

TIMSS 2011

Characteristics of National Samples

Armenia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6) and special needs schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by province (11) and region within Yerevan (11).
- ◆ Sampled two classrooms per school in large schools (MOS > 45).
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples. Both samples drawn at once.

Exhibit 1: Allocation of School Sample in Armenia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only	2	0	2	0	0	0	0
Grade 4 & Grade 8	148	0	148	0	0	0	0
Total	150	0	150	0	0	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6) and special needs schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by province (11) and region within Yerevan (11).
- ◆ Sampled two classrooms per school in large schools (MOS > 45).
- ◆ Students assessed at Grade 9 due to new educational structure (student mean age comparable to previous cycles).
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples.

Exhibit 2: Allocation of School Sample in Armenia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	5	0	5	0	0	0	0
Grade 4 & Grade 8	148	0	148	0	0	0	0
Total	153	0	153	0	0	0	0

Australia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of non-mainstream schools (e.g. special education schools), very small schools (MOS < 5), remote schools, and schools that burned down in Victorian bushfires.
- ◆ Within-school exclusions consisted of intellectually and physically disabled students, and English as a second language (ESL) students.

Sample Design

- ◆ Explicit stratification by states/territories.
- ◆ Implicit stratification by geographic location (metropolitan, provincial, and remote), SEIFA performance index (10), and school type (Catholic, government, and independent).
- ◆ Sampled two classrooms per school and all of the indigenous students found in sampled schools.

- ◆ Schools were oversampled to allow for better estimates at the state/territory level.
- ◆ Student non-response adjustment cells for the indigenous students were built at the explicit stratum level (with no modification to the variance calculation method).
- ◆ No overlap between Grade 4 and Grade 8 school samples.
- ◆ All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 3: Allocation of School Sample in Australia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Australian Capital Territory	30	1	29	0	0	0	0
New South Wales	45	0	40	4	0	1	0
Northern Territory	15	0	14	0	0	1	0
Queensland	45	0	44	0	0	1	0
South Australia	40	1	39	0	0	0	0
Tasmania	30	2	28	0	0	0	0
Victoria	45	2	41	1	0	1	0
Western Australia	40	0	40	0	0	0	0
Total	290	6	275	5	0	4	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of non-mainstream schools (e.g. special education schools), very small schools (MOS < 5), and remote indigenous schools.
- ◆ Within-school exclusions consisted of intellectually disabled students, physically disabled students, and English as a second language (ESL) students.

Sample Design

- ◆ Explicit stratification by states/territories.
- ◆ Implicit stratification by geographic location (metropolitan, provincial, and remote), SEIFA performance index (10), and school type (Catholic, government, and independent).

- ◆ Sampled two classrooms per school in the ACT and Northern Territory strata and all of the indigenous students found in sampled schools.
- ◆ Schools were oversampled to allow for better estimates at the state/territory level.
- ◆ Student non-response adjustment cells for the indigenous students were built at the explicit stratum level (with no modification to the variance calculation method).
- ◆ No overlap between Grade 4 and Grade 8 school samples.

Exhibit 4: Allocation of School Sample in Australia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Australian Capital Territory	30	0	30	0	0	0	0
New South Wales	45	1	43	0	1	0	0
Northern Territory	15	1	10	0	0	4	0
Queensland	45	1	43	0	0	1	0
South Australia	40	0	39	0	0	1	0
Tasmania	30	0	30	0	0	0	0
Victoria	45	0	43	0	0	2	0
Western Australia	40	0	38	0	0	2	0
Total	290	3	276	0	1	10	0

Austria

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools and very small schools (MOS < 4).
- ◆ Within-school exclusions consisted of intellectually-disabled students, functionally-disabled students, non-native language speakers, and students with special needs in special education classrooms in regular schools.

Sample Design

- ◆ Explicit stratification by region (Bundesland).
- ◆ Implicit stratification by district (121).
- ◆ Sampled two classrooms per school.
- ◆ All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 5: Allocation of School Sample in Austria, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Burgenland	5	0	5	0	0	0	0
Kärnten	11	0	11	0	0	0	0
Niederösterreich	31	0	31	0	0	0	0
Oberösterreich	29	0	29	0	0	0	0
Salzburg	11	0	11	0	0	0	0
Steiermark	22	0	21	0	0	0	1
Tirol	14	0	14	0	0	0	0
Vorarlberg	8	0	8	0	0	0	0
Wien	29	0	28	0	0	0	1
Total	160	0	158	0	0	0	2

Azerbaijan

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools where students are taught in languages other than Azeri or Russian, very small schools (MOS < 5), and special education schools.
- ◆ Also excluded were students taught in Armenian community schools in Nagorno-Karabakh conflict zone (due to lack of access, students taught in Azeri community schools were in the sample frame under “refugee schools”) and students in international schools (TISA and BAKU) for which no statistics were available. As a result, exclusion rates are biased downward.

- ◆ Within-school exclusions consisted of students with special educational needs and students taught in languages other than Azeri or Russian.

Sample Design

- ◆ Explicit stratification by national examination score.
- ◆ Implicit stratification by geographic sub index (Baku, Baku suburb, refugee school, regional center school, and village school), and performance level on national examination (11). If the national examination score of the school was unknown (missing), the implicit stratification took into account the school type (gymnasium and lyceum, basic and elementary, and secondary school).
- ◆ Sampled two classrooms per school.
- ◆ All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 6: Allocation of School Sample in Azerbaijan, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Low Performance	40	0	26	12	2	0	0
Medium Performance	30	0	22	6	2	0	0
High Performance	78	0	74	4	0	0	0
Unknown Performance	22	1	20	1	0	0	0
Total	170	1	142	23	4	0	0

Bahrain

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 15).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by school type (public and private), and governorates within public school sector.
- ◆ Implicit stratification by school gender within public schools (boys or girls).

- ◆ Data collection was delayed until autumn 2011. School data was updated using Grade 5 information.
- ◆ Sampled one classroom per school.
- ◆ Census of all schools. Schools were used as variance strata when there was only one classroom in the school at the target grade.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 7: Allocation of School Sample in Bahrain, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Capital	18	0	17	0	0	1	0
Central	32	0	28	0	0	4	0
Muharraq	20	0	18	0	0	2	0
Northern	40	0	37	0	0	3	0
Private	53	1	49	0	0	2	1
Southern	11	0	10	0	0	1	0
Total	174	1	159	0	0	13	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 15).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by school type (public and private) and governorates within public school sector.
- ◆ Implicit stratification by school gender within public schools (boys or girls).
- ◆ Data collection was delayed until autumn 2011. School data was updated using Grade 9 information.
- ◆ Sampled two classrooms per school.
- ◆ Census of all schools. Schools were used as variance strata.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 8: Allocation of School Sample in Bahrain, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Capital	10	0	10	0	0	0	0
Central	14	0	14	0	0	0	0
Muharraq	12	0	12	0	0	0	0
Northern	15	0	15	0	0	0	0
Private	38	0	36	0	0	1	1
Southern	8	0	8	0	0	0	0
Total	97	0	95	0	0	1	1

Belgium (Flemish)

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5) and French language schools.
- ◆ Within-school exclusions consisted of non-native language speakers and students with disabilities.
- ◆ All students from the special education stratum were coded as ineligible as they do not belong to any grade.

Sample Design

- ◆ Explicit stratification by province and school type (private and official).
- ◆ Implicit stratification by equal opportunity policy level (low, moderate, high, very high, and unknown).
- ◆ Sampled two classrooms per school.

Exhibit 9: Allocation of School Sample in Belgium (Flemish), Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Antwerpen – Official	17	0	12	2	0	3	0
Antwerpen – Private	25	0	16	5	2	2	0
Brussels and Vlaams-Braban – Official	14	0	12	2	0	0	0
Brussels and Vlaams-Braban – Private	15	0	11	4	0	0	0
Limburg – Official	6	0	5	1	0	0	0
Limburg – Private	13	0	10	3	0	0	0
Oost-Vlaanderen – Official	12	0	9	1	0	2	0
Oost-Vlaanderen – Private	22	0	15	5	1	1	0
West-Vlaanderen – Official	7	0	6	0	1	0	0
West-Vlaanderen – Private	19	0	18	1	0	0	0
Total	150	0	114	24	4	8	0

Botswana

Sixth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by inspectoral region.
- ◆ Implicit stratification by performance level (high, medium, low, and unknown).
- ◆ The school measure of size (MOS) was given by the number of Grade 4 students found in schools (Grade 4 and Grade 6 students all attend the same schools).
- ◆ Sampled one classroom per school.

- ◆ School sample overlap between prePIRLS (Grade 4), TIMSS (Grade 6), PIRLS (Grade 6), and TIMSS (Grade 9): 1) Samples were drawn all at once; 2) All sampled schools were asked to participate in all assessments; and 3) All sampled students for TIMSS at Grade 6 also were asked to take PIRLS.

Exhibit 10: Allocation of School Sample in Botswana, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Central North	25	1	24	0	0	0	0
Central South	28	0	28	0	0	0	0
North	14	0	14	0	0	0	0
South	24	0	24	0	0	0	0
South Central	43	0	43	0	0	0	0
West	16	0	16	0	0	0	0
Total	150	1	149	0	0	0	0

Ninth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students with special needs.

Sample Design

- ◆ Explicit stratification by inspectoral region.
- ◆ Implicit stratification by performance level (high, medium, low, and unknown).
- ◆ The school measure of size (MOS) was given by the number of Grade 8 students found in schools (Grade 8 and Grade 9 students all attend the same school).
- ◆ Sampled one classroom per school.
- ◆ Overlap was maximized between the Grade 6 and Grade 9 school samples.

Exhibit 11: Allocation of School Sample in Botswana, Ninth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Central	40	0	40	0	0	0	0
North	24	0	24	0	0	0	0
South	24	0	24	0	0	0	0
South Central	45	0	45	0	0	0	0
West	17	0	17	0	0	0	0
Total	150	0	150	0	0	0	0

Chile

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with mixed grade classes, special education schools, very small schools (MOS < 6), and schools difficult to access for geographic reasons.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by school administration and “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by achievement categories (14) and urban/rural school status (2).
- ◆ Sampled one classroom per school.
- ◆ School sample overlap between TIMSS (Grade 4) and TIMSS (Grade 8):
1) Samples were drawn all at once; and 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in both studies.

Exhibit 12: Allocation of School Sample in Chile, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Public (Municipal)	4	0	4	0	0	0	0
Grade 4 only – Private Subsidized	8	0	5	3	0	0	0
Grade 4 only – Private Paid	2	0	1	0	1	0	0
Grade 4 & Grade 8 – Public (Municipal)	75	0	63	9	2	1	0
Grade 4 & Grade 8 – Private Subsidized	76	0	70	6	0	0	0
Grade 4 & Grade 8 – Private Paid	38	0	26	8	2	1	1
Total	203	0	169	26	5	2	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with mixed grade classes, special education schools, very small schools (MOS < 10), and schools difficult to access for geographic reasons.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by school administration and “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by achievement categories (14) and urban/rural school status.
- ◆ Sampled one classroom per school.
- ◆ Maximum possible overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 13: Allocation of School Sample in Chile, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Public (Municipal)	4	1	3	0	0	0	0
Grade 8 only – Private Subsidized	2	0	2	0	0	0	0
Grade 8 only – Private Paid	2	0	0	0	1	1	0
Grade 4 & Grade 8 – Public (Municipal)	75	0	63	9	2	1	0
Grade 4 & Grade 8 – Private Subsidized	76	0	70	6	0	0	0
Grade 4 & Grade 8 – Private Paid	38	0	28	8	1	1	0
Total	197	1	166	23	4	3	0

Chinese Taipei

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special needs schools and schools severely damaged in typhoon Mokrak.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by region.
- ◆ No implicit stratification.
- ◆ Sampled two classrooms in large schools (more than 18 classrooms in school).
- ◆ No overlap between the Grade 4 and Grade 8 school samples.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; 2) All sampled schools for TIMSS were asked to participate in PIRLS; and 3) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 14: Allocation of School Sample in Chinese Taipei, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
North	66	0	66	0	0	0	0
Middle	40	0	40	0	0	0	0
South	39	0	39	0	0	0	0
East	3	0	3	0	0	0	0
Isolated Islands	2	0	2	0	0	0	0
Total	150	0	150	0	0	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special needs schools and schools severely damaged in typhoon Mokrak.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by region.
- ◆ Implicit stratification by achievement score level (8).
- ◆ Sampled one classroom per school.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 15: Allocation of School Sample in Chinese Taipei, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
North	66	0	66	0	0	0	0
Middle	39	0	39	0	0	0	0
South	39	0	39	0	0	0	0
East	4	0	4	0	0	0	0
Isolated Islands	2	0	2	0	0	0	0
Total	150	0	150	0	0	0	0

Croatia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6), hospital schools, schools for minority groups (language and writing, and models A and B), schools in which the majority of the classes are composed of solely Roma children, and private elementary schools.
- ◆ Within-school exclusions consisted of students with special needs and special program teaching.

Sample Design

- ◆ Explicit stratification by school type.
- ◆ Implicit stratification by region (Središnja, Istocna, Sjeverna, Zapadna, Južna, and Zagreb) or area (21).
- ◆ Sampled two classrooms in large schools in the “One Building School” stratum (MOS > 90) and sampled two classrooms in each sampled school in the “Multiple Building School” and “Minority School” strata.
- ◆ Satellite schools of mother schools were treated as classrooms of the mother school for purposes of sampling.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; 2) All sampled schools for TIMSS were asked to participate in PIRLS; and 3) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 16: Allocation of School Sample in Croatia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
One Building School	59	0	57	2	0	0	0
Multiple Building School	91	0	91	0	0	0	0
Minority School	2	0	2	0	0	0	0
Total	152	0	150	2	0	0	0

Czech Republic

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools, Polish language schools, and very small schools (MOS < 3 in Grade 4).
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by extended education status.
- ◆ Implicit stratification by region (14).
- ◆ Sampled two classrooms in the “extended education of languages” stratum. All variance estimates from this stratum were derived using schools as variance strata.
- ◆ Oversampling of the “extended education of languages” stratum.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; 2) All sampled schools for TIMSS were asked to participate in PIRLS; and 3) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 17: Allocation of School Sample in Czech Republic, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
No Extended Education	130	2	114	9	4	1	0
Extended Education of Languages	50	0	47	1	2	0	0
Total	180	2	161	10	6	1	0

Denmark

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5), special education schools, out-of-school, and residential institutions.

- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by public/private status.
- ◆ No implicit stratification.
- ◆ Sampled one classroom per school in most schools.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; and 2) No school sample overlap between TIMSS and PIRLS.

Exhibit 18: Allocation of School Sample in Denmark, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Private	30	0	24	3	1	2	0
Public	210	5	162	23	3	17	0
Total	240	5	186	26	4	19	0

England

Fourth Grade (Year 5)

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special schools and very small schools (MOS < 8).
- ◆ Within-school exclusions consisted of students with significant special educational needs.

Sample Design

- ◆ Explicit stratification by “Year 5” / “Year 5 & Year 9” schools.
- ◆ Implicit stratification by attainment level (low, low to medium, medium, medium to high, high, and unknown) and school type (primary, junior, middle, independent, and unknown).
- ◆ Sampled two classrooms in large schools (MOS > 85).
- ◆ Response adjustment cells were built using attainment status.

