \\ & (1.5) \\ & (2.4) \\ & \hline \end{aligned}$ | 79 81 80 79 | $\begin{aligned} & (1.6) \\ & (1.0) \\ & (1.1) \\ & (1.7) \\ & \hline \end{aligned}$ | 80 79 79 76 | $\begin{aligned} & (1.0) \\ & (0.9) \\ & (0.9) \\ & (1.0) \\ & \hline \end{aligned}$ |
| Percent of Students in School <br> Eligible for FRL <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 60 $(2.0)$ <br> 57 $(1.5)$ <br> 54 $(1.4)$ <br> 54 $(1.7)$ | 74 70 67 68 | $\begin{aligned} & (1.9) \\ & (1.8) \\ & (2.8) \\ & (1.6) \\ & \hline \end{aligned}$ | 81 80 79 80 | $\begin{aligned} & (1.0) \\ & (1.1) \\ & (1.3) \\ & (1.7) \\ & \hline \end{aligned}$ | 79 80 76 76 | $\begin{aligned} & (1.0) \\ & (0.6) \\ & (0.9) \\ & (1.1) \\ & \hline \end{aligned}$ |
| School Size <br> Smallest Schools Second Group Third Group Largest Schools | 55 $(1.6)$ <br> 53 $(1.7)$ <br> 59 $(1.3)$ <br> 56 $(1.2)$ | 70 68 73 69 | (1.7) <br> (2.1) <br> (1.6) <br> (2.4) | 77 81 80 81 | $\begin{aligned} & (2.0) \\ & (1.1) \\ & (1.1) \\ & (1.8) \\ & \hline \end{aligned}$ | 78 77 79 78 | $\begin{aligned} & (0.9) \\ & (1.1) \\ & (0.9) \\ & (0.9) \\ & \hline \end{aligned}$ |
| Community Type <br> Rural <br> Suburban <br> Urban | 54 $(1.4)$ <br> 57 $(1.3)$ <br> 55 $(1.3)$ | 69 71 70 | $\begin{aligned} & (1.8) \\ & (1.4) \\ & (2.3) \\ & \hline \end{aligned}$ | 79 80 79 | $\begin{aligned} & (1.0) \\ & (1.0) \\ & (2.1) \\ & \hline \end{aligned}$ | 79 79 76 | $\begin{aligned} & (0.9) \\ & (0.6) \\ & (1.1) \\ & \hline \end{aligned}$ |
| Region <br> Midwest <br> Northeast <br> South <br> West | 54 $(1.4)$ <br> 56 $(2.4)$ <br> 56 $(1.1)$ <br> 57 $(1.7)$ | 69 73 68 73 | $\begin{aligned} & (1.7) \\ & (2.6) \\ & (1.4) \\ & (2.0) \\ & \hline \hline \end{aligned}$ | 80 81 79 79 | $\begin{aligned} & (1.4) \\ & (1.3) \\ & (1.1) \\ & (2.5) \\ & \hline \hline \end{aligned}$ | 77 79 78 77 | $\begin{aligned} & (1.1) \\ & (1.2) \\ & (0.6) \\ & (0.9) \\ & \hline \hline \end{aligned}$ |

Perceptions of Preparedness to Teach Science Content score was computed only for non-self-contained classes and is based on content in the randomly selected class.

Table F-6 (Table 2.38)
Class Mean Scores for Mathematics Teacher Perceptions of Preparedness Composites, by Equity Factors


[^0]Table F-7 (Table 3.4)
Classes Taught by Teachers with More than 35 Hours of Professional Development in the Last Three Years, by Subject and Equity Factors


Table F-8 (Table 3.10)
Class Mean Scores for the Quality of Professional Development Composite, by Subject and Equity Factors

|  | Mean Score |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Science |  | Mathematics |  |
| Prior Achievement Level of Class |  |  |  |  |
| Mostly High Achievers | 66 | (2.0) | 65 | (1.1) |
| Average/Mixed Achievers | 60 | (0.9) | 64 | (0.7) |
| Mostly Low Achievers | 60 | (2.7) | 64 | (1.2) |
| Percent of Non-Asian Minority Students in Class |  |  |  |  |
| Lowest Quartile | 56 | (2.0) | 58 | (1.2) |
| Second Quartile | 61 | (1.7) | 64 | (1.1) |
| Third Quartile | 62 | (1.5) | 67 | (1.5) |
| Highest Quartile | 65 | (1.5) | 66 | (1.1) |
| Percent of Students in School Eligible for FRL |  |  |  |  |
| Lowest Quartile | 60 | (1.6) | 65 | (1.7) |
| Second Quartile | 61 | (1.7) | 63 | (1.2) |
| Third Quartile | 64 | (2.2) | 64 | (1.2) |
| Highest Quartile | 62 | (1.4) | 65 | (1.4) |
| School Size |  |  |  |  |
| Smallest Schools | 56 | (2.1) | 61 | (1.4) |
| Second Group | 62 | (1.6) | 63 | (1.3) |
| Third Group | 63 | (1.3) | 64 | (0.9) |
| Largest Schools | 63 | (1.3) | 68 | (1.4) |
| Community Type |  |  |  |  |
| Rural | 59 | (1.8) | 62 | (1.0) |
| Suburban | 62 | (1.1) | 64 | (0.9) |
| Urban | 62 | (1.7) | 66 | (1.3) |
| Region |  |  |  |  |
| Midwest | 59 | (1.6) | 60 | (1.2) |
| Northeast | 59 | (2.4) | 64 | (1.3) |
| South | 63 | (1.3) | 67 | (1.1) |
| West | 63 | (1.5) | 64 | (1.5) |