- ◆ School sample overlap between TIMSS (Year 5), PIRLS, and TIMSS (Year 9): 1) Samples were drawn all at once; and 2) No school sample overlap between these three studies.

Exhibit 19: Allocation of School Sample in England, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Year 5 only	146	0	119	3	0	24	0
Year 5 & Year 9	4	0	3	0	0	1	0
Total	150	0	122	3	0	25	0

Eighth Grade (Year 9)

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special schools and very small schools (MOS < 8).
- ◆ Within-school exclusions consisted of students with significant special educational needs.

Sample Design

- ◆ Explicit stratification by “Year 5” / “Year 5 & Year 9” schools.
- ◆ Implicit stratification by attainment level (low, low to medium, medium, medium to high, high, and unknown) and school type (comprehensive to 16, comprehensive to 18, independent, and other).
- ◆ Sampled two classrooms in large schools (MOS > 200).
- ◆ Response adjustment cells were built using attainment status.
- ◆ School sample overlap between TIMSS (Year 5), PIRLS, and TIMSS (Year 9): 1) Samples were drawn all at once; and 2) No school sample overlap between these three studies.

Exhibit 20: Allocation of School Sample in England, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Year 9 only	143	0	108	4	1	30	0
Year 5 & Year 9	7	0	5	0	0	2	0
Total	150	0	113	4	1	32	0

Finland

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools and language schools (instructional language not Finnish or Swedish).
- ◆ Within-school exclusions consisted of students with dyslexia or other severe linguistic disorders, intellectually disabled students, functionally disabled students, and students with limited proficiency in the assessment language.

Sample Design

- ◆ Explicit stratification by major region, and urban & semi-urban/rural status.
- ◆ No implicit stratification.
- ◆ Sampled two classrooms per school.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; 2) All sampled schools for TIMSS were asked to participate in PIRLS; and 3) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 21: Allocation of School Sample in Finland, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Southern Finland – Urban & Semi-urban	61	0	59	2	0	0	0
Southern Finland – Rural	8	0	8	0	0	0	0
Western Finland – Urban & Semi-urban	27	0	26	1	0	0	0
Western Finland – Rural	7	0	7	0	0	0	0
Eastern Finland – Urban & Semi-urban	11	0	11	0	0	0	0
Eastern Finland – Rural	7	1	5	0	0	1	0
Northern Finland – Urban & Semi-urban	15	1	13	1	0	0	0
Northern Finland – Rural	5	0	5	0	0	0	0

Exhibit 21: Allocation of School Sample in Finland, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Swedish Speaking – Urban & Semi-urban	6	1	5	0	0	0	0
Swedish Speaking – Rural	3	1	2	0	0	0	0
Total	150	4	141	4	0	1	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools for students with special needs and language schools (instructional language not Finnish or Swedish).
- ◆ Within-school exclusions consisted of intellectually disabled students, functionally disabled students, and students with limited proficiency in test language.

Sample Design

- ◆ Explicit stratification by major region, and urban & semi-urban/rural status.
- ◆ No implicit stratification.
- ◆ Sampled two classrooms in large schools (MOS > 114).
- ◆ Grade 4 and Grade 8 were sampled independently without controlling for overlap.

Exhibit 22: Allocation of School Sample in Finland, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Southern Finland – Urban & Semi-urban	62	0	60	0	0	2	0
Southern Finland – Rural	6	0	6	0	0	0	0
Western Finland – Urban & Semi-urban	27	0	25	2	0	0	0
Western Finland – Rural	7	0	6	0	0	1	0

Exhibit 22: Allocation of School Sample in Finland, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Eastern Finland – Urban & Semi-urban	11	1	10	0	0	0	0
Eastern Finland – Rural	7	0	7	0	0	0	0
Northern Finland – Urban & Semi-urban	14	1	13	0	0	0	0
Northern Finland – Rural	6	0	6	0	0	0	0
Swedish Speaking – Urban & Semi-urban	7	0	7	0	0	0	0
Swedish Speaking – Rural	3	0	3	0	0	0	0
Total	150	2	143	2	0	3	0

Seventh Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools for students with special needs and language schools (instructional language not Finnish or Swedish).
- ◆ Within-school exclusions consisted of intellectually disabled students, functionally disabled students, and students with limited proficiency in the assessment language.

Sample Design

- ◆ Explicit stratification by major region, and urban & semi-urban/rural status.
- ◆ No implicit stratification.
- ◆ Sampled two classrooms in large schools (MOS > 114).
- ◆ Sampled every second elected school in Grade 8.
- ◆ Grade 4 and Grade 7 were sampled independently without controlling for overlap.

Exhibit 23: Allocation of School Sample in Finland, Seventh Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Southern Finland – Urban & Semi-urban	31	0	31	0	0	0	0
Southern Finland – Rural	3	0	3	0	0	0	0
Western Finland – Urban & Semi-urban	14	0	12	2	0	0	0
Western Finland – Rural	3	0	3	0	0	0	0
Eastern Finland – Urban & Semi-urban	6	1	5	0	0	0	0
Eastern Finland – Rural	3	0	3	0	0	0	0
Northern Finland – Urban & Semi-urban	7	0	7	0	0	0	0
Northern Finland – Rural	3	0	3	0	0	0	0
Swedish Speaking – Urban & Semi-urban	4	0	4	0	0	0	0
Swedish Speaking – Rural	1	0	1	0	0	0	0
Total	75	1	72	2	0	0	0

Georgia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 91 percent. Coverage in Georgia was restricted to students whose language of instruction is Georgian (91% of the international target population).
- ◆ School-level exclusions consisted of special needs schools and very small schools (MOS < 4). Schools from South Ossetia were also excluded along with schools from Abkhazia (no physical access and no official statistics). However, Abkhazia refugee schools functioning in other territories of Georgia were part of the sample frame. As a result, exclusion rates are biased downward.
- ◆ Within-school exclusions consisted of specialized schools for disabled students.

Sample Design

- ◆ Explicit stratification by region and “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by state/private status, and highland/town/village status.
- ◆ Sampled two classrooms in large schools (MOS > 50).
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 24: Allocation of School Sample between Studies in Georgia

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	2	2	2	0
Grade 4 & Grade 8	178	178	178	178
Grade 8 only	2	0	0	2
Total	182	180	180	180

Exhibit 25: Allocation of School Sample in Georgia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only	2	0	2	0	0	0	0
Grade 4 & Grade 8 – qvemo qarTli	14	1	13	0	0	0	0
Grade 4 & Grade 8 – aWara	20	0	19	1	0	0	0
Grade 4 & Grade 8 – afxazeTi - Itolvilebi	2	0	2	0	0	0	0
Grade 4 & Grade 8 – guria	6	0	6	0	0	0	0
Grade 4 & Grade 8 – imereTi	28	0	25	0	0	3	0
Grade 4 & Grade 8 – kaxeTi	14	0	13	0	0	1	0
Grade 4 & Grade 8 – mcxeTa-mTianeTi	5	0	5	0	0	0	0

Exhibit 25: Allocation of School Sample in Georgia, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – raWa-leGxumi da qvemo svaneTi	2	0	2	0	0	0	0
Grade 4 & Grade 8 – samcxе-javaxeTi	5	0	5	0	0	0	0
Grade 4 & Grade 8 – Sida qarTli	14	0	14	0	0	0	0
Grade 4 & Grade 8 – Tbilisi	50	2	48	0	0	0	0
Grade 4 & Grade 8 – samegrelo-zemo svaneTi	18	0	18	0	0	0	0
Total	180	3	172	1	0	4	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 93 percent. Coverage in Georgia was restricted to students whose language of instruction is Georgian (93% of the international target population).
- ◆ School-level exclusions consisted of special needs schools and very small schools (MOS < 4). Schools from South Ossetia were also excluded along with schools from Abkhazia (no physical access, and no official statistics). However, Abkhazia refugee schools functioning in other territories of Georgia were part of the sample frame. As a result, exclusion rates are biased downward.
- ◆ Within-school exclusions consisted of specialized schools for disabled students.

Sample Design.

- ◆ Explicit stratification by region and “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by state/private status, and highland/town/village status.
- ◆ Sampled two classrooms in large schools (MOS > 100).
- ◆ Maximum possible overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 26: Allocation of School Sample in Georgia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	2	0	2	0	0	0	0
Grade 4 & Grade 8 – qvemo qarTli	14	1	13	0	0	0	0
Grade 4 & Grade 8 – aWara	20	0	17	1	0	1	1
Grade 4 & Grade 8 – afxazeTi - Itolvilebi	2	0	2	0	0	0	0
Grade 4 & Grade 8 – guria	6	0	6	0	0	0	0
Grade 4 & Grade 8 – imereTi	28	0	28	0	0	0	0
Grade 4 & Grade 8 – kaxeTi	14	0	13	0	0	1	0
Grade 4 & Grade 8 – mcxeTa-mTianeTi	5	0	4	0	0	1	0
Grade 4 & Grade 8 – raWa-leGxumi da qvemo svaneTi	2	0	2	0	0	0	0
Grade 4 & Grade 8 – samcxe-javaxeTi	5	0	5	0	0	0	0
Grade 4 & Grade 8 – Sida qarTli	14	0	14	0	0	0	0
Grade 4 & Grade 8 – Tbilisi	50	3	47	0	0	0	0
Grade 4 & Grade 8 – samegrelo-zemo svaneTi	18	0	18	0	0	0	0
Total	180	4	171	1	0	3	1

Germany

Fourth Grade Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools for children with special needs (mentally disabled, physically disabled, visual impairment, hearing impairment, autism, and long-term sickness).
- ◆ Within-school exclusions consisted of children with special needs in regular schools.

Sample Design

- ◆ Explicit stratification by federal state.
- ◆ Implicit stratification by regional subdivision (30), and school type (Grundschule, Freie Waldorfschule, and Förderschule).

- ◆ Sampled one classroom per school.
- ◆ School sample overlap between PIRLS and TIMSS (Grade 4): 1) Samples were drawn all at once; and 2) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 27: Allocation of School Sample in Germany, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Baden-Württemberg	29	0	26	2	0	1	0
Bayern	32	0	32	0	0	0	0
Berlin	7	0	6	0	0	0	1
Brandenburg	5	0	5	0	0	0	0
Bremen	2	0	2	0	0	0	0
Hamburg	4	0	4	0	0	0	0
Hessen	15	0	15	0	0	0	0
Mecklenburg-Vorpommern	3	0	3	0	0	0	0
Niedersachsen	21	0	19	2	0	0	0
Nordrhein-Westfalen	47	0	44	2	0	1	0
Rheinland-Pfalz	10	0	10	0	0	0	0
Saarland	2	0	2	0	0	0	0
Sachsen	8	0	8	0	0	0	0
Sachsen-Anhalt	4	0	4	0	0	0	0
Schleswig-Holstein	7	0	6	1	0	0	0
Thüringen	4	0	4	0	0	0	0
Total	200	0	190	7	0	2	1

Ghana

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools, and small schools (MOS < 10).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by public/private school type.

- ◆ Implicit stratification by region.
- ◆ Sampled one classroom per school.
- ◆ Oversampling of schools in the private sector.

Exhibit 28: Allocation of School Sample in Ghana, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Private	30	1	29	0	0	0	0
Public	133	1	132	0	0	0	0
Total	163	2	161	0	0	0	0

Honduras

Sixth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5), and schools with different curriculum/schedule.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 6” / “Grade 6 & Grade 9” schools, public/private status, and urban/rural status.
- ◆ Implicit stratification by school type (municipal, official, urban, rural, and semi-public), geographic area (18), and urban/private status.
- ◆ Sampled two classrooms per school in large schools (MOS > 125).
- ◆ The school measure of size (MOS) was given by the number of Grade 4 students found in schools (Grade 4 and Grade 6 students all attended the same schools).
- ◆ School sample overlap between TIMSS (Grade 6), PIRLS, and TIMSS (Grade 9): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 6 & Grade 9” stratum were asked to participate in TIMSS at Grade 9 (a subset of these schools also were asked to participate in both TIMSS at Grade 6 and PIRLS); and 3) All sampled students for TIMSS at Grade 6 also were asked to take PIRLS.

Exhibit 29: Allocation of the School Sample between Studies in Honduras

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 6 only	120	120	120	0
Grade 6 & Grade 9	50	32	32	50
Grade 9 only	110	0	0	110
Total	280	152	152	160

Exhibit 30: Allocation of School Sample in Honduras, Sixth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 6 only – Public Urban	42	1	34	4	2	0	1
Grade 6 only – Public Rural	71	3	65	3	0	0	0
Grade 6 only – Private	7	0	5	2	0	0	0
Grade 6 & Grade 9 – Public Urban	10	0	9	1	0	0	0
Grade 6 & Grade 9 – Public Rural	17	0	16	1	0	0	0
Grade 6 & Grade 9 – Private	5	0	4	0	1	0	0
Total	152	4	133	11	3	0	1

Ninth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5), and schools with different curriculum/schedule.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 9” / “Grade 6 & Grade 9” school status, public/private status, and urban/rural status.
- ◆ Implicit stratification by school type (municipal, official, urban, rural, and semi-public), geographic area (18), and urban/private status.
- ◆ Sampled one classroom per school.

- ◆ The school measure of size (MOS) was obtained by the number of Grade 8 students found in schools (Grade 8 and Grade 9 students all attended the same schools).
- ◆ Overlap was maximized between the Grade 6 and Grade 9 school samples (see Grade 6 above).

Exhibit 31: Allocation of School Sample in Honduras, Ninth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 9 only – Public Urban	72	1	59	10	1	0	1
Grade 9 only – Public Rural	18	0	13	3	1	0	1
Grade 9 only – Private	20	1	16	1	1	0	1
Grade 6 & Grade 9 – Public Urban	12	0	10	1	1	0	0
Grade 6 & Grade 9 – Public Rural	26	0	25	1	0	0	0
Grade 6 & Grade 9 – Private	12	0	11	0	1	0	0
Total	160	2	134	16	5	0	3

Hong Kong

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of international schools, special schools, and schools with different curriculum.
- ◆ Within-school exclusions consisted of students with special educational needs under an inclusive education scheme.

Sample Design

- ◆ Explicit stratification by school type and session (am/pm/day).
- ◆ Implicit stratification by school gender (boys, co-educational, or girls).
- ◆ Sampled one classroom per school.

- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; 2) All sampled schools for TIMSS also were sampled for PIRLS; and 3) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 32: Allocation of School Sample in Hong Kong, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Aided – Whole day	117	0	105	2	0	10	0
Aided – AM	4	0	3	0	0	1	0
Aided – PM	3	0	3	0	0	0	0
Direct Subsidy	6	0	5	0	0	1	0
Government	11	0	7	0	0	4	0
Private	9	0	7	0	0	2	0
Non-native Language	4	0	4	0	0	0	0
Total	154	0	134	2	0	18	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of international schools, special schools, and private independent schools.
- ◆ Within-school exclusions consisted of students with special educational needs under inclusive education scheme.

Sample Design

- ◆ Explicit stratification by school type.
- ◆ Implicit stratification by school gender (boys, co-educational, or girls) and school banding.
- ◆ Sampled one classroom per school.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 33: Allocation of School Sample in Hong Kong, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Aided	124	0	95	1	0	28	0
Direct Subsidy	16	0	12	0	0	4	0
Government	10	0	9	0	0	1	0
Total	150	0	116	1	0	33	0

Hungary

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special schools for students with special educational needs, very small schools (MOS < 5 in both Grade 4 and Grade 8), and students taught in a foreign language.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by type of community, and “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by geographic region (Del-Alfold, Del-Dunantul, Kozep-Dunantul, Kozep-Magyarország, Nyugat-Dunantul, Eszak-Alfold, and Eszak-Magyarország).
- ◆ Sampled two classrooms per school.
- ◆ School sample overlapped between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 34: Allocation of the School Sample between Studies in Hungary

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	22	22	22	0
Grade 4 & Grade 8	128	128	128	128
Grade 8 only	22	0	0	22
Total	172	150	150	150

Exhibit 35: Allocation of School Sample in Hungary, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Capital	2	0	2	0	0	0	0
Grade 4 only – County Seat	2	0	2	0	0	0	0
Grade 4 only – Town	10	0	9	1	0	0	0
Grade 4 only – Rural Area	8	0	8	0	0	0	0
Grade 4 & Grade 8 – Capital	20	0	20	0	0	0	0
Grade 4 & Grade 8 – County Seat	28	0	27	0	0	1	0
Grade 4 & Grade 8 – Town	40	0	40	0	0	0	0
Grade 4 & Grade 8 – Rural Area	40	0	38	2	0	0	0
Total	150	0	146	3	0	1	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special schools for students with special educational needs, very small schools (MOS < 5 in both Grade 4 and Grade 8), and students taught in a foreign language.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by type of community, and “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by geographic region (Del-Alfold, Del-Dunantul, Kozep-Dunantul, Kozep-Magyarország, Nyugat-Dunantul, Eszak-Alfold, and Eszak-Magyarország).

- ◆ Sampled two classrooms per school.
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 36: Allocation of School Sample in Hungary, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Capital	4	0	4	0	0	0	0
Grade 8 only – County Seat	4	0	4	0	0	0	0
Grade 8 only – Town	10	1	9	0	0	0	0
Grade 8 only – Rural Area	4	0	4	0	0	0	0
Grade 4 & Grade 8 – Capital	20	0	20	0	0	0	0
Grade 4 & Grade 8 – County Seat	28	0	27	1	0	0	0
Grade 4 & Grade 8 – Town	40	0	40	0	0	0	0
Grade 4 & Grade 8 – Rural Area	40	2	36	1	0	1	0
Total	150	3	144	2	0	1	0

Indonesia

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools in Papua and Papua Barat (geographic reasons), very small schools (MOS < 6), and open schedule secondary schools (informal secondary school).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by public/private school type, and general/Islamic school status.
- ◆ Implicit stratification by school performance (high, medium, and low), and province (31)
- ◆ Sampled two classrooms in large schools (MOS > 280).

Exhibit 37: Allocation of School Sample in Indonesia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Public – General	88	0	88	0	0	0	0
Public – Islamic	8	0	8	0	0	0	0
Private – General	32	0	32	0	0	0	0
Private – Islamic	26	1	25	0	0	0	0
Total	154	1	153	0	0	0	0

Iran, Islamic Republic of

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 4) and schools geographically difficult to access.
- ◆ No within-school exclusions.

Sample Design

- ◆ No explicit stratification.
- ◆ Implicit stratification by province (31), public/private status, and school gender (boys, co-educational, or girls).
- ◆ Sampled one classroom per school.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; 2) All sampled schools for TIMSS also were sampled for PIRLS; and 3) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 38: Allocation of School Sample in Iran, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Iran	250	6	244	0	0	0	0
Total	250	6	244	0	0	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5) and distance learning schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ No explicit stratification.
- ◆ Implicit stratification by province (31), public/private status, and school gender (boys, co-educational, or girls).
- ◆ Sampled one classroom per school.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 39: Allocation of School Sample in Iran, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Iran	250	12	237	1	0	0	0
Total	250	12	237	1	0	0	0

Ireland

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of non-aided first level educational institutions (private schools), and students in special schools (students with special educational needs).
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by school size.
- ◆ Implicit stratification by school-level socio-economic status (DEIS1, DEIS2, rural, and “other”), language status (Irish, Gaeltacht, and English), and school gender (boys, co-educational, or girls).

- ◆ Sampled two classrooms per school.
- ◆ The school sample for TIMSS was selected by controlling for the overlap between three studies using the Chowdhury approach (samples drawn sequentially). The TIMSS sample of schools was selected by minimizing the overlap with the samples from the previous TIMSS/PIRLS field test and the samples were drawn for a national study. Note that these two previous samples were drawn independently from each other.
- ◆ All sampled students from schools selected for TIMSS were asked to participate in PIRLS.

Exhibit 40: Allocation of School Sample in Ireland, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Very Small Enrollment	2	1	1	0	0	0	0
Small Enrollment	45	0	44	0	0	1	0
Medium Enrollment	41	0	40	1	0	0	0
Large Enrollment	64	0	62	2	0	0	0
Total	152	1	147	3	0	1	0

Israel

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of Ultra Orthodox schools, special education schools, very small schools (MOS < 5), and schools where instruction is in English or French.
- ◆ Within-school exclusions consisted of classes for students with special educational needs in regular schools and students with special educational needs learning in regular classes.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school status, and school orientation.
- ◆ Implicit stratification by socio-economic status (SES) (high, medium, and low), school gender (boys, co-educational, or girls), and geographic region (North and South).

- ◆ Sampled two classrooms per school in large schools (MOS > 280).
- ◆ There was one census stratum (“Grade 4 & Grade 8 – Arabic Druze”). All variance estimates for this stratum were derived using schools as variance strata.
- ◆ School sample overlap between PIRLS and TIMSS (Grade 8): 1) Samples were drawn all at once; and 2) Only two of the sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in both TIMSS at Grade 8 and PIRLS.

Exhibit 41: Allocation of the School Sample between Studies in Israel

Explicit Strata	Total Sampled Schools	Allocation of Schools	
		To PIRLS Grade 4	To TIMSS Grade 8
Grade 4 only	129	129	0
Grade 4 & Grade 8	45	24	23
Grade 8 only	129	0	129
Total	303	153	152

Exhibit 42: Allocation of School Sample in Israel, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Hebrew Secular	66	0	60	4	2	0	0
Grade 8 only – Hebrew Religious	28	0	26	1	1	0	0
Grade 8 only – Arabic Arab	24	0	24	0	0	0	0
Grade 8 only – Arabic Druze	4	0	4	0	0	0	0
Grade 8 only – Arabic Bedouin	7	0	7	0	0	0	0
Grade 4 & Grade 8 – Hebrew Secular	6	1	5	0	0	0	0
Grade 4 & Grade 8 – Hebrew Religious	7	0	7	0	0	0	0
Grade 4 & Grade 8 – Arabic Arab	5	0	5	0	0	0	0
Grade 4 & Grade 8 – Arabic Druze	2	0	2	0	0	0	0
Grade 4 & Grade 8 – Arabic Bedouin	3	0	3	0	0	0	0
Total	152	1	143	5	3	0	0

Italy

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of students taught in Slovenian and very small schools (MOS < 5).
- ◆ Within-school exclusions consisted of intellectually and functionally disabled students, and non-native language speakers.

Sample Design

- ◆ Explicit stratification by geographic area, and “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by public/private status, and by region or province (104).
- ◆ Sampled two classrooms in large schools (MOS > 150).
- ◆ Oversampling as follows: 40 schools selected per region to allow comparison between the five main regions (Northeast, Northwest, Central, South, and Southern Islands) plus additional sampling for sub-regions (Trento & Bolzano, and Valle D’Aosta).
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 43: Allocation of the School Sample between Studies in Italy

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	106	106	106	0
Grade 4 & Grade 8	99	99	99	99
Grade 8 only	105	0	0	105
Total	310	205	205	204

Exhibit 44: Allocation of School Sample in Italy, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Central	21	0	20	0	1	0	0
Grade 4 only – Northeast, without Trento & Bolzano	14	0	8	3	2	1	0
Grade 4 only – Northwest, without Valle D’Aosta	19	0	17	2	0	0	0
Grade 4 only – South	28	0	24	3	0	1	0
Grade 4 only – Southern Islands	20	0	14	6	0	0	0
Grade 4 only – Valle D’Aosta (Northwest)	2	0	0	1	1	0	0
Grade 4 only – Trento & Bolzano (Northeast)	2	0	1	1	0	0	0
Grade 4 & Grade 8 – Central	19	0	15	4	0	0	0
Grade 4 & Grade 8 – Northeast, without Trento & Bolzano	21	0	18	2	1	0	0
Grade 4 & Grade 8 – Northwest, without Valle D’Aosta	21	0	16	3	1	1	0
Grade 4 & Grade 8 – South	12	0	11	0	1	0	0
Grade 4 & Grade 8 – Southern Islands	20	0	18	2	0	0	0
Grade 4 & Grade 8 – Valle D’Aosta (Northwest)	2	0	1	1	0	0	0
Grade 4 & Grade 8 – Trento & Bolzano (Northeast)	4	0	3	0	1	0	0
Total	205	0	166	28	8	3	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of students taught in Slovenian and very small schools (MOS < 5).
- ◆ Within-school exclusions consisted of intellectually and functionally disabled students, and non-native language speakers.

Sample Design

- ◆ Explicit stratification by geographic area, and “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by public/private status, and by region or province (104).
- ◆ Sampled two classrooms in large schools (MOS > 300).
- ◆ Oversampling as follows: 40 schools selected per region to allow comparison between the five main regions (Northeast, Northwest, Central, South, and Southern Islands) plus additional sampling for sub-regions (Trento & Bolzano, and Valle D’Aosta).
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 45: Allocation of School Sample in Italy, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Central	21	0	14	6	0	1	0
Grade 8 only – Northeast without Trento & Bolzano	14	0	7	4	0	3	0
Grade 8 only – Northwest without Valle D’Aosta	19	0	15	1	0	3	0
Grade 8 only – South	28	0	24	4	0	0	0
Grade 8 only – Southern Islands	20	0	20	0	0	0	0
Grade 8 only – Valle D’Aosta (Northwest)	1	0	1	0	0	0	0
Grade 8 only – Trento & Bolzano (Northeast)	2	0	2	0	0	0	0
Grade 4 & Grade 8 – Central	19	0	15	4	0	0	0
Grade 4 & Grade 8 – Northeast without Trento & Bolzano	21	0	18	2	1	0	0
Grade 4 & Grade 8 – Northwest without Valle D’Aosta	21	0	17	3	1	0	0
Grade 4 & Grade 8 – South	12	0	11	0	1	0	0

Exhibit 45: Allocation of School Sample in Italy, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – Southern Islands	20	0	18	2	0	0	0
Grade 4 & Grade 8 – Valle D'Aosta (Northwest)	2	0	1	1	0	0	0
Grade 4 & Grade 8 – Trento & Bolzano (Northeast)	4	0	3	0	1	0	0
Total	204	0	166	27	4	7	0

Japan

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools for special needs education.
- ◆ Within-school exclusions consisted of special classes within general schools for multi-grade setting, and special classes within general schools for disabled children.

Sample Design

- ◆ Explicit stratification by school location.
- ◆ No implicit stratification.
- ◆ Sampled one classroom per school.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 46: Allocation of School Sample in Japan, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Very Large Cities	33	0	32	1	0	0	0
Large Cities	27	0	25	1	0	1	0
Small Cities	72	0	69	3	0	0	0
Non City Areas	18	0	18	0	0	0	0
Total	150	0	144	5	0	1	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools for special needs education.
- ◆ Within-school exclusions consisted of special classes within general schools for multi-grade setting, and special classes within general schools for disabled children.

Sample Design

- ◆ Explicit stratification by public/private, national school status, and school location.
- ◆ No implicit stratification.
- ◆ Sampled one classroom per school.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 47: Allocation of School Sample in Japan, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Public Very Large Cities	28	0	24	3	0	1	0
Public Large Cities	25	0	23	2	0	0	0
Public Small Cities	66	0	59	1	0	6	0
Public Non City Areas	17	0	14	0	0	3	0
Private or National	14	0	8	4	0	2	0
Total	150	0	128	10	0	12	0

Jordan

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by school type.
- ◆ Implicit stratification by performance level (7), governorate (12), urban/rural school status, and school gender (boys, co-educational, or girls).
- ◆ Sampled one classroom per school in all strata except the “USAID” stratum. In the “USAID” stratum, all schools sampled had at least two or all classrooms selected per school. Variance in the “USAID” stratum was computed using schools as variance strata.
- ◆ Schools were oversampled (minimum of 25 sampled schools per stratum) to allow for better estimates of each school type.

Exhibit 48: Allocation of School Sample in Jordan, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Discovery	25	0	25	0	0	0	0
Madrasiti	25	0	25	0	0	0	0
Public	101	1	100	0	0	0	0
UNWRA	25	0	25	0	0	0	0
Private	25	0	25	0	0	0	0
Public-USAID	31	1	30	0	0	0	0
Total	232	2	230	0	0	0	0

Kazakhstan

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with all instruction in language other than Kazakh or Russian, very small schools (MOS < 4), and remedial schools.
- ◆ Within-school exclusions consisted of students taught in languages other than Kazakh or Russian in mixed schools (i.e., schools where some students were taught in languages other than Kazakh or Russian).

Sample Design

- ◆ Explicit stratification by region, and “Grade 4” / “Grade 4 & Grade 8” school types.
- ◆ Implicit stratification by urban/rural school status, language of instruction (Kazakh, Russian, or both), ISCED level (basic, primary, and secondary), and school performance level (high, medium, low, and unknown).
- ◆ Sampled two classrooms per school in large schools (MOS > 77).
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples.

Exhibit 49: Allocation of School Sample in Kazakhstan, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only	5	0	4	1	0	0	0
Grade 4 & Grade 8 – Akmola	7	0	7	0	0	0	0
Grade 4 & Grade 8 – Aktobe	7	0	7	0	0	0	0
Grade 4 & Grade 8 – Almaty	16	0	16	0	0	0	0
Grade 4 & Grade 8 – Almaty City	10	0	10	0	0	0	0
Grade 4 & Grade 8 – Astana City	4	0	4	0	0	0	0
Grade 4 & Grade 8 – Atyrau	6	0	6	0	0	0	0
Grade 4 & Grade 8 – East Kazakhstan	11	0	11	0	0	0	0
Grade 4 & Grade 8 – Zhambyl	11	0	11	0	0	0	0
Grade 4 & Grade 8 – West Kazakhstan	6	0	6	0	0	0	0
Grade 4 & Grade 8 – Karagandy	11	0	11	0	0	0	0
Grade 4 & Grade 8 – Kostanay	6	0	6	0	0	0	0
Grade 4 & Grade 8 – Kyzylorda	8	0	7	1	0	0	0
Grade 4 & Grade 8 – Mangystau	5	0	5	0	0	0	0
Grade 4 & Grade 8 – Pavlodar	6	0	6	0	0	0	0

Exhibit 49: Allocation of School Sample in Kazakhstan, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – North Kazakhstan	5	0	5	0	0	0	0
Grade 4 & Grade 8 – South Kazakhstan	26	0	25	0	0	0	1
Total	150	0	147	2	0	0	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with all instruction in language other than Kazakh or Russian, very small schools (MOS < 5), and remedial schools.
- ◆ Within-school exclusions consisted of students taught in languages other than Kazakh or Russian in mixed schools.