Table F-9 (Table 3.16)
Class Mean Scores on the Extent to Which Professional Development/Coursework Focused on Student-Centered Instruction Composite, by Subject and Equity Factors

|  | Mean Score |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Science |  | Mathematics |  |
| Prior Achievement Level of Class |  |  |  |  |
| Mostly High Achievers | 59 | (2.3) | 45 | (1.9) |
| Average/Mixed Achievers | 48 | (1.3) | 48 | (1.2) |
| Mostly Low Achievers | 51 | (3.8) | 51 | (1.5) |
| Percent of Non-Asian Minority Students in Class |  |  |  |  |
| Lowest Quartile | 45 | (2.1) | 42 | (1.8) |
| Second Quartile | 49 | (2.1) | 44 | (1.7) |
| Third Quartile | 51 | (2.8) | 50 | (1.5) |
| Highest Quartile | 53 | (2.6) | 55 | (1.7) |
| Percent of Students in School Eligible for FRL |  |  |  |  |
| Lowest Quartile | 53 | (2.4) | 48 | (1.7) |
| Second Quartile | 47 | (2.0) | 49 | (1.9) |
| Third Quartile | 47 | (2.9) | 48 | (1.6) |
| Highest Quartile | 53 | (2.6) | 51 | (1.8) |
| School Size |  |  |  |  |
| Smallest Schools | 49 | (2.2) | 41 | (2.0) |
| Second Group | 46 | (2.6) | 47 | (1.3) |
| Third Group | 49 | (2.3) | 50 | (1.6) |
| Largest Schools | 55 | (2.9) | 53 | (1.9) |
| Community Type |  |  |  |  |
| Rural | 49 | (2.2) | 45 | (1.9) |
| Suburban | 48 | (1.6) | 49 | (1.1) |
| Urban | 54 | (2.5) | 49 | (1.6) |
| Region |  |  |  |  |
| Midwest | 43 | (2.3) | 40 | (1.9) |
| Northeast | 49 | (2.7) | 48 | (1.8) |
| South | 56 | (1.7) | 54 | (1.1) |
| West | 44 | (2.9) | 45 | (1.8) |

Table F-10 (Table 3.33)
Schools Providing Various Services to Science Teachers, by Equity Factors


Assistance defined as guidance from a formally designated mentor or coach; seminars, classes, and/or study groups; or a higher level of supervision than for other teachers.

Table F-11 (Table 3.34)
Schools Providing Various Services to Mathematics Teachers, by Equity Factors


Assistance defined as guidance from a formally designated mentor or coach; seminars, classes, and/or study groups; or a higher level of supervision than for other teachers.

Table F-12 (Table 4.7)
Average Number of AP Science Courses

## Offered at High Schools, by Equity Factors

|  | Average Number of Courses |  |
| :--- | :--- | :--- |
| Percent of Students in School Eligible for FRL |  |  |
| Lowest Quartile | 2.0 | $(0.2)$ |
| Second Quartile | 1.5 | $(0.3)$ |
| Third Quartile | 1.1 | $(0.2)$ |
| Highest Quartile | 1.1 | $(0.2)$ |
| School Size |  |  |
| Smallest Schools | 0.7 | $(0.1)$ |
| Second Group | 1.2 | $(0.2)$ |
| Third Group | 2.1 | $(0.2)$ |
| Largest Schools | 2.8 | $(0.2)$ |
| Community Type |  |  |
| Rural | 0.7 | $(0.1)$ |
| Suburban | 1.7 | $(0.2)$ |
| Urban | 1.7 | $(0.3)$ |
| Region |  |  |
| Midwest | 0.8 | $(0.1)$ |
| Northeast | 1.9 | $(0.2)$ |
| South | 1.3 | $(0.1)$ |
| West | 1.4 | $(0.2)$ |

Table F-13 (Table 4.10)
Average Percentage of $8^{\text {th }}$ Graders Completing Algebra I and Geometry Prior to $9^{\text {th }}$ Grade, by Equity Factors


Table F-14 (Table 4.14)
Average Number of AP Mathematics Courses Offered at High Schools, by Equity Factors

|  | Average Number of Courses |  |
| :--- | :--- | :--- |
| Percent of Students in School Eligible for FRL |  |  |
| Lowest Quartile | 1.4 | $(0.2)$ |
| Second Quartile | 1.1 | $(0.2)$ |
| Third Quartile | 0.8 | $(0.1)$ |
| Highest Quartile | 0.7 | $(0.1)$ |
| School Size |  |  |
| Smallest Schools | 0.6 | $(0.1)$ |
| Second Group | 0.9 | $(0.1)$ |
| Third Group | 1.6 | $(0.1)$ |
| Largest Schools | 2.1 | $(0.1)$ |
| Community Type |  |  |
| Rural | 0.6 | $(0.1)$ |
| Suburban | 1.2 | $(0.1)$ |
| Urban | 1.3 | $(0.2)$ |
| Region |  |  |
| Midwest | 0.8 | $(0.1)$ |
| Northeast | 1.3 | $(0.2)$ |
| South | 1.0 | $(0.1)$ |
| West | 1.0 | $(0.1)$ |

Table F-15 (Table 5.7)
Science Class Mean Scores on the Reform-Oriented Instructional Objectives Composite, by Equity Factors

|  | Mean Score |  |
| :--- | ---: | :--- |
| Prior Achievement Level of Class |  |  |
| Mostly High Achievers | 86 | $(0.6)$ |
| Average/Mixed Achievers | 81 | $(0.4)$ |
| Mostly Low Achievers | 77 | $(1.5)$ |
| Percent of Non-Asian Minority Students in Class | 82 | $(0.8)$ |
| Lowest Quartile | 81 | $(0.6)$ |
| Second Quartile | 81 | $(0.9)$ |
| Third Quartile | 80 | $(0.9)$ |
| Highest Quartile |  |  |
| Percent of Students in School Eligible for FRL | 84 | $(0.8)$ |
| Lowest Quartile | 80 | $(0.8)$ |
| Second Quartile | 81 | $(0.8)$ |
| Third Quartile | 80 | $(0.9)$ |
| Highest Quartile |  |  |
| School Size | 81 | $(0.7)$ |
| Smallest Schools | 81 | $(0.7)$ |
| Second Group | 81 | $(0.8)$ |
| Third Group | 82 | $(0.9)$ |
| Largest Schools |  |  |
| Community Type | 81 | $(0.8)$ |
| Rural | 81 | $(0.6)$ |
| Suburban | 81 | $(0.7)$ |
| Urban |  | $(0.8)$ |
| Region | 80 | $(0.9)$ |
| Midwest | 81 | $(0.9)$ |
| Northeast | 82 | $(0.6)$ |
| South | 79 | $(0.9)$ |
| West |  |  |

Table F-16 (Table 5.10)
Mathematics Class Mean Scores on the Reform-Oriented Instructional Objectives Composite, by Equity Factors

|  | Mean Score |  |
| :--- | ---: | :--- |
| Prior Achievement Level of Class |  |  |
| Mostly High Achievers | 85 | $(0.6)$ |
| Average/Mixed Achievers | 80 | $(0.4)$ |
| Mostly Low Achievers | 77 | $(0.7)$ |
| Percent of Non-Asian Minority Students in Class | 80 | $(0.7)$ |
| Lowest Quartile | 80 | $(0.5)$ |
| Second Quartile | 80 | $(0.6)$ |
| Third Quartile | 81 | $(0.6)$ |
| Highest Quartile |  |  |
| Percent of Students in School Eligible for FRL | 82 | $(0.8)$ |
| Lowest Quartile | 79 | $(0.6)$ |
| Second Quartile | 80 | $(0.6)$ |
| Third Quartile | 80 | $(0.8)$ |
| Highest Quartile |  |  |
| School Size | 79 | $(0.8)$ |
| Smallest Schools | 79 | $(0.6)$ |
| Second Group | 81 | $(0.6)$ |
| Third Group | 82 | $(0.7)$ |
| Largest Schools |  |  |
| Community Type | 80 | $(0.7)$ |
| Rural | 80 | $(0.4)$ |
| Suburban | 81 | $(0.7)$ |
| Urban |  | $(09)$ |
| Region | 79 | $(0.6)$ |
| Midwest | 80 | $(0.6)$ |
| Northeast | 83 | $(0.5)$ |
| South | 77 | $(0.7)$ |
| West |  |  |