Sample Design

- ◆ Explicit stratification by region and “Grade 8” / “Grade 4 & Grade 8” school status.
- ◆ Implicit stratification by urban/rural school status, language of instruction (Kazakh, Russian, or both), ISCED level (basic, primary, and secondary), and school performance level (high, medium, low, and unknown).
- ◆ Sampled two classrooms in large schools (MOS > 84).
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples.

Exhibit 50: Allocation of School Sample in Kazakhstan, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	5	0	5	0	0	0	0
Grade 4 & Grade 8 – Akmola	7	1	6	0	0	0	0
Grade 4 & Grade 8 – Aktobe	7	0	7	0	0	0	0

Exhibit 50: Allocation of School Sample in Kazakhstan, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – Almaty	16	1	15	0	0	0	0
Grade 4 & Grade 8 – Almaty City	10	0	10	0	0	0	0
Grade 4 & Grade 8 – Astana City	4	0	4	0	0	0	0
Grade 4 & Grade 8 – Atyrau	6	0	6	0	0	0	0
Grade 4 & Grade 8 – East Kazakhstan	11	0	11	0	0	0	0
Grade 4 & Grade 8 – Zhambyl	11	0	11	0	0	0	0
Grade 4 & Grade 8 – West Kazakhstan	6	0	6	0	0	0	0
Grade 4 & Grade 8 – Karagandy	11	0	11	0	0	0	0
Grade 4 & Grade 8 – Kostanay	6	0	6	0	0	0	0
Grade 4 & Grade 8 – Kyzylorda	8	0	7	1	0	0	0
Grade 4 & Grade 8 – Mangystau	5	0	5	0	0	0	0
Grade 4 & Grade 8 – Pavlodar	6	0	6	0	0	0	0
Grade 4 & Grade 8 – North Kazakhstan	5	0	5	0	0	0	0
Grade 4 & Grade 8 – South Kazakhstan	26	0	25	0	0	0	1
Total	150	2	146	1	0	0	1

Korea

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of geographically inaccessible schools (islands and remote places), and very small schools (MOS < 5).
- ◆ Within-school exclusions consisted of intellectually or functionally disabled students.

Sample Design

- ◆ Explicit stratification by province.
- ◆ Implicit stratification by urbanization (urban, suburban, and rural).
- ◆ Sampled one classroom per school.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 51: Allocation of School Sample in Korea, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Seoul	26	0	26	0	0	0	0
Pusan	9	0	9	0	0	0	0
Taegu	8	0	8	0	0	0	0
Inchon	8	0	8	0	0	0	0
Kwangju	5	0	5	0	0	0	0
Taejon	5	0	5	0	0	0	0
Ulsan	4	0	4	0	0	0	0
Kyunggi-do	38	0	38	0	0	0	0
Kangwon-do	4	0	4	0	0	0	0
Chungchongbuk-do	5	0	5	0	0	0	0
Chungchongnam-do	6	0	6	0	0	0	0
Chollabuk-do	6	0	6	0	0	0	0
Chollanam-do	6	0	6	0	0	0	0
Kyongsangbuk-do	8	0	8	0	0	0	0
Kyongsangnam-do	10	0	10	0	0	0	0
Cheju-do	2	0	2	0	0	0	0
Total	150	0	150	0	0	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of geographically inaccessible schools (island and remote places), the Physical Education Middle School (different curriculum), and very small schools (MOS < 5).
- ◆ Within-school exclusions consisted of intellectually or functionally disabled students.

Sample Design

- ◆ Explicit stratification by province.
- ◆ Implicit stratification by urbanization (urban, suburban, and rural) and school gender (boys, co-educational, or girls).
- ◆ Sampled one classroom per school.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 52: Allocation of School Sample in Korea, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Seoul	27	0	27	0	0	0	0
Pusan	10	0	10	0	0	0	0
Taegu	8	0	8	0	0	0	0
Inchon	9	0	9	0	0	0	0
Kwangju	5	0	5	0	0	0	0
Taejon	5	0	5	0	0	0	0
Ulsan	4	0	4	0	0	0	0
Kyunggi-do	36	0	36	0	0	0	0
Kangwon-do	4	0	4	0	0	0	0
Chungchongbuk-do	5	0	5	0	0	0	0
Chungchongnam-do	6	0	6	0	0	0	0
Chollabuk-do	6	0	6	0	0	0	0
Chollanam-do	5	0	5	0	0	0	0
Kyongsangbuk-do	8	0	8	0	0	0	0
Kyongsangnam-do	10	0	10	0	0	0	0
Cheju-do	2	0	2	0	0	0	0
Total	150	0	150	0	0	0	0

Kuwait

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 78 percent. Coverage in Kuwait was restricted to students in public schools (78% of the international target population).
- ◆ School-level exclusions consisted of special needs schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by region.
- ◆ Implicit stratification by school gender (boys or girls).
- ◆ Sampled two classrooms per school in large schools (MOS > 143).

Exhibit 53: Allocation of School Sample in Kuwait, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Asema	19	0	18	0	0	1	0
Hawalli	22	0	22	0	0	0	0
Farwaniya	31	0	30	0	0	1	0
Ahmadi	36	0	36	0	0	0	0
Jahra	27	0	27	0	0	0	0
Mubarak	15	0	15	0	0	0	0
Total	150	0	148	0	0	2	0

Lebanon

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 9).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by performance level, and private/public school status.
- ◆ Implicit stratification by region (Beirut, Bekaa, Mont Liban, Mont Liban (suburbs), Nabayieh, North, and South).
- ◆ Sampled two classrooms in large schools (MOS > 110).

Exhibit 54: Allocation of School Sample in Lebanon, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High performance – Private	96	0	84	9	1	2	0
High performance – Public	48	0	47	1	0	0	0
Low Performance	6	0	5	0	0	1	0
Total	150	0	136	10	1	3	0

Lithuania

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 93 percent. Coverage in Lithuania was restricted to students whose language of instruction is Lithuanian (93% of the international target population).
- ◆ School-level exclusions consisted of very small schools and special schools.
- ◆ Within-school exclusions consisted of intellectually disabled students.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” schools status, and school location.
- ◆ Implicit stratification by school type (primary, primary & Kindergarten, private, basic, secondary, and gymnasium).
- ◆ Sampled two classrooms in large schools (MOS > 50).
- ◆ A national booklet was used (resulting in one less international booklet). A larger sample size was required to compensate for the loss.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 55: Allocation of the School Sample between Studies in Lithuania

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	39	39	39	0
Grade 4 & Grade 8	121	121	121	121
Grade 8 only	29	0	0	29
Total	189	160	160	150

Exhibit 56: Allocation of School Sample in Lithuania - Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Vilnius	6	0	6	0	0	0	0
Grade 4 only – Other Major Cities	9	1	8	0	0	0	0
Grade 4 only – Cities	20	2	16	1	0	0	1
Grade 4 only – Small Cities & Villages	4	1	3	0	0	0	0
Grade 4 & Grade 8 – Vilnius	18	0	16	2	0	0	0
Grade 4 & Grade 8 – Other Major Cities	25	0	23	2	0	0	0
Grade 4 & Grade 8 – Cities	39	0	36	2	1	0	0
Grade 4 & Grade 8 – Small Cities & Villages	39	1	37	1	0	0	0
Total	160	5	145	8	1	0	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 93 percent. Coverage in Lithuania was restricted to students whose language of instruction was Lithuanian (93% of the international target population).
- ◆ School-level exclusions consisted of very small schools and special schools.
- ◆ Within-school exclusions consisted of intellectually disabled students.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school status, and school location.

- ◆ Implicit stratification by school type (secondary, gymnasium, youth, private, and basic).
- ◆ Sampled two classrooms in large schools (MOS > 80).
- ◆ Two national booklets were used (resulting in two less international booklets). A larger sample size was required to compensate for the loss.
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 57: Allocation of School Sample in Lithuania, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Vilnius	2	0	2	0	0	0	0
Grade 8 only – Other Major Cities	9	3	5	0	0	0	1
Grade 8 only – Cities	15	3	10	1	0	1	0
Grade 8 only – Small Cities & Villages	3	0	3	0	0	0	0
Grade 4 & Grade 8 – Vilnius	18	0	16	2	0	0	0
Grade 4 & Grade 8 – Other Major Cities	25	0	23	2	0	0	0
Grade 4 & Grade 8 – Cities	39	0	36	2	1	0	0
Grade 4 & Grade 8 – Small Cities & Villages	39	1	37	1	0	0	0
Total	150	7	132	8	1	1	1

Macedonia

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 7), special primary schools, and schools with instruction solely in languages other than Macedonian/Albanian (schools with instruction in Turkish, Bosnian, or Serbian).
- ◆ Within-school exclusions consisted of classes where the language of instruction was not Macedonian/Albanian (instruction was in Turkish,

Bosnian, or Serbian). Because these students were not listed during data collection, they are included with the school-level exclusion rates in the publications.

Sample Design

- ◆ Explicit stratification by language.
- ◆ Implicit stratification by urban/rural school type.
- ◆ Sampled two classrooms per school in large schools (MOS > 150) of the first two strata (see table below), and one classroom per school from each language in the three other strata.
- ◆ There were some certainty schools. These schools were treated as strata when computing variance estimates when more than one classroom was selected.

Exhibit 58: Allocation of School Sample in Macedonia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Macedonian	86	0	86	0	0	0	0
Albanian	35	0	35	0	0	0	0
Both languages (less than 1/3 Macedonian)	12	0	12	0	0	0	0
Both languages (1/3 to 2/3 Macedonian)	11	0	11	0	0	0	0
Both languages (more than 2/3 Macedonian)	6	0	6	0	0	0	0
Total	150	0	150	0	0	0	0

Malaysia

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ No explicit stratification.
- ◆ Implicit stratification by region (16) and urbanization (urban/rural/PED).
- ◆ Sampled one classroom per school.

Exhibit 59: Allocation of School Sample in Malaysia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Malaysia	180	0	180	0	0	0	0
Total	180	0	180	0	0	0	0

Malta

Fourth Grade (English – Year 5)

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ No school-level exclusions.
- ◆ No within-school exclusions.

Sample Design

- ◆ No explicit stratification.
- ◆ Implicit stratification by Malta/Goza location, and school type (church, independent, and state).
- ◆ Census of all students. All variance estimates were derived using classrooms as variance strata.

Exhibit 60: Allocation of School Sample in Malta (English), Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Malta	99	3	96	0	0	0	0
Total	99	3	96	0	0	0	0

Morocco

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by public/private status, and superior region.
- ◆ Implicit stratification by urban/rural status, and school type (10).
- ◆ The 16 original regions were grouped into ten superior regions: Region 1—Guelmim-Es Semara, Laâyoune-Boujdour-Sakia Al Hamra, and Oued-Eddahab – Lagouira; Region 2—Souss Massa-Draâ; Region 3—Grand Casablanca; Region 4—Marrakesh-Tensift-Al Haouz; Region 5—Rabat-Sale-Zemmour-Zaër; Region 6—Fez-Boulemane; Region 7—Meknes-Tafilalet; Region 8—Gharb-Chrarda-Bni Hsen, and Tangier-Tetouan; Region 9—Chaouia-Ouardigha, Doukkala-Abda, and Tadla-Azilal; and Region 10—the Oriental and Taza-Taounate-Al Hoceima.
- ◆ Sampled one classroom per school.
- ◆ Oversampling to allow for reliable estimates at the regional level.
- ◆ All sampled students for TIMSS at Grade 4 also were asked to take PIRLS at Grade 4.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 61: Allocation of School Sample in Morocco, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Private	39	0	39	0	0	0	0
Public – Region 1	25	0	25	0	0	0	0
Public – Region 2	25	0	25	0	0	0	0
Public – Region 3	25	1	24	0	0	0	0
Public – Region 4	25	1	24	0	0	0	0
Public – Region 5	25	0	25	0	0	0	0

Exhibit 61: Allocation of School Sample in Morocco, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Public – Region 6	25	0	25	0	0	0	0
Public – Region 7	25	0	25	0	0	0	0
Public – Region 8	25	0	24	0	0	1	0
Public – Region 9	25	0	25	0	0	0	0
Public – Region 10	25	0	25	0	0	0	0
Total	289	2	286	0	0	1	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 10).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by public/private status, and superior region.
- ◆ Implicit stratification by urban/rural status, and school type (12).
- ◆ The 16 original regions were grouped into ten superior regions: Region 1—Guelmim-Es Semara, Laâyoune-Boujdour-Sakia Al Hamra, and Oued-Eddahab – Lagouira; Region 2—Souss Massa-Draâ; Region 3—Grand Casablanca; Region 4—Marrakesh-Tensift-Al Haouz; Region 5—Rabat-Sale-Zemmour-Zaër; Region 6—Fez-Boulemane; Region 7—Meknes-Tafilalet; Region 8—Gharb-Chrarda-Bni Hsen, and Tangier-Tetouan; Region 9—Chaouia-Ouardigha, Doukkala-Abda, and Tadla-Azilal; and Region 10—the Oriental and Taza-Taounate-Al Hoceima.
- ◆ Sampled one classroom per school.
- ◆ Oversampling to allow for reliable estimates at the regional level.
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 62: Allocation of School Sample in Morocco, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Private	35	0	35	0	0	0	0
Public – Region 1	25	1	24	0	0	0	0
Public – Region 2	25	1	24	0	0	0	0
Public – Region 3	25	1	23	0	0	1	0
Public – Region 4	25	1	24	0	0	0	0
Public – Region 5	25	0	25	0	0	0	0
Public – Region 6	25	0	25	0	0	0	0
Public – Region 7	25	1	24	0	0	0	0
Public – Region 8	25	0	25	0	0	0	0
Public – Region 9	25	0	25	0	0	0	0
Public – Region 10	25	0	25	0	0	0	0
Total	285	5	279	0	0	1	0

The Netherlands

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools for special education, and very small schools (MOS < 7).
- ◆ Within-school exclusions consisted of non-native language speakers (less than one year of instruction in Dutch) and children who are officially diagnosed as severe dyslectic.

Sample Design

- ◆ Explicit stratification by socio-economic (SES) level. The SES levels differ between the TIMSS and the PIRLS studies. Because sample overlap was controlled, distinct SES levels were maintained.
- ◆ Implicit stratification by urbanization (very high, high, moderate, low, and very low), and school size (large and small).
- ◆ Sampled all classrooms in selected schools.

- ◆ Given that school nonresponse was mainly found in large schools, the nonresponse adjustment was conducted using the expected counts of students not participating rather than using the counts of schools not participating. Variance calculation is slightly biased as a result.
- ◆ Schools were selected with equal probabilities.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; and 2) No sample overlap between these studies.

Exhibit 63: Allocation of School Sample in the Netherlands, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Mean SES	47	0	28	8	5	6	0
High to Medium Mean SES	38	0	18	7	8	5	0
Medium Mean SES	27	0	9	9	6	3	0
Medium to Low Mean SES	27	2	15	6	0	4	0
Low Mean SES	12	1	5	2	2	2	0
Total	151	3	75	32	21	20	0

New Zealand

Fourth Grade (Year 5)

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of Level 1 Maori language immersion schools, the Correspondence School, special education schools, the Westmount School (Closed Brethren), Maori-medium Level 2 immersion schools, and very small schools (MOS < 4).
- ◆ Within-school exclusions consisted of students with insufficient years of instruction in English, students who receive 50 percent or less of their instruction in English (includes Level 1 and 2 immersion Maori-medium units and Level 1 Pacifica immersion language units), and special needs students (class level and within class).