Table F-17 (Table 5.16)
Class Mean Scores on Science Teaching Practice Composites, by Equity Factors

|  | Mean Score |  |
| :---: | :---: | :---: |
|  | Use of ReformOriented Teaching Practices | Use of Instructional Technology |
| Prior Achievement Level of Class <br> Mostly High Achievers <br> Average/Mixed Achievers <br> Mostly Low Achievers | 63 $(0.8)$ <br> 60 $(0.4)$ <br> 59 $(1.1)$ | 33 $(1.6)$ <br> 27 $(0.8)$ <br> 25 $(1.7)$ |
| Percent of Non-Asian Minority Students in Class <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 60 $(0.6)$ <br> 60 $(0.9)$ <br> 59 $(0.8)$ <br> 61 $(0.8)$ | 28 $(1.2)$ <br> 28 $(1.2)$ <br> 27 $(1.1)$ <br> 25 $(1.4)$ |
| Percent of Students in School Eligible for FRL <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 63 $(0.8)$ <br> 60 $(0.9)$ <br> 60 $(0.6)$ <br> 60 $(0.9)$ | 29 $(1.0)$ <br> 28 $(1.3)$ <br> 27 $(1.4)$ <br> 26 $(1.2)$ |
| School Size <br> Smallest Schools Second Group Third Group Largest Schools | 59 $(0.9)$ <br> 60 $(0.7)$ <br> 61 $(0.7)$ <br> 61 $(0.8)$ | 30 $(1.1)$ <br> 25 $(1.1)$ <br> 28 $(1.2)$ <br> 27 $(1.3)$ |
| Community Type <br> Rural <br> Suburban <br> Urban <br> U | 59 $(0.7)$ <br> 60 $(0.7)$ <br> 62 $(0.7)$ | 28 $(1.1)$ <br> 27 $(0.8)$ <br> 27 $(1.3)$ |
| Region Midwest Northeast South West | 58 $(0.7)$ <br> 61 $(1.1)$ <br> 61 $(0.6)$ <br> 61 $(1.0)$ | 27 $(1.0)$ <br> 27 $(1.5)$ <br> 28 $(1.1)$ <br> 27 $(1.5)$ |

Table F-18 (Table 5.24)
Class Mean Scores on Mathematics Teaching Practice Composites, by Equity Factors

|  | Mean |  |
| :---: | :---: | :---: |
|  | Use of ReformOriented Teaching Practices | Use of Instructional Technology |
| Prior Achievement Level of Class Mostly High Achievers Average/Mixed Achievers Mostly Low Achievers | $\begin{array}{ll} 74 & (0.7) \\ 72 & (0.5) \\ 70 & (0.9) \end{array}$ | 27 $(1.3)$ <br> 28 $(0.9)$ <br> 30 $(1.1)$ |
| Percent of Non-Asian Minority Students in Class <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 71 $(0.8)$ <br> 72 $(0.7)$ <br> 72 $(0.7)$ <br> 73 $(0.7)$ | 27 $(1.2)$ <br> 27 $(1.4)$ <br> 30 $(1.4)$ <br> 29 $(1.4)$ |
| Percent of Students in School Eligible for FRL <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 74 $(0.8)$ <br> 71 $(0.8)$ <br> 73 $(0.6)$ <br> 72 $(0.9)$ | 27 $(1.4)$ <br> 29 $(1.6)$ <br> 29 $(1.5)$ <br> 31 $(1.9)$ |
| School Size <br> Smallest Schools Second Group Third Group Largest Schools | 72 $(0.9)$ <br> 71 $(0.9)$ <br> 72 $(0.6)$ <br> 73 $(0.9)$ | 31 $(1.4)$ <br> 29 $(1.5)$ <br> 28 $(1.4)$ <br> 26 $(1.7)$ |
| Community Type <br> Rural <br> Suburban <br> Urban | $\begin{array}{ll} 71 & (0.8) \\ 72 & (0.5) \\ 73 & (0.8) \end{array}$ | 29 $(1.5)$ <br> 28 $(0.9)$ <br> 28 $(1.5)$ |
| Region Midwest Northeast South West | 69 $(0.7)$ <br> 75 $(0.7)$ <br> 74 $(0.6)$ <br> 68 $(0.9)$ | 28 $(1.5)$ <br> 28 $(1.8)$ <br> 31 $(1.2)$ <br> 23 $(1.4)$ |