Sample Design

- ◆ Explicit stratification by language of instruction, “Grade 4” / “Grade 4 & Grade 8” school type, and school size.

- ◆ Implicit stratification by socio-economic status indicator (very high, high, moderate, low, and very low), school gender (boys, co-educational, or girls), and major urban/other school status.
- ◆ Sampled two classrooms in large schools (the rule varies from one stratum to the next).
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; and 2) No school sample overlap between these studies.

Exhibit 64: Allocation of the School Sample between Studies in New Zealand

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	368	187	181	0
Grade 4 & Grade 8	34	14	8	12
Grade 8 only	150	0	0	150
Total	552	201	189	162

Exhibit 65: Allocation of School Sample in New Zealand, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – English-Medium with Level 1 Immersion	8	0	5	2	0	1	0
Grade 4 only – English-Medium only	173	0	143	19	4	7	0
Grade 4 & Grade 8 – English-Medium with Level 1 Immersion	2	0	1	0	0	1	0
Grade 4 & Grade 8 – English-Medium only – Small School	2	0	1	1	0	0	0
Grade 4 & Grade 8 – English-Medium only – Small Year 5, Large Year 9	2	0	2	0	0	0	0
Grade 4 & Grade 8 – English-Medium Only – Large School	2	0	2	0	0	0	0
Total	189	0	154	22	4	9	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of the Westmount School (Closed Bretheren), the Correspondence School, special education schools, Maori-medium Levels 1 and 2 immersion schools, and very small schools (MOS < 7).
- ◆ Within-school exclusions consisted of students with insufficient years of instruction in English, students who receive 50 percent or less of their instruction in English (includes Level 1 and 2 immersion Maori-medium units and Level 1 Pacifica immersion language units), and special needs students (class level and within class).

Sample Design

- ◆ Explicit stratification by language of instruction, “Grade 8” / “Grade 4 & Grade 8” school type, and school size.
- ◆ Implicit stratification by socio-economic status indicator (very high, high, moderate, low, and very low), school gender (boys, co-educational, or girls), and major urban/other school status.
- ◆ Sampled two classrooms in large schools (number of classrooms larger than 5).
- ◆ No school overlap between the Grade 4 and Grade 8 school samples.

Exhibit 66: Allocation of School Sample in New Zealand, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – English Medium only	150	0	130	17	0	3	0
Grade 4 & Grade 8 – English Medium with Level 1 Immersion	2	0	2	0	0	0	0
Grade 4 & Grade 8 – English Medium only – Small Schools	2	0	2	0	0	0	0
Grade 4 & Grade 8 – English Medium only – Small Year 5, Large Year 9 Schools	4	0	3	0	0	1	0

Exhibit 66: Allocation of School Sample in New Zealand, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – English Medium only – Large Schools	4	0	4	0	0	0	0
Total	162	0	141	17	0	4	0

Northern Ireland

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools and special schools.
- ◆ Within-school exclusions consisted of students with significant special educational needs.

Sample Design

- ◆ Explicit stratification by region.
- ◆ Implicit stratification by deprivation level (high, moderate to high, moderate, low to moderate, and low).
- ◆ Based on previous national study results, the risk of bias due to low school participation rate (based on the originally selected schools) is believed to be low (study results can be seen as representative of the population).
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; and 2) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 67: Allocation of School Sample in Northern Ireland, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Belfast	23	0	14	1	2	6	0
Western	29	0	17	5	2	5	0
Northeast	37	0	22	9	3	3	0

Exhibit 67: Allocation of School Sample in Northern Ireland, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Southeast	34	0	22	5	0	7	0
Southern	37	0	25	7	2	3	0
Total	160	0	100	27	9	24	0

Norway

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of international schools, schools where students are taught in Sami language, and very small schools (MOS < 3).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Bokmål” / “Nynorsk or other” status, and “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by community size (small, medium, large, and very large).
- ◆ Sampled two classrooms per school.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) No school sample overlap between TIMSS at Grade 4 and the Grade 8 studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 68: Allocation of the School Sample between Studies in Norway

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	121	121	121	0
Grade 4 & Grade 8	68	29	29	39
Grade 8 only	111	0	0	111
Total	300	150	150	150

Exhibit 69: Allocation of School Sample in Norway, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Bokmål	103	2	62	16	7	16	0
Grade 4 only – Nynorsk or other	18	2	8	2	2	4	0
Grade 4 & Grade 8 – Bokmål	23	0	10	4	3	6	0
Grade 4 & Grade 8 – Nynorsk or other	6	0	4	1	0	0	1
Total	150	4	84	23	12	26	1

Fifth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 3 in Grade 4), schools where students are taught in Sami language, and international schools.
- ◆ No within-school exclusions.

Exhibit 70: Allocation of School Sample in Norway, Fifth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Bokmål	51	0	25	9	4	13	0
Grade 4 only – Nynorsk or other	9	0	3	2	1	3	0
Grade 4 & Grade 8 – Bokmål	12	0	6	1	0	5	0
Grade 4 & Grade 8 – Nynorsk or other	3	0	2	1	0	0	0
Total	75	0	36	13	5	21	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 3), students taught in Sami language, and international schools.
- ◆ Within-school exclusions consisted of students in special needs education.

Sample Design

- ◆ Explicit stratification by “Bokmål” / “Nynorsk or other” status, and “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by community size (small, medium, large, and very large).
- ◆ Sampled two classrooms in large schools (MOS > 130).
- ◆ No overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 71: Allocation of School Sample in Norway, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Bokmål	96	0	84	0	0	12	0
Grade 8 only – Nynorsk or other	15	0	14	0	0	1	0
Grade 4 & Grade 8 – Bokmål	31	0	28	0	0	3	0
Grade 4 & Grade 8 – Nynorsk or other	8	0	8	0	0	0	0
Total	150	0	134	0	0	16	0

Oman

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools and very small schools (MOS < 10).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school status, region, and school type (integrated curriculum, international, private, and public).
- ◆ Implicit stratification by urban/rural status, and school gender (boys, co-educational, or girls).

- ◆ There were census strata along with certainty schools outside these strata. Two classrooms per school were sampled in these schools. All variance estimates were computed using schools as variance strata.
- ◆ Census of all students in the first two explicit strata. All variance estimates were computed using classrooms as variance strata.
- ◆ Oversampling to allow for better estimates at the regional level.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) Overlap was maximized between all studies for schools selected from the “Grade 4 & Grade 8” stratum; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 72: Allocation of the School Sample between Studies in Oman

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	182	182	182	0
Grade 4 & Grade 8	164	156	156	122
Grade 8 only	217	0	0	217
Total	563	338	338	339

Exhibit 73: Allocation of School Sample in Oman, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Integrated Curriculum	4	0	4	0	0	0	0
Grade 4 only – International	5	0	5	0	0	0	0
Grade 4 only – Private	10	0	10	0	0	0	0
Grade 4 only – Public – Ad Dakhliyah	20	0	20	0	0	0	0
Grade 4 only – Public – Adh Dhahirah	14	0	14	0	0	0	0
Grade 4 only – Public – Al Batinah North	24	1	23	0	0	0	0
Grade 4 only – Public – Al Batinah South	20	0	20	0	0	0	0

Exhibit 73: Allocation of School Sample in Oman, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Public – Al Buraimi governorates	8	0	8	0	0	0	0
Grade 4 only – Public – Al Wusta	1	0	1	0	0	0	0
Grade 4 only – Public – Ash Sharqiyah North	12	0	12	0	0	0	0
Grade 4 only – Public – Ash Sharqiyah South	18	0	18	0	0	0	0
Grade 4 only – Public – Dhofar governorates	20	0	20	0	0	0	0
Grade 4 only – Public – Musandam governorates	4	0	4	0	0	0	0
Grade 4 only – Public – Muscat governorates	22	0	22	0	0	0	0
Grade 4 & Grade 8 – International	23	0	19	0	0	4	0
Grade 4 & Grade 8 – Private	20	0	18	0	0	2	0
Grade 4 & Grade 8 – Public – Ad Dakhliyah	10	1	9	0	0	0	0
Grade 4 & Grade 8 – Public – Adh Dhahirah	16	0	16	0	0	0	0
Grade 4 & Grade 8 – Public – Al Batinah North	6	0	6	0	0	0	0
Grade 4 & Grade 8 – Public – Al Batinah South	10	0	10	0	0	0	0
Grade 4 & Grade 8 – Public – Al Buraimi governorates	5	0	5	0	0	0	0
Grade 4 & Grade 8 – Public – Al Wusta	15	0	15	0	0	0	0
Grade 4 & Grade 8 – Public – Ash Sharqiyah North	18	3	15	0	0	0	0
Grade 4 & Grade 8 – Public – Ash Sharqiyah South	12	0	12	0	0	0	0
Grade 4 & Grade 8 – Public – Dhofar governorates	10	0	10	0	0	0	0
Grade 4 & Grade 8 – Public – Musandam governorates	3	0	3	0	0	0	0
Grade 4 & Grade 8 – Public – Muscat governorates	8	0	8	0	0	0	0
Total	338	5	327	0	0	6	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools and very small schools (MOS < 10).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school status, region, and school type (private, public, and international).
- ◆ Implicit stratification by urban/rural status, and school gender (boys, co-educational, or girls).
- ◆ There were census strata along with certainty schools outside these strata. Two classrooms per school were sampled in these schools. All variance estimates were computed using schools as variance strata.
- ◆ Census of all students in the first two explicit strata. All variance estimates were computed using classrooms as variance strata.
- ◆ Oversampling to allow for better estimates at the regional level.
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 74: Allocation of School Sample in Oman, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – International	23	0	18	0	0	5	0
Grade 4 & Grade 8 – Private	28	0	25	0	0	3	0
Grade 4 & Grade 8 – Public – Ad Dakhliyah	6	1	5	0	0	0	0
Grade 4 & Grade 8 – Public – Adh Dhahirah	6	1	5	0	0	0	0
Grade 4 & Grade 8 – Public – Al Batinah North	4	0	4	0	0	0	0
Grade 4 & Grade 8 – Public – Al Batinah South	6	0	6	0	0	0	0

Exhibit 74: Allocation of School Sample in Oman, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – Public – Al Buraimi governorates	5	0	5	0	0	0	0
Grade 4 & Grade 8 - Public – Al Wusta	15	0	15	0	0	0	0
Grade 4 & Grade 8 – Public – Ash Sharqiyah North	14	0	13	0	0	1	0
Grade 4 & Grade 8 – Public – Ash Sharqiyah South	4	0	4	0	0	0	0
Grade 4 & Grade 8 – Public – Dhofar governorates	4	0	4	0	0	0	0
Grade 4 & Grade 8 – Public – Musandam governorates	3	0	3	0	0	0	0
Grade 4 & Grade 8 – Public – Muscat governorates	4	0	4	0	0	0	0
Grade 8 only – Private	2	0	1	0	0	1	0
Grade 8 only – Public – Ad Dakhliyah	24	0	24	0	0	0	0
Grade 8 only – Public – Adh Dhahirah	24	0	24	0	0	0	0
Grade 8 only – Public – Al Batinah North	26	1	25	0	0	0	0
Grade 8 only – Public – Al Batinah South	24	0	24	0	0	0	0
Grade 8 only – Public – Al Buraimi governorates	9	0	9	0	0	0	0
Grade 8 only – Public – Al Wusta	4	0	4	0	0	0	0
Grade 8 only – Public – Ash Sharqiyah North	16	0	16	0	0	0	0
Grade 8 only – Public – Ash Sharqiyah South	26	2	24	0	0	0	0
Grade 8 only – Public – Dhofar governorates	26	0	26	0	0	0	0
Grade 8 only – Public – Musandam governorates	9	0	9	0	0	0	0
Grade 8 only – Public – Muscat governorates	26	0	26	0	0	0	0
Total	338	5	323	0	0	10	0

Palestinian National Authority

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 11), special education schools, and students taught in English.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by school gender, school type, and school group.
- ◆ Implicit stratification by educational districts (22). Implicit stratification by school gender (boys, co-educational, or girls) also was used in all explicit strata except those with the “regular-public” strata combination.
- ◆ Sampled two classrooms per school.
- ◆ Census of all schools in strata “pilot” and “MSN-GOV.” Variance estimates were computed treating these schools as variance strata.
- ◆ Oversampling to allow for better estimates at the school group level (regular, pilot, and MSN).

Exhibit 75: Allocation of School Sample in the Palestinian National Authority, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Regular – Public – Boys	42	0	42	0	0	0	0
Regular – Public – Girls	40	0	40	0	0	0	0
Regular – Public – Coed	9	0	9	0	0	0	0
Regular – UNWRA	40	0	40	0	0	0	0
Regular – Private	7	0	6	0	0	0	1
Pilot schools	22	0	22	0	0	0	0
Model Schools Network (MSN)	43	0	42	0	0	0	1
Total	203	0	201	0	0	0	2

Poland

Fourth Grade (Standard 3)

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5) and special schools.
- ◆ Within-school exclusions consisted of special needs students in regular classrooms.

Sample Design

- ◆ Explicit stratification by urbanization.
- ◆ Implicit stratification by districts (voivodship) (16).
- ◆ Sampled two classrooms per school.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; and 2) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 76: Allocation of School Sample in Poland, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Village	61	0	61	0	0	0	0
Town (up to 20 thousand inhabitants)	24	0	24	0	0	0	0
City (20 to 100 thousand inhabitants)	29	0	29	0	0	0	0
City (above 100 thousand inhabitants)	36	0	36	0	0	0	0
Total	150	0	150	0	0	0	0

Portugal

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of extremely small schools (MOS < 5).
- ◆ Within-school exclusions consisted of students with special educational needs, and non-native language speakers.

Sample Design

- ◆ Explicit stratification by public/private status.
- ◆ Implicit stratification by region (12).
- ◆ Sampled two classrooms per school.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; and 2) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 77: Allocation of School Sample in Portugal, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Private	16	0	13	2	0	1	0
Public	134	0	119	11	2	2	0
Total	150	0	132	13	2	3	0

Qatar

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools that provide instruction in languages other than English and Arabic.
- ◆ No within-school exclusions.
- ◆ Private (from the “Grade 4 & Grade 8” explicit stratum in the co-educational schools) and community schools were not part of previous cycles.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by school gender (boys, co-educational, or girls), and school type (community, independent, and private).
- ◆ Sampled two classrooms per school in large schools (MOS > 150).
- ◆ Census of all schools. Variance estimates were computed using schools as variance strata for schools where at least two classrooms or all classrooms were sampled.

- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 78: Allocation of School Sample between Studies in Qatar

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	113	113	113	0
Grade 4 & Grade 8	62	62	62	62
Grade 8 only	51	0	0	51
Total	226	175	175	113

Exhibit 79: Allocation of School Sample in Qatar, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only	113	5	107	0	0	1	0
Grade 4 & Grade 8	62	2	59	0	0	0	1
Total	175	7	166	0	0	1	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools that provide instructions in languages other than English and Arabic.
- ◆ No within-school exclusions.
- ◆ Private (from the “Grade 4 & Grade 8” explicit stratum in the co-educational schools) and community schools were not part of previous cycles.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by school gender (boys, co-educational, or girls) and school type (community, independent, and private).

- ◆ Sampled two classrooms per school.
- ◆ Census of all schools. Variance estimates were computed using schools as variance strata for schools where at least two classrooms or all classrooms were sampled.
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 80: Allocation of School Sample in Qatar, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	51	1	50	0	0	0	0
Grade 4 & Grade 8	62	1	59	0	0	1	1
Total	113	2	109	0	0	1	1

Romania

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type and school performance level.
- ◆ Implicit stratification by urban/rural status, school performance level (high, medium, low, and unknown), and geographic location (Central, Northeast, South, Southeast, Northwest, and West).
- ◆ Sampled two classrooms in large schools (MOS > 40).
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 81: Allocation of the School Sample between Studies in Romania

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	14	14	14	0
Grade 4 & Grade 8	136	136	136	136
Grade 8 only	14	0	0	14
Total	164	150	150	150

Exhibit 82: Allocation of School Sample in Romania, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only	14	0	14	0	0	0	0
Grade 4 & Grade 8 – Unknown Performance Level	19	0	18	0	0	0	1
Grade 4 & Grade 8 – Low Performance Level	30	0	29	0	0	0	1
Grade 4 & Grade 8 – Medium Performance Level	30	0	30	0	0	0	0
Grade 4 & Grade 8 – High Performance Level	31	0	31	0	0	0	0
Grade 4 & Grade 8 – Very High Performance Level	26	0	25	1	0	0	0
Total	150	0	147	1	0	0	2

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school type and school performance level.
- ◆ Implicit stratification by urban/rural status, school performance level (high, medium, low, and unknown), and geographic location (Central, Northeast, South, Southeast, Southwest, Northwest, and West).

- ◆ Sampled two classrooms in large schools (MOS > 80).
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 83: Allocation of School Sample in Romania, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	14	1	13	0	0	0	0
Grade 4 & Grade 8 – Unknown Performance Level	19	0	18	0	0	0	1
Grade 4 & Grade 8 – Low Performance Level	30	0	29	1	0	0	0
Grade 4 & Grade 8 – Medium Performance Level	30	0	30	0	0	0	0
Grade 4 & Grade 8 – High Performance Level	31	0	31	0	0	0	0
Grade 4 & Grade 8 – Very High Performance Level	26	0	24	1	0	0	1
Total	150	1	145	2	0	0	2

The Russian Federation

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools and special needs schools.
- ◆ Within-school exclusions consisted of disabled students.

Sample Design

- ◆ Explicit stratification by very large regions. There were 15 certainty regions (with a “*” in the table below) and one large stratum from which 27 regions were selected (as shown in the table below).
- ◆ Implicit stratification by urbanization within selected regions (rural, settlement, city–fewer than 50,000 inhabitants, city–50,000 to 100,000 inhabitants, city–100,000 to 450,000 inhabitants, city–450,000 to 680,000 inhabitants, city–more than 680,000 inhabitants).

- ◆ Extra sampling stage (regions) required before sampling schools within selected regions. Roughly half of the regions were certainty regions (selected with a probability of one). Within these certainty regions, schools were paired for variance calculation purposes. Otherwise, selected regions were paired for variance calculation purposes.
- ◆ Sampled one classroom per school (in general).
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; and 2) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 84: Allocation of School Sample in the Russian Federation, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Alania	4	0	4	0	0	0	0
Altay kr	4	0	4	0	0	0	0
Belgorod obl	4	0	4	0	0	0	0
Kamchatka kr	4	0	4	0	0	0	0
Kostroma obl	4	0	4	0	0	0	0
Kursk obl	4	0	4	0	0	0	0
Murmansk obl	4	0	4	0	0	0	0
N Novgorod obl*	4	0	4	0	0	0	0
Rostov obl*	6	0	6	0	0	0	0
Chuvashia	4	0	4	0	0	0	0
Primorsk kr	4	0	4	0	0	0	0
Astrakhan obl	4	0	4	0	0	0	0
Ivanovo obl	4	0	4	0	0	0	0
Perm kr	4	0	4	0	0	0	0
Samara obl*	4	0	4	0	0	0	0
Tver obl	4	0	4	0	0	0	0
Ulianovsk obl	4	0	4	0	0	0	0
Sankt-Petersburg*	6	0	6	0	0	0	0
Iamal-Nenets ok	4	0	4	0	0	0	0
Krasnoyarsk kr*	4	0	4	0	0	0	0
Stavropol kr	4	0	4	0	0	0	0
Kemerovo obl*	4	0	4	0	0	0	0
Novosibirsk obl	4	0	4	0	0	0	0
Saratov obl	4	0	4	0	0	0	0
Hanty-Mansii ok	4	0	4	0	0	0	0

Exhibit 84: Allocation of School Sample in the Russian Federation, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Dagestan*	6	0	6	0	0	0	0
Sakha	4	0	4	0	0	0	0
Tatarstan*	6	0	6	0	0	0	0
Arhangelsk obl	4	0	4	0	0	0	0
Irkutsk obl*	4	0	4	0	0	0	0
Moscow obl*	10	0	10	0	0	0	0
Sverdlovsk obl*	6	0	6	0	0	0	0
Tomsk obl	4	0	4	0	0	0	0
Chelyabinsk obl*	6	0	6	0	0	0	0
Volgograd obl	4	0	4	0	0	0	0
Lipetsk obl	4	0	4	0	0	0	0
Bashkortostan*	8	0	8	0	0	0	0
Voronezh obl	4	0	4	0	0	0	0
Zabaykalski kr	4	0	4	0	0	0	0
Krasnodar kr*	8	0	8	0	0	0	0
Moscow*	12	0	12	0	0	0	0
Orenburg obl	4	0	4	0	0	0	0
Total	202	0	202	0	0	0	0

* Certainty Regions

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools, evening schools, and special needs schools.
- ◆ Within-school exclusions consisted of disabled students.

Sample Design

- ◆ Explicit stratification by very large regions. There were 13 certainty regions (with a “*” in the table below) and one large stratum from which 29 regions were selected (as shown in the table below).
- ◆ Implicit stratification by urbanization within selected regions (rural, settlement, city–fewer than 50,000 inhabitants, city–50,000 to 100,000 inhabitants, city–100,000 to 450,000 inhabitants, city–450,000 to 680,000 inhabitants, city–more than 680,000 inhabitants).

- ◆ Extra sampling stage (regions) required before sampling schools within selected regions. Roughly half of the students were found in certainty regions (selected with a probability of one). Within these certainty regions, schools were paired for variance calculation purposes. Otherwise, selected regions were paired for variance calculation purposes.
- ◆ Sampled one classroom per school in general.
- ◆ No overlap control (independent samples) between the Grade 4 and Grade 8 school samples.

Exhibit 85: Allocation of School Sample in the Russian Federation, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Alania	4	0	4	0	0	0	0
Altay kr	4	0	4	0	0	0	0
Bransk obl	4	0	4	0	0	0	0
Kostroma obl	4	0	4	0	0	0	0
Kursk obl	4	0	4	0	0	0	0
Novgorod obl*	6	0	6	0	0	0	0
Rostov obl*	6	0	6	0	0	0	0
Chuvashia	4	0	4	0	0	0	0
Astrakhan obl	4	0	4	0	0	0	0
Perm kr	4	0	4	0	0	0	0
Samara obl*	6	0	6	0	0	0	0
Ulianovsk obl	4	0	4	0	0	0	0
Sankt-Petersburg*	6	0	6	0	0	0	0
Iamal-Nenets ok	4	0	4	0	0	0	0
Krasnoyarsk kr*	6	0	6	0	0	0	0
Stavropol kr	4	0	4	0	0	0	0
Amur obl	4	0	4	0	0	0	0
Vologda obl	4	0	4	0	0	0	0
Kaluga obl	4	0	4	0	0	0	0
Kemerovo obl	4	0	4	0	0	0	0
Novosibirsk obl	4	0	4	0	0	0	0
Razan obl	4	0	4	0	0	0	0
Saratov_obl	4	0	4	0	0	0	0
Hanty-Mansii_ok	4	0	4	0	0	0	0

Exhibit 85: Allocation of School Sample in the Russian Federation, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Dagestan*	8	0	8	0	0	0	0
Sakha	4	0	4	0	0	0	0
Tatarstan*	6	0	6	0	0	0	0
Irkutsk obl	4	0	4	0	0	0	0
Kaliningrad obl	4	0	4	0	0	0	0
Moscow obl*	10	0	10	0	0	0	0
Sverdlovsk obl*	6	0	6	0	0	0	0
Tomsk obl	4	0	4	0	0	0	0
Chelyabinsk obl*	6	0	6	0	0	0	0
Volgograd obl	4	0	4	0	0	0	0
Bashkortostan*	8	0	8	0	0	0	0
Voronezh obl	4	0	4	0	0	0	0
Zabaykalski kr	4	0	4	0	0	0	0
Krasnodar kr*	8	0	8	0	0	0	0
Tula obl	4	0	4	0	0	0	0
Moscow*	12	0	12	0	0	0	0
Orenburg obl	4	0	4	0	0	0	0
Novgorod obl	4	0	4	0	0	0	0
Total	210	0	210	0	0	0	0

* Certainty Regions

Saudi Arabia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by school type and school gender.
- ◆ Implicit stratification by school location (Center, East, South, West, and North), public/private status, and school gender (boys or girls).

- ◆ Sampled two classrooms in large schools (MOS > 150).
- ◆ Oversampling of “religious schools” to allow for better estimates at that level.
- ◆ School sample overlap between TIMSS (Grade 4) and PIRLS: 1) Samples were drawn all at once; and 2) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 86: Allocation of School Sample in Saudi Arabia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Non-religious Schools – Girls	68	1	64	2	1	0	0
Non-religious Schools – Boys	73	2	66	5	0	0	0
Religious Schools – Girls	15	1	14	0	0	0	0
Religious Schools – Boys	15	0	15	0	0	0	0
International Schools	4	0	4	0	0	0	0
Total	175	4	163	7	1	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 10).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by school type and school gender.
- ◆ Implicit stratification by school location (Center, East, South, West, and North), public/private status, and school gender (boys or girls).
- ◆ Sampled two classrooms in large schools (MOS > 230).
- ◆ No overlap control (independent samples) between the Grade 4 and Grade 8 school samples.

Exhibit 87: Allocation of School Sample in Saudi Arabia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Ministry Schools – Girls	72	0	69	3	0	0	0
Ministry Schools – Boys	78	0	78	0	0	0	0
International Schools	4	1	3	0	0	0	0
Total	154	1	150	3	0	0	0

Serbia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools where language of instruction is a language other than Serbian, special needs schools, and very small schools (satellite school/branch department).
- ◆ Within-school exclusions consisted of students taught in languages other than Serbian in mixed language schools, students with a functional or intellectual disability, and students from special needs classes within regular schools.

Sample Design

- ◆ Explicit stratification by region, school type, and enrollment indicator.
- ◆ Implicit stratification by urban/rural school status, and performance level (index) for branch department.
- ◆ Sampled two classrooms in large schools (MOS > 80).

Exhibit 88: Allocation of School Sample in Serbia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Vojvodina – Single	26	0	26	0	0	0	0
Vojvodina – Main	10	0	10	0	0	0	0
Vojvodina – Branch Dept.	4	0	3	0	0	0	1
Belgrade – Single	22	0	22	0	0	0	0

Exhibit 88: Allocation of School Sample in Serbia, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Belgrade – Main	6	0	6	0	0	0	0
Belgrade – Branch Dept.	4	0	4	0	0	0	0
Central Serbia – Single	18	0	17	1	0	0	0
Central Serbia – Main	40	0	38	2	0	0	0
Central Serbia – Branch Dept.	20	0	19	1	0	0	0
Schools with no MOS	10	3	7	0	0	0	0
Total	160	3	152	4	0	0	1

Singapore

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools and private schools.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” schools.
- ◆ No implicit stratification.
- ◆ Census of all schools. Within schools, two half classrooms were sampled with probability proportional to the size of the classroom. Within selected classrooms, 19 students were randomly sampled.
- ◆ All variance estimates were calculated using schools as variance strata.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 89: Allocation of the School Sample between Studies in Singapore

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	173	173	173	0
Grade 4 & Grade 8	3	3	3	3
Grade 8 only	162	0	0	162
Total	338	176	176	165

Exhibit 90: Allocation of School Sample in Singapore, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only	173	0	173	0	0	0	0
Grade 4 & Grade 8	3	0	3	0	0	0	0
Total	176	0	176	0	0	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools and private schools.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” schools.
- ◆ No implicit stratification.
- ◆ Census of all schools. Within schools, two half classrooms were sampled with probability proportional to the size of the classroom. Within selected classrooms, 19 students were randomly sampled.
- ◆ All variance estimates were calculated using schools as variance strata.
- ◆ Overlap was maximized between the Grade 4 & Grade 8 school samples (see Grade 4 above).

Exhibit 91: Allocation of School Sample in Singapore, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	162	0	162	0	0	0	0
Grade 4 & Grade 8	3	0	3	0	0	0	0
Total	165	0	165	0	0	0	0

Slovak Republic

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of students taught in Ukrainian, special education schools, and very small schools (MOS < 4).
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by region and Slovak/Hungarian school status.
- ◆ Implicit stratification by public/church or private status.
- ◆ Sampled two classrooms per school.
- ◆ All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 92: Allocation of School Sample in Slovak Republic, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Bratislavský – Slovak	16	0	16	0	0	0	0
Bratislavský – Hungarian	2	0	2	0	0	0	0
Trnavský – Slovak	14	1	12	1	0	0	0
Trnavský – Hungarian	8	0	6	2	0	0	0
Trenciansky – Slovak	18	0	16	1	1	0	0
Nitriansky – Slovak	18	0	18	0	0	0	0
Nitriansky – Hungarian	10	0	10	0	0	0	0
Žilinský – Slovak	26	1	24	1	0	0	0
Banskobystrický – Slovak	19	0	19	0	0	0	0

Exhibit 92: Allocation of School Sample in Slovak Republic, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Banskobystrický – Hungarian	6	0	6	0	0	0	0
Prešovský – Slovak	32	0	30	1	0	1	0
Košický – Slovak	27	0	24	3	0	0	0
Košický – Hungarian	4	0	4	0	0	0	0
Total	200	2	187	9	1	1	0

Slovenia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5), schools for students with special needs (58 schools), Waldorf schools, and schools for the Italian minority (4 schools).
- ◆ Within-school exclusions consisted of students with special needs enrolled in normal school classes but following a limited curriculum.