Table F-19 (Table 5.31)
Classes Required to Take External Assessments Two or More Times per Year, by Subject and Equity Factors

|  | Percent of Classes |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Science |  | Mathematics |  |
| Prior Achievement Level of Class <br> Mostly High Achievers <br> Average/Mixed Achievers <br> Mostly Low Achievers | 36 36 53 | $\begin{aligned} & (3.1) \\ & (1.7) \\ & (3.6) \\ & \hline \end{aligned}$ | 60 71 76 | $\begin{aligned} & (2.6) \\ & (1.4) \\ & (2.2) \end{aligned}$ |
| Percent of Non-Asian Minority Students in Class <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 26 30 38 52 | $\begin{aligned} & (2.4) \\ & (2.6) \\ & (3.3) \\ & (2.4) \\ & \hline \end{aligned}$ | 56 65 71 83 | $\begin{aligned} & (2.4) \\ & (2.0) \\ & (2.1) \\ & (1.5) \\ & \hline \end{aligned}$ |
| Percent of Students in School Eligible for FRL <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 33 35 45 50 | $\begin{aligned} & (2.9) \\ & (2.4) \\ & (3.5) \\ & (3.0) \\ & \hline \end{aligned}$ | 66 73 75 81 | $\begin{aligned} & (2.4) \\ & (1.9) \\ & (1.9) \\ & (1.7) \\ & \hline \end{aligned}$ |
| School Size <br> Smallest Schools Second Group Third Group Largest Schools | 30 36 39 47 | $\begin{aligned} & (3.0) \\ & (3.0) \\ & (3.3) \\ & (2.6) \end{aligned}$ | 61 68 75 75 | (2.7) <br> (2.2) <br> (1.8) <br> (1.9) |
| Community Type <br> Rural <br> Suburban <br> Urban | 34 39 40 | $\begin{aligned} & (2.6) \\ & (2.0) \\ & (2.9) \end{aligned}$ | 69 68 74 | $\begin{aligned} & (2.0) \\ & (1.7) \\ & (2.0) \end{aligned}$ |
| Region Midwest Northeast South West | 33 21 50 33 | $\begin{aligned} & (2.2) \\ & (3.0) \\ & (2.7) \\ & (3.4) \\ & \hline \hline \end{aligned}$ | 65 60 75 72 | $\begin{array}{r} (2.1) \\ (3.3) \\ (1.7) \\ (2.2) \\ \hline \hline \end{array}$ |

Table F-20 (Table 6.16)
Availability ${ }^{\dagger}$ of Instructional Technologies in Science Classes, by Equity Factors


Availability defined as having at least one instructional technology per small group (4-5 students).

Table F-21 (Table 6.18)
Availability ${ }^{\dagger}$ of Instructional Technologies in Mathematics Classes, by Equity Factors


[^1]Table F-22 (Table 6.21)
Median Amount Schools Spend per Pupil on Science Equipment, Consumable Supplies, and Software, by Equity Factors

|  | Median Amount |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Equipment |  | Consumable Supplies |  | Software |  | Total |  |
| Percent of Students in School Eligible for FRL |  |  |  |  |  |  |  |  |
| Lowest Quartile | \$ 0.63 | (0.2) | \$ 1.67 | (0.5) | \$ 0.00 |  | \$ 3.56 | (0.8) |
| Second Quartile | \$ 0.27 | $(0.1)^{\dagger}$ | \$ 0.98 | (0.3) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 1.85 | (0.5) |
| Third Quartile | \$ 0.57 | (0.2) | \$ 1.17 | (0.2) | \$ 0.00 | ---* | \$ 2.47 | (0.6) |
| Highest Quartile | \$ 0.35 | $(0.4)^{\dagger}$ | \$ 0.65 | (0.1) | \$ 0.00 | --- $\ddagger$ | \$ 1.54 | (0.5) |
| School Size |  |  |  |  |  |  |  |  |
| Smallest Schools | \$ 0.78 | (0.2) | \$ 1.95 | (0.4) | \$ 0.00 | --- $\ddagger$ | \$ 3.94 | (0.5) |
| Second Group | \$ 0.30 | (0.1) ${ }^{\dagger}$ | \$ 1.08 | (0.2) | \$ 0.00 | --- $\ddagger$ | \$ 1.96 | (0.4) |
| Third Group | \$ 0.40 | (0.1) | \$ 0.95 | (0.2) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 1.82 | (0.4) |
| Largest Schools | \$ 0.44 | (0.1) | \$ 0.79 | (0.2) | \$ 0.00 | --- $\ddagger$ | \$ 2.04 | (0.4) |
| Community Type |  |  |  |  |  |  |  |  |
| Rural | \$ 0.81 | (0.2) | \$ 1.63 | (0.3) | \$ 0.00 | --- $\ddagger$ | \$ 3.78 | (0.4) |
| Suburban | \$ 0.39 | (0.1) | \$ 1.40 | (0.2) | \$ 0.00 | ---* | \$ 2.49 | (0.3) |
| Urban | \$ 0.34 | (0.2) | \$ 0.98 | (0.2) | \$ 0.00 | ---* | \$ 1.91 | (0.7) |
| Region |  |  |  |  |  |  |  |  |
| Midwest | \$ 0.55 | (0.2) | \$ 1.80 | (0.5) | \$ 0.00 | ---* | \$ 3.18 | (0.7) |
| Northeast | \$ 1.34 | (0.3) | \$ 1.99 | (0.5) | \$ 0.00 | ---* | \$ 4.15 | (1.0) |
| South | \$ 0.56 | (0.1) | \$ 0.92 | (0.1) | \$ 0.00 | --- ${ }^{+}$ | \$ 2.42 | (0.4) |
| West | \$ 0.14 | $(0.3)^{\dagger}$ | \$ 0.99 | (0.2) | \$ 0.00 | ---* | \$ 1.45 | (0.5) |

Standard errors for medians are typically computed in Wesvar 5.1 using the Woodruff method. Wesvar was unable to compute a standard error for this estimate using this method; thus, the potentially less-consistent replication standard error is reported.
$\ddagger$ It was not possible to compute a standard error using either the Woodruff or the replication methods.