Sample Design

- ◆ Explicit stratification by region, geographic area, and “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by language achievement index, mathematics achievement index, and region (12).
- ◆ Sampled two classrooms in large schools (MOS > 55).
- ◆ There were two census strata and some certainty schools outside these two strata. Variance estimates were calculated using schools as variance strata for these certainty schools.
- ◆ Oversampling to allow for better estimates at the regional level.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) Most sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 93: Allocation of the School Sample between Studies in Slovenia

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	20	20	20	0
Grade 4 & Grade 8	189	182	182	189
Grade 8 only	2	0	0	2
Total	211	202	202	191

Exhibit 94: Allocation of School Sample in Slovenia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Central	5	1	4	0	0	0	0
Grade 4 only – North-Eastern	3	0	3	0	0	0	0
Grade 4 only – South-Eastern	5	0	5	0	0	0	0
Grade 4 only – Western	7	0	6	0	0	1	0
Grade 4 & Grade 8 – Pomurska	16	0	14	2	0	0	0
Grade 4 & Grade 8 – Podravska	24	0	24	0	0	0	0
Grade 4 & Grade 8 – Koroška	17	0	16	0	0	1	0
Grade 4 & Grade 8 – Savinjska	16	0	16	0	0	0	0
Grade 4 & Grade 8 – Zasavska	9	0	9	0	0	0	0
Grade 4 & Grade 8 – Spodnje Posavska	16	0	16	0	0	0	0
Grade 4 & Grade 8 – Jugovzhodna Slovenija	10	0	9	0	0	1	0
Grade 4 & Grade 8 – Osrednjeslovenska	35	0	34	0	0	1	0
Grade 4 & Grade 8 – Gorenjska	13	0	13	0	0	0	0
Grade 4 & Grade 8 – Notranjsko-kraška	3	0	3	0	0	0	0
Grade 4 & Grade 8 – Gorika	7	0	7	0	0	0	0
Grade 4 & Grade 8 – Obalno-kraška	16	0	14	0	0	2	0
Total	202	1	193	2	0	6	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 8), schools for students with special needs (58 schools), Waldorf schools, and schools for the Italian minority (4 schools).
- ◆ Within-school exclusions consisted of students with special needs enrolled in normal school classes but following limited curriculum.

Sample Design

- ◆ Explicit stratification by region, and “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by language achievement index, mathematics achievement index, and region.
- ◆ Sampled two classrooms in large schools (MOS > 65).
- ◆ There were two census strata and some certainty schools outside these two strata. Variance estimates were calculated using schools as variance strata for these certainty schools.
- ◆ Oversampling to allow for better estimates at the regional level.
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 95: Allocation of School Sample in Slovenia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	2	0	2	0	0	0	0
Grade 4 & Grade 8 – Pomurska	16	0	14	2	0	0	0
Grade 4 & Grade 8 – Podravska	24	0	24	0	0	0	0
Grade 4 & Grade 8 – Koroška	17	0	16	0	0	1	0
Grade 4 & Grade 8 – Savinjska	16	0	16	0	0	0	0
Grade 4 & Grade 8 – Zasavska	9	0	9	0	0	0	0
Grade 4 & Grade 8 – Spodnje Posavska	16	0	16	0	0	0	0

Exhibit 95: Allocation of School Sample in Slovenia, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 & Grade 8 – Jugovzhodna Slovenija	10	0	9	0	0	1	0
Grade 4 & Grade 8 – Osrednjeslovenska	37	0	36	0	0	1	0
Grade 4 & Grade 8 – Gorenjska	16	0	15	1	0	0	0
Grade 4 & Grade 8 – Notranjsko-kra ka	4	0	4	0	0	0	0
Grade 4 & Grade 8 – Gorika	8	0	8	0	0	0	0
Grade 4 & Grade 8 – Obalno-kra ka	16	0	14	0	0	2	0
Total	191	0	183	3	0	5	0

South Africa

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of educational schools for learners with special educational needs and very small schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by province, language, and school type.
- ◆ Implicit stratification by poverty index (7) and location (10).
- ◆ Sampled two classrooms in bilingual schools (one classroom per language).

Exhibit 96: Allocation of School Sample in South Africa, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
EC – Afrikaans	2	0	2	0	0	0	0
EC – Afrikaans and English	4	0	4	0	0	0	0
EC – English	18	0	18	0	0	0	0
FS – Afrikaans	2	0	2	0	0	0	0

Exhibit 96: Allocation of School Sample in South Africa, Eighth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
FS – Afrikaans and English	4	0	4	0	0	0	0
FS – English	16	1	15	0	0	0	0
GT – Afrikaans	6	0	6	0	0	0	0
GT – Afrikaans and English	4	0	4	0	0	0	0
GT – English	22	1	21	0	0	0	0
KZ – Afrikaans	2	0	2	0	0	0	0
KZ – Afrikaans and English	2	0	2	0	0	0	0
KZ – English	30	0	30	0	0	0	0
LP – Afrikaans	2	0	2	0	0	0	0
LP – Afrikaans and English	2	0	2	0	0	0	0
LP – English	16	0	16	0	0	0	0
MP – Afrikaans	4	1	3	0	0	0	0
MP – Afrikaans and English	2	0	2	0	0	0	0
MP – English	30	3	27	0	0	0	0
NC – Afrikaans	10	1	9	0	0	0	0
NC – Afrikaans and English	6	1	5	0	0	0	0
NC – English	8	1	7	0	0	0	0
NW – Afrikaans	4	0	4	0	0	0	0
NW – Afrikaans and English	2	0	2	0	0	0	0
NW – English	16	1	15	0	0	0	0
WC – Afrikaans	8	1	7	0	0	0	0
WC – Afrikaans and English	10	0	10	0	0	0	0
WC – English	6	1	4	0	1	0	0
Public and Dinaledi	30	0	30	0	0	0	0
Independent	30	1	28	1	0	0	0
Total	298	13	283	1	1	0	0

Spain

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 4), international schools, and special education schools.

- ◆ Within-school exclusions consisted of disabled students and non-native language speakers (less than 1 year of instruction in language of assessment).

Sample Design

- ◆ Explicit stratification by autonomous community.
- ◆ Implicit stratification by public/private status (2).
- ◆ Sampled two classrooms per school in larger schools (MOS > 55).
- ◆ School sample overlap between PIRLS and TIMSS at Grade 4: 1) Samples were drawn all at once; 2) A subset of the sampled schools in Andalusia and in the Canary Islands participated in TIMSS; and 3) In all strata, all sampled students for TIMSS also were asked to take PIRLS.

Exhibit 97: Allocation of the School Sample between Studies in Spain

Explicit Strata	Total Sampled Schools	Allocation of Schools	
		To PIRLS Grade 4	To TIMSS Grade 8
Andalusia	150	150	30
Canary Islands	49	49	7
Other	115	115	115
Total	314	314	152

Exhibit 98: Allocation of School Sample in Spain, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Andalusia	30	0	30	0	0	0	0
Aragon	4	0	3	0	0	1	0
Asturias	2	0	2	0	0	0	0
Balearic Islands	4	0	4	0	0	0	0
Basque Country	6	0	5	1	0	0	0
Canary Islands	7	0	7	0	0	0	0
Cantabria	2	0	2	0	0	0	0
Castile and Leon	7	0	7	0	0	0	0
Castile-La Mancha	8	0	8	0	0	0	0
Catalonia	23	0	23	0	0	0	0
Ceuta and Melilla	2	0	2	0	0	0	0
Extremadura	4	0	4	0	0	0	0

Exhibit 98: Allocation of School Sample in Spain, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Galicia	7	0	4	3	0	0	0
La Rioja	2	0	2	0	0	0	0
Madrid	20	0	20	0	0	0	0
Murcia	6	0	6	0	0	0	0
Navarra	2	0	2	0	0	0	0
Valencia	16	0	16	0	0	0	0
Total	152	0	147	4	0	1	0

Sweden

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5), international schools, and special schools for disabled students.
- ◆ Within-school exclusions consisted of students with special needs.

Sample Design

- ◆ Explicit stratification by immigrant status, and new school status since school listing
- ◆ Implicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type, and grade point average (7).
- ◆ Oversampling to allow for better estimates at the immigrant status level. More classrooms were sampled in “higher percentage of immigrants” strata.
- ◆ School sample overlap between PIRLS and TIMSS at Grade 4:
 - 1) Samples were drawn all at once; and 2) All sampled students for TIMSS also were asked to take PIRLS.

Exhibit 99: Allocation of School Sample in Sweden, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
No Immigrants	56	2	52	2	0	0	0
Low Percentage of Immigrants	62	3	57	1	0	1	0
Medium Percentage of Immigrants	21	2	19	0	0	0	0
High Percentage of Immigrants	20	1	18	0	1	0	0
New Schools	2	0	2	0	0	0	0
Total	161	8	148	3	1	1	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6), international schools, and special schools for disabled students.
- ◆ Within-school exclusions consisted of students with special needs.

Sample Design

- ◆ Explicit stratification by immigrant status, and new school status since school listing.
- ◆ Implicit stratification by “Grade 8” / “Grade 4 & Grade 8” school status and school grade point average (7).
- ◆ Oversampling to allow for better estimates at the immigrant status level. More classrooms were sampled in “higher percentage of immigrants” strata.
- ◆ The school sample for TIMSS at Grade 8 was selected by controlling for the overlap with the sample at Grade 4 using the Chowdhury approach (samples drawn sequentially). The TIMSS sample of schools at Grade 8 was selected in a way that minimized the overlap.

Exhibit 100: Allocation of School Sample in Sweden, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
No Immigrants	23	0	22	0	0	1	0
Low Percentage of Immigrants	84	2	82	0	0	0	0
Medium Percentage of Immigrants	30	0	27	1	0	2	0
High Percentage of Immigrants	20	1	19	0	0	0	0
New Schools	2	0	2	0	0	0	0
Total	159	3	152	1	0	3	0

Syrian Arab Republic

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of UNRWA schools and very small schools (MOS < 10).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by school gender, and public/private school type.
- ◆ Implicit stratification by province (14).
- ◆ Sampled one classroom per school.

Exhibit 101: Allocation of School Sample in the Syrian Arab Republic, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Girls School	34	0	33	0	0	1	0
Boys School	31	0	30	0	0	1	0
Co-educational Schools – Public	82	0	82	0	0	0	0
Co-educational Schools – Private	3	0	3	0	0	0	0
Total	150	0	148	0	0	2	0

Thailand

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools and very small schools (MOS < 6).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school status and school type.
- ◆ Implicit stratification by region (North, South, Central, Northeastern, and Bangkok)
- ◆ Sampled one classroom per school.
- ◆ Oversample in the Bangkok Met. Administration, Department of Local Administration, and Higher Education Commission strata in order to reduce variance estimates.
- ◆ School sample overlap between Grade 4 and Grade 8 populations:
1) Samples were drawn all at once; and 2) Most sampled schools in the “Grade 4 & Grade 8” strata were asked to participate in both studies.

Exhibit 102: Allocation of the School Sample between Studies in Thailand

Explicit Strata	Total Sampled Schools	Allocation of Schools	
		To PIRLS Grade 4	To TIMSS Grade 8
Grade 4 only	102	102	0
Grade 4 & Grade 8	72	66	68
Grade 8 only	104	0	104
Total	278	168	172

Exhibit 103: Allocation of School Sample in Thailand, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Basic Education Commission	72	0	58	13	1	0	0
Grade 4 only – Private Education Commission	12	0	10	2	0	0	0
Grade 4 only – Bangkok Met. Administration	8	0	7	1	0	0	0
Grade 4 only – Department of Local Administration	4	0	4	0	0	0	0
Grade 4 only – Higher Education Commission	6	0	6	0	0	0	0
Grade 4 & Grade 8 – Basic Education Commission	36	0	33	3	0	0	0
Grade 4 & Grade 8 – Private Education Commission	16	0	13	1	2	0	0
Grade 4 & Grade 8 – Bangkok Met. Administration	2	0	1	1	0	0	0
Grade 4 & Grade 8 – Department of Local Administration	6	0	5	1	0	0	0
Grade 4 & Grade 8 – Higher Education Commission	6	0	6	0	0	0	0
Total	168	0	143	22	3	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special education schools, and very small schools (MOS < 15).
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school status, and school type.
- ◆ Implicit stratification by region (North, South, Central, Northeastern, and Bangkok).
- ◆ Sampled one classroom per school.

- ◆ Oversample in the Bangkok Met. Administration, Department of Local Administration, and Higher Education Commission strata in order to reduce variance estimates.
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 104: Allocation of School Sample in Thailand, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Basic Education Commission	82	0	80	2	0	0	0
Grade 8 only – Private Education Commission	6	0	5	1	0	0	0
Grade 8 only – Bangkok Met. Administration	4	0	4	0	0	0	0
Grade 8 only – Department of Local Administration	6	0	6	0	0	0	0
Grade 8 only – Higher Education Commission	6	0	6	0	0	0	0
Grade 4 & Grade 8 – Basic Education Commission	38	0	34	4	0	0	0
Grade 4 & Grade 8 – Private Education Commission	14	0	11	1	2	0	0
Grade 4 & Grade 8 – Bangkok Met. Administration	6	0	5	1	0	0	0
Grade 4 & Grade 8 – Department of Local Administration	6	0	5	1	0	0	0
Grade 4 & Grade 8 – Higher Education Commission	4	0	4	0	0	0	0
Total	172	0	160	10	2	0	0

Tunisia

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with multi-level classes, very small schools (MOS < 8), and international schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by public/private school status and district (within “public”).
- ◆ Implicit stratification by region (25).
- ◆ Sampled one classroom per school.
- ◆ Oversampling to allow for better estimates at the district level (including the private sector).
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 105: Allocation of School Sample in Tunisia, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Private	30	0	30	0	0	0	0
Public – District of Tunis	30	0	30	0	0	0	0
Public – North East	25	0	25	0	0	0	0
Public – North West	37	0	37	0	0	0	0
Public – Central East	25	0	25	0	0	0	0
Public – Central West	25	0	25	0	0	0	0
Public – Southeast	25	0	25	0	0	0	0
Public – Southwest	25	0	25	0	0	0	0
Total	222	0	222	0	0	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 10) and international schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by public/private school status, and district (within “public”).
- ◆ Implicit stratification by region (25).
- ◆ Sampled one classroom per school.

- ◆ Oversampling to allow for better estimates at the district level (including the private sector).
- ◆ No overlap between the Grade 4 and Grade 8 school samples.

Exhibit 106: Allocation of School Sample in Tunisia, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Private	30	6	23	0	0	1	0
Public – District of Tunis	30	0	30	0	0	0	0
Public – Northeast	25	0	25	0	0	0	0
Public – Northwest	25	0	25	0	0	0	0
Public – Central East	32	0	32	0	0	0	0
Public – Central West	25	0	25	0	0	0	0
Public – Southeast	25	0	25	0	0	0	0
Public – Southwest	25	0	22	0	0	3	0
Total	217	6	207	0	0	4	0

Turkey

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5) and special education schools.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by geographic region, and “Grade 4” / “Grade 4 & Grade 8” school status.
- ◆ Implicit stratification by public/private school type, and urban/rural school status.
- ◆ Sampled one classroom per school.
- ◆ Oversampling to allow for better estimates at the regional level (minimum of 30 schools per region).

- ◆ School sample overlap between Grade 4 and Grade 8 populations:
 - 1) Samples were drawn all at once; and 2) All sampled schools in the “Grade 4 & Grade 8” strata were asked to participate in both studies.