Table F-23 (Table 6.22)
Median Amount Schools Spend per Pupil on Mathematics Equipment, Consumable Supplies, and Software, by Equity Factors

|  | Median Amount |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Equipment |  | Consumable Supplies |  | Software |  | Total |  |
| Percent of Students in School Eligible for FRL |  |  |  |  |  |  |  |  |
| Lowest Quartile | \$ 0.93 | (0.2) | \$ 1.06 | (0.3) | \$ 0.00 | --- | \$ 3.60 | (0.8) |
| Second Quartile | \$ 0.82 | (0.2) | \$ 0.66 | (0.1) | \$ 0.00 | --- $\ddagger$ | \$ 2.75 | (0.4) |
| Third Quartile | \$ 1.02 | (0.2) | \$ 0.99 | (0.2) | \$ 0.00 | --- $\ddagger$ | \$ 3.69 | (0.6) |
| Highest Quartile | \$ 0.92 | (0.1) | \$ 0.65 | (0.2) | \$ 0.00 | --- $\ddagger$ | \$ 3.37 | (1.0) |
| School Size |  |  |  |  |  |  |  |  |
| Smallest Schools | \$ 1.11 | (0.2) | \$ 0.86 | (0.2) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 3.93 | (0.8) |
| Second Group | \$ 0.82 | (0.2) | \$ 0.68 | (0.2) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 3.44 | (0.5) |
| Third Group | \$ 0.66 | (0.1) | \$ 0.92 | (0.2) | \$ 0.09 | $(0.4)^{\dagger}$ | \$ 2.75 | (0.4) |
| Largest Schools | \$ 0.68 | (0.2) | \$ 0.61 | (0.1) | \$ 0.00 | --- | \$ 2.06 | (0.5) |
| Community Type |  |  |  |  |  |  |  |  |
| Rural | \$ 1.29 | (0.3) | \$ 1.01 | (0.2) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 4.58 | (0.7) |
| Suburban | \$ 0.81 | (0.1) | \$ 0.89 | (0.1) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 2.98 | (0.5) |
| Urban | \$ 0.58 | (0.1) | \$ 0.49 | (0.1) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 2.45 | (0.5) |
| Region |  |  |  |  |  |  |  |  |
| Midwest | \$ 0.72 | (0.2) | \$ 0.70 | (0.2) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 3.25 | (0.6) |
| Northeast | \$ 2.22 | (0.5) | \$ 1.11 | (0.4) | \$ 0.00 | --- ${ }^{\text {- }}$ | \$ 5.18 | (1.4) |
| South | \$ 0.89 | (0.2) | \$ 0.64 | (0.1) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 2.93 | (0.5) |
| West | \$ 0.72 | (0.2) | \$ 0.91 | (0.2) | \$ 0.00 | --- ${ }^{\ddagger}$ | \$ 2.19 | (0.7) |

Standard errors for medians are typically computed in Wesvar 5.1 using the Woodruff method. Wesvar was unable to compute a standard error for this estimate using this method; thus, the potentially less-consistent replication standard error is reported.
$\ddagger$ It was not possible to compute a standard error using either the Woodruff or the replication methods.

Table F-24 (Table 6.26)
Class Mean Scores on the Adequacy of Resources for Instruction Composite, by Equity Factors


Table F-25 (Table 7.16)
School Mean Scores for Factors Affecting Science Instruction Composites, by Equity Factors


Table F-26 (Table 7.17)
School Mean Scores for Factors Affecting Mathematics Instruction Composites, by Equity Factors


Table F-27 (Table 7.24)
Class Mean Scores on Factors Affecting Science Instruction Composites, by Equity Factors

|  | Mean Score |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Extent to Which the Policy Environment Promotes Effective Instruction |  | Extent to Which <br> Stakeholders <br> Promote <br> Effective <br> Instruction |  | Extent to Which School Support Promotes Effective Instruction |  | Extent to Which <br> IT Quality is Problematic for Science Instruction |  |
| Prior Achievement Level of Class <br> Mostly High Achievers Average/Mixed Achievers Mostly Low Achievers | 67 64 59 | $\begin{aligned} & (2.3) \\ & (0.7) \\ & (2.6) \\ & \hline \end{aligned}$ | 76 <br> 66 <br> 51 | $\begin{aligned} & (1.6) \\ & (0.9) \\ & (2.0) \\ & \hline \end{aligned}$ | 70 64 57 | $\begin{aligned} & (2.1) \\ & (1.2) \\ & (4.0) \\ & \hline \end{aligned}$ | 22 23 31 | $\begin{aligned} & (2.1) \\ & (1.0) \\ & (3.5) \\ & \hline \end{aligned}$ |
| Percent of Non-Asian <br> Minority Students in Class Lowest Quartile Second Quartile Third Quartile Highest Quartile | 61 65 64 65 | $\begin{aligned} & (2.2) \\ & (1.3) \\ & (1.7) \\ & (1.3) \end{aligned}$ | 68 70 66 60 | $\begin{aligned} & (1.7) \\ & (1.4) \\ & (1.6) \\ & (1.3) \\ & \hline \end{aligned}$ | 63 65 63 64 | $\begin{aligned} & (2.3) \\ & (2.7) \\ & (2.0) \\ & (1.9) \\ & \hline \end{aligned}$ | 22 24 22 28 | $\begin{aligned} & (1.7) \\ & (1.7) \\ & (1.7) \\ & (2.2) \\ & \hline \end{aligned}$ |
| Percent of Students in School Eligible for FRL Lowest Quartile Second Quartile Third Quartile Highest Quartile | 66 62 64 63 | (1.7) <br> (1.8) <br> (2.3) <br> (1.4) | 75 66 61 58 | $\begin{aligned} & (1.6) \\ & (1.5) \\ & (1.5) \\ & (1.5) \\ & \hline \end{aligned}$ | 67 61 64 63 | $\begin{aligned} & (2.1) \\ & (2.3) \\ & (2.6) \\ & (2.2) \\ & \hline \end{aligned}$ | 25 23 23 28 | $\begin{aligned} & (1.8) \\ & (1.5) \\ & (1.7) \\ & (2.4) \\ & \hline \end{aligned}$ |
| School Size <br> Smallest Schools <br> Second Group <br> Third Group <br> Largest Schools | 64 63 66 62 | $\begin{aligned} & (1.8) \\ & (1.5) \\ & (1.4) \\ & (1.3) \\ & \hline \end{aligned}$ | 66 66 66 66 | $\begin{aligned} & (1.8) \\ & (1.5) \\ & (1.5) \\ & (1.4) \\ & \hline \end{aligned}$ | 59 65 65 66 | $\begin{aligned} & (2.3) \\ & (1.9) \\ & (2.9) \\ & (2.0) \\ & \hline \end{aligned}$ | 24 23 23 27 | $\begin{aligned} & (1.9) \\ & (1.7) \\ & (1.7) \\ & (2.1) \\ & \hline \end{aligned}$ |
| Community Type <br> Rural <br> Suburban <br> Urban | 64 64 65 | $\begin{aligned} & (1.8) \\ & (0.8) \\ & (1.8) \\ & \hline \end{aligned}$ | 64 65 69 | $\begin{aligned} & (1.6) \\ & (1.0) \\ & (1.2) \\ & \hline \end{aligned}$ | 61 65 65 | $\begin{aligned} & (2.1) \\ & (1.4) \\ & (2.6) \\ & \hline \end{aligned}$ | 24 24 25 | $\begin{aligned} & (1.6) \\ & (1.1) \\ & (2.3) \\ & \hline \end{aligned}$ |
| Region Midwest Northeast South West | 63 <br> 62 <br> 66 <br> 62 | $\begin{aligned} & (1.1) \\ & (2.5) \\ & (1.3) \\ & (1.5) \\ & \hline \end{aligned}$ | 67 <br> 67 <br> 65 <br> 66 | $\begin{aligned} & (1.5) \\ & (2.4) \\ & (1.1) \\ & (1.6) \\ & \hline \hline \end{aligned}$ | 61 <br> 66 <br> 65 <br> 63 | $\begin{aligned} & (1.8) \\ & (2.7) \\ & (2.1) \\ & (3.1) \\ & \hline \end{aligned}$ | 24 <br> 23 <br> 23 <br> 31 | $\begin{aligned} & (1.9) \\ & (1.8) \\ & (1.4) \\ & (2.5) \\ & \hline \end{aligned}$ |

Table F-28 (Table 7.25)
Class Mean Scores on Factors Affecting Mathematics Instruction Composites, by Equity Factors

|  | Mean Score |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Extent to which the Policy <br> Environment <br> Promotes Effective Instruction | $\begin{array}{r} \text { Extent } \\ \text { Stak } \\ \text { Pr } \\ \text { Eff } \\ \text { Inst } \end{array}$ | to which holders mote ctive uction | $\begin{array}{r} \text { Exten } \\ \text { Schoo } \\ \text { Pr } \\ \text { Ef } \\ \text { Ins } \end{array}$ | to which Support motes ective ruction | Extent <br> IT Q <br> Proble Math Instr | o Which ality is atic for matics ction |
| Prior Achievement Level of Class Mostly High Achievers Average/Mixed Achievers Mostly Low Achievers | 68 $(1.9)$ <br> 70 $(0.8)$ <br> 65 $(1.6)$ | 76 66 52 | $\begin{aligned} & (1.7) \\ & (1.1) \\ & (1.6) \\ & \hline \end{aligned}$ | 72 69 68 | $\begin{aligned} & (1.7) \\ & (1.0) \\ & (2.4) \\ & \hline \end{aligned}$ | 17 22 25 | $\begin{aligned} & (1.3) \\ & (0.9) \\ & (1.7) \\ & \hline \end{aligned}$ |
| Percent of Non-Asian <br> Minority Students in Class <br> Lowest Quartile <br> Second Quartile <br> Third Quartile <br> Highest Quartile | 71 $(1.1)$ <br> 69 $(1.2)$ <br> 68 $(1.3)$ <br> 66 $(1.6)$ | 66 70 63 61 | $\begin{aligned} & (1.6) \\ & (1.3) \\ & (1.6) \\ & (1.8) \\ & \hline \end{aligned}$ | 66 69 69 72 | $\begin{aligned} & (1.9) \\ & (1.5) \\ & (2.1) \\ & (2.0) \\ & \hline \end{aligned}$ | 20 19 22 25 | $\begin{aligned} & (1.2) \\ & (1.4) \\ & (1.7) \\ & (1.4) \end{aligned}$ |
| Percent of Students in School Eligible for FRL Lowest Quartile Second Quartile Third Quartile Highest Quartile | 70 $(1.2)$ <br> 69 $(1.2)$ <br> 69 $(1.4)$ <br> 66 $(1.8)$ | 72 65 63 57 | $\begin{aligned} & (1.3) \\ & (1.3) \\ & (1.9) \\ & (2.1) \\ & \hline \end{aligned}$ | 70 70 68 69 | $\begin{aligned} & (2.1) \\ & (1.6) \\ & (1.9) \\ & (2.1) \\ & \hline \end{aligned}$ | 19 <br> 23 <br> 23 <br> 24 | $\begin{aligned} & (1.1) \\ & (1.9) \\ & (1.8) \\ & (1.4) \\ & \hline \end{aligned}$ |
| School Size <br> Smallest Schools Second Group Third Group Largest Schools | 70 $(1.4)$ <br> 69 $(1.4)$ <br> 69 $(1.4)$ <br> 66 $(1.5)$ | 63 62 66 68 | $\begin{aligned} & (1.5) \\ & (1.6) \\ & (1.5) \\ & (1.4) \\ & \hline \end{aligned}$ | 65 68 71 73 | $\begin{aligned} & (2.4) \\ & (1.7) \\ & (1.7) \\ & (1.3) \\ & \hline \end{aligned}$ | 23 20 21 24 | $\begin{aligned} & (1.4) \\ & (1.3) \\ & (1.4) \\ & (1.6) \\ & \hline \end{aligned}$ |
| Community Type <br> Rural <br> Suburban <br> Urban | 71 $(1.1)$ <br> 68 $(0.9)$ <br> 67 $(1.8)$ | 63 65 65 | $\begin{aligned} & (1.2) \\ & (1.3) \\ & (1.7) \\ & \hline \end{aligned}$ | 69 68 71 | $\begin{aligned} & (1.5) \\ & (1.5) \\ & (1.5) \\ & \hline \end{aligned}$ | 19 21 25 | $\begin{aligned} & (1.4) \\ & (1.0) \\ & (1.6) \end{aligned}$ |
| Region Midwest Northeast South West | 70 $(1.4)$ <br> 68 $(1.9)$ <br> 69 $(1.1)$ <br> 65 $(1.8)$ | 64 <br> 65 <br> 66 <br> 64 | $\begin{array}{r} (1.6) \\ (2.1) \\ (1.2) \\ (2.1) \\ \hline \hline \end{array}$ | 66 <br> 69 <br> 71 <br> 68 | $\begin{array}{r} (1.6) \\ (2.1) \\ (1.3) \\ (1.8) \\ \hline \hline \end{array}$ | 21 <br> 21 <br> 22 <br> 23 | $\begin{aligned} & (1.3) \\ & (2.0) \\ & (1.2) \\ & (1.6) \\ & \hline \hline \end{aligned}$ |


[^0]:    Perceptions of Preparedness to Teach Mathematics Content score was computed only for non-self-contained classes.

[^1]:    Availability defined as having at least one instructional technology per small group (4-5 students).