Exhibit 107: Allocation of School Sample in Turkey, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Marmara Region	2	0	2	0	0	0	0
Grade 4 only – Aegan	2	1	0	1	0	0	0
Grade 4 only – Mediterranean	2	0	1	0	1	0	0
Grade 4 only – Central Anatolia	2	0	2	0	0	0	0
Grade 4 only – Black Sea	2	0	2	0	0	0	0
Grade 4 only – Eastern Anatolia	6	0	6	0	0	0	0
Grade 4 only – Southeast Anatolia	4	0	2	0	2	0	0
Grade 4 & Grade 8 – Marmara Region	60	0	59	1	0	0	0
Grade 4 & Grade 8 – Aegan	30	0	30	0	0	0	0
Grade 4 & Grade 8 – Mediterranean	30	0	30	0	0	0	0
Grade 4 & Grade 8 – Central Anatolia	30	0	30	0	0	0	0
Grade 4 & Grade 8 – Black Sea	30	0	30	0	0	0	0
Grade 4 & Grade 8 – Eastern Anatolia	30	0	29	1	0	0	0
Grade 4 & Grade 8 – Southeast Anatolia	30	2	28	0	0	0	0
Total	260	3	251	3	3	0	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5) and special education schools.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by geographic region.
- ◆ Implicit stratification by public/private school status and urban/rural school status.
- ◆ Sampled one classroom per school.
- ◆ Oversampling to allow for better estimates at the regional level (minimum of 30 schools per region).
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 108: Allocation of School Sample in Turkey, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Marmara Region	60	0	59	1	0	0	0
Aegan	30	0	30	0	0	0	0
Mediterranean	30	0	30	0	0	0	0
Central Anatolia	30	0	30	0	0	0	0
Black Sea	30	1	29	0	0	0	0
Eastern Anatolia	30	0	29	1	0	0	0
South-East Anatolia	30	0	30	0	0	0	0
Total	240	1	237	2	0	0	0

Ukraine

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 5), minority schools, and special education schools.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school status and urban/rural school status.

- ◆ Implicit stratification by school stage (I-II, I-III, and II-III) and region (27).
- ◆ Sampled two classrooms in large schools (MOS > 110).

Exhibit 109: Allocation of School Sample in Ukraine, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Urban	2	1	1	0	0	0	0
Grade 8 only – Rural	2	0	2	0	0	0	0
Grade 4 & Grade 8 – Urban	78	0	78	0	0	0	0
Grade 4 & Grade 8 – Rural	68	1	65	2	0	0	0
Total	150	2	146	2	0	0	0

United Arab Emirates

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with students taught in languages other than Arabic and English (see the Dubai section), schools that are geographically inaccessible, very small schools (MOS < 10), and special education schools (see the Dubai section).
- ◆ Within-school exclusions consisted of students with functional disabilities.

Sample Design

- ◆ Explicit stratification by educational zones, and “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by school type (public, private, and “other”), curricula, school gender (boys, co-educational, or girls), and assessment language (English, Arabic, or both).
- ◆ Census of all schools in Dubai, in the West region of Abu Dhabi, and in the educational zone of Umm-Al Quwain (with two sampled classrooms per school). Classes within these schools were used to build jackknife replicates for variance calculation. Also, there were certainty schools

outside of these regions, and variance calculation was done following the same approach for these schools.

- ◆ The United Arab Emirates was divided into three large districts: Abu Dhabi (Abu Dhabi, Al Ain, and West region), Dubai, and the rest of the Emirates. All three districts were oversampled to allow for better estimates at the district level.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 and Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 110: Allocation of the School Sample between Studies in the United Arab Emirates

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	187	187	187	0
Grade 4 & Grade 8	291	291	291	291
Grade 8 only	186	0	0	186
Total	664	478	478	477

Exhibit 111: Allocation of School Sample in the United Arab Emirates, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Dubai Grade 4 only	43	0	40	0	0	0	3
Dubai Grade 4 & Grade 8	109	0	98	0	0	1	10
Grade 4 only – Abu Dhabi	35	0	35	0	0	0	0
Grade 4 only – Al Ain	23	1	22	0	0	0	0
Grade 4 only – West region	15	2	13	0	0	0	0
Grade 4 & Grade 8 – Abu Dhabi	55	0	54	0	0	1	0
Grade 4 & Grade 8 – Al Ain	29	0	29	0	0	0	0
Grade 4 & Grade 8 – West region	11	0	11	0	0	0	0
Grade 4 only – Sharjah	30	0	30	0	0	0	0
Grade 4 only – Ajman	8	0	8	0	0	0	0
Grade 4 only – Fujairah	10	0	10	0	0	0	0

Exhibit 111: Allocation of School Sample in the United Arab Emirates, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Ras Al Kaimah	14	0	14	0	0	0	0
Grade 4 only – Umm-Al Quwain	9	1	8	0	0	0	0
Grade 4 & Grade 8 – Sharjah	51	0	51	0	0	0	0
Grade 4 & Grade 8 – Ajman	16	1	15	0	0	0	0
Grade 4 & Grade 8 – Fujairah	7	0	7	0	0	0	0
Grade 4 & Grade 8 – Ras Al Kaimah	10	0	10	0	0	0	0
Grade 4 & Grade 8 – Umm-Al Quwain	3	0	3	0	0	0	0
Total	478	5	458	0	0	2	13

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with students taught in languages other than Arabic and English (see the Dubai section), schools that are geographically inaccessible, very small schools (MOS < 10), and special education schools.
- ◆ Within-school exclusions consisted of students with functional disabilities.

Sample Design

- ◆ Explicit stratification by educational zone and “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by school type (public, private, and “other”), curricula (24), school gender (boys, co-educational, or girls), and assessment language (English, Arabic, or both).
- ◆ Census of all schools in Dubai, in the West region of Abu Dhabi, and in the educational zone of Umm-Al Quwain (with two sampled classrooms per school). Classes within these schools were used to build jackknife replicates for variance calculation. Also, there were certainty schools outside of these regions, and variance calculation was done following the same approach for these schools.

- ◆ The United Arab Emirates was divided into three large districts: Abu Dhabi (Abu Dhabi, Al Ain, and West region), Dubai, and the rest of the Emirates. All three districts were oversampled to allow for better estimates at the district level.
- ◆ Maximum possible overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 112: Allocation of School Sample in the United Arab Emirates, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Dubai Grade 8 only	34	0	32	0	0	0	2
Dubai Grade 4 & Grade 8	109	1	98	0	0	1	9
Grade 8 only – Abu Dhabi	35	1	34	0	0	0	0
Grade 8 only – Al Ain	26	0	26	0	0	0	0
Grade 8 only – West region	14	0	14	0	0	0	0
Grade 4 & Grade 8 – Abu Dhabi	55	1	53	0	0	1	0
Grade 4 & Grade 8 – Al Ain	29	1	28	0	0	0	0
Grade 4 & Grade 8 – West region	11	0	11	0	0	0	0
Grade 8 only – Sharjah	27	0	27	0	0	0	0
Grade 8 only – Ajman	9	0	9	0	0	0	0
Grade 8 only – Fujairah	13	0	13	0	0	0	0
Grade 8 only – Ras Al Kaimah	19	0	19	0	0	0	0
Grade 8 only – Umm-Al Quwain	9	0	9	0	0	0	0
Grade 4 & Grade 8 – Sharjah	51	1	50	0	0	0	0
Grade 4 & Grade 8 – Ajman	16	1	15	0	0	0	0
Grade 4 & Grade 8 – Fujairah	7	0	7	0	0	0	0
Grade 4 & Grade 8 – Ras Al Kaimah	10	0	10	0	0	0	0
Grade 4 & Grade 8 – Umm-Al Quwain	3	0	3	0	0	0	0
Total	477	6	458	0	0	2	11

United States

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index, public/private status, and census region.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The same schools were sampled for both TIMSS and PIRLS studies. Within the sampled schools, different classrooms (students) were sampled for each study. In general, two classrooms were sampled per study per school.
- ◆ Sampled schools with only one classroom were randomly assigned to TIMSS or PIRLS. These schools were treated as nonresponse.
- ◆ Response adjustment cells are given by the explicit strata for all schools except private schools. For private schools, all four private strata were merged to define a single adjustment cell.
- ◆ Oversampling to compensate for losses linked to splitting the sample allocation between TIMSS and PIRLS (in previous cycle, sample of 300 schools with two classrooms per school).

Exhibit 113: Allocation of School Sample in the United States, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High poverty – Public – CENSREG = 1	20	1	14	1	0	4	0
High poverty – Public – CENSREG = 2	25	2	13	3	0	7	0
High poverty – Public – CENSREG = 3	84	1	73	2	1	7	0

Exhibit 113: Allocation of School Sample in the United States, Fourth Grade (Continued)

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High poverty – Public – CENSREG = 4	49	0	39	5	0	5	0
Private – CENSREG = 1	10	2	3	0	0	5	0
Private – CENSREG = 2	11	2	5	0	0	4	0
Private – CENSREG = 3	14	0	4	0	0	9	1
Private – CENSREG = 4	9	1	1	1	0	6	0
Low poverty – Public – CENSREG = 1	44	0	36	3	0	5	0
Low poverty – Public – CENSREG = 2	62	1	53	3	0	5	0
Low poverty – Public – CENSREG = 3	72	1	64	0	0	7	0
Low poverty – Public – CENSREG = 4	50	1	42	3	0	4	0
Total	450	12	347	21	1	68	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index, public/private status, and census region.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The same schools were sampled for both TIMSS and another national study. Within the sampled schools, different classrooms (students) were sampled for each study. In general, two classrooms were sampled per study per school.
- ◆ Sampled schools with only one classroom were randomly assigned to TIMSS or the other national study. These schools assigned to the national study were treated as nonresponse for TIMSS.
- ◆ Sampled one classroom per school for TIMSS.

- ◆ Response adjustment cells are given by the explicit strata for all schools except the private schools. For private schools, all four private strata were merged to define a single adjustment cell.
- ◆ Oversampling to compensate for losses linked to splitting the sample allocation between TIMSS and the national study (in previous cycle, sample of 300 schools with two classrooms per school).

Exhibit 114: Allocation of School Sample in the United States, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – High Poverty – Public – CENSREG = 1	24	1	21	1	0	1	0
Grade 8 only – High Poverty – Public – CENSREG = 2	27	6	17	0	0	4	0
Grade 8 only – High Poverty – Public – CENSREG = 3	94	2	86	0	0	6	0
Grade 8 only – High Poverty – Public – CENSREG = 4	58	0	47	0	0	9	2
Grade 8 only – Low Poverty – Private – CENSREG = 1	13	0	4	0	0	8	1
Grade 8 only – Low Poverty – Private – CENSREG = 2	14	1	8	0	0	5	0
Grade 8 only – Low Poverty – Private – CENSREG = 3	18	2	5	1	0	9	1
Grade 8 only – Low Poverty – Private – CENSREG = 4	11	1	2	0	0	8	0
Grade 8 only – Low Poverty – Public – CENSREG = 1	66	0	63	0	0	3	0
Grade 8 only – Low Poverty – Public – CENSREG = 2	92	7	81	0	0	4	0
Grade 8 only – Low Poverty – Public – CENSREG = 3	109	1	102	0	0	6	0
Grade 8 only – Low Poverty – Public – CENSREG = 4	74	1	63	0	0	10	0
Total	600	22	499	2	0	73	4

Yemen

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of governorate Al-Jauf (remote area), regular kids from Foundation Grades Initiative (FGI) schools, very small schools (MOS < 8), and international schools.
- ◆ Within-school exclusions consisted of English sections/classes in national private schools.

Sample Design

- ◆ Explicit stratification by program (Foundation Grades Initiative (FGI), and Not Foundation Grades Initiative), urban/rural school status, “Grade 4” / “Grade 4 & Grade 6” school status, and school gender.
- ◆ Implicit stratification by governorate (21), and private/national and public school status (2).
- ◆ Census of all Foundation Grades Initiative schools. Variance estimates from this stratum were derived using schools as variance strata.

Exhibit 115: Allocation of School Sample in Yemen, Fourth

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only	9	0	9	0	0	0	0
Grade 4 & Grade 6 – FGI	69	0	66	0	0	0	3
Grade 4 & Grade 6 – Not FGI – Girls – Rural	6	0	6	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Girls – Urban	9	0	9	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Boys – Rural	7	0	7	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Boys – Urban	10	0	10	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Coed – Rural	86	1	83	0	0	2	0
Grade 4 & Grade 6 – Not FGI – Coed – Urban	27	0	26	0	0	0	1
Total	223	1	216	0	0	2	4

Sixth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 8), international schools, and governorate Al-Jauf (remote area).
- ◆ Within-school exclusions consisted of English sections/classes in national private schools.

Sample Design

- ◆ Explicit stratification by “Grade 6” / “Grade 4 & Grade 6” school status, program (Foundation Grades Initiative (FGI) and Not Foundation Grades Initiative), school gender, and urban/rural school status
- ◆ Implicit stratification by governorate (21), and private/national and public school status.
- ◆ Sampled one classroom per school.
- ◆ All sampled schools for TIMSS at Grade 6 were asked to participate at TIMSS at Grade 4.

Exhibit 116: Allocation of School Sample in Yemen, Sixth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 6 only	3	1	2	0	0	0	0
Grade 4 & Grade 6 – FGI	2	0	2	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Girls – Rural	6	0	6	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Girls – Urban	9	0	9	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Boys – Rural	7	0	7	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Boys – Urban	10	0	10	0	0	0	0
Grade 4 & Grade 6 – Not FGI – Coed – Rural	86	1	84	0	0	1	0
Grade 4 & Grade 6 – Not FGI – Coed – Urban	27	0	26	0	0	0	1
Total	150	2	146	0	0	1	1

TIMSS 2011

Characteristics of Benchmarking Participants

Alberta, Canada

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 7).
- ◆ Within-school exclusions consisted of students with special needs.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type and school size.
- ◆ Implicit stratification by funding (private, public, and “other”) and immersion school status (yes or no).
- ◆ Sampled two classrooms in large schools (MOS > 32).
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) No sampled schools involved in both Grade 4 and Grade 8 populations; and 3) Sampled schools from the large strata were involved in both TIMSS and PIRLS at Grade 4. However, students within the schools either took TIMSS or PIRLS. No students took both TIMSS and PIRLS.

Exhibit 117: Allocation of School Sample between Studies in Alberta

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only – Big	71	71	71	0
Grade 4 only – Small	72	36	36	0
Grade 4 & Grade 8 – Big	45	22	22	23
Grade 4 & Grade 8 – Small	72	21	21	30
Grade 8 only	97	0	0	97
Total	260	150	150	150

Exhibit 118: Allocation of School Sample in Alberta, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Big	71	1	69	0	0	1	0
Grade 4 only – Small	36	1	34	0	0	0	1
Grade 4 & Grade 8 – Big	22	1	21	0	0	0	0
Grade 4 & Grade 8 – Small	21	1	17	2	0	0	1
Total	150	4	141	2	0	1	2

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 7).
- ◆ Within-school exclusions consisted of students with special needs.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school type and school size.
- ◆ Implicit stratification by funding (private, public, and “other”) and immersion school status (yes or no).
- ◆ Sampled two classrooms in large schools (MOS > 116).
- ◆ No overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 119: Allocation of School Sample in Alberta, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only	97	1	85	8	2	0	1
Grade 4 & Grade 8 – Big	23	1	20	2	0	0	0
Grade 4 & Grade 8 – Small	30	0	28	0	0	2	0
Total	150	2	133	10	2	2	1

Ontario, Canada

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6), First Nations schools, and special education schools.
- ◆ Within-school exclusions consisted of students with special educational needs and students who do not speak English or French.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type and English/French status.
- ◆ Implicit stratification by geographic region (Barrie, London, Ottawa, Sudbury, Thunder Bay, and Toronto) and school type (Catholic, private, Protestant, separate, and public).
- ◆ Sampled two classrooms in large schools (MOS > 32).
- ◆ There were some certainty-selected schools, but there were too few to use special estimation variance procedures.
- ◆ School samples overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) No sampled schools involved in both TIMSS at Grade 4 and PIRLS; 3) All sampled schools from the “Grade 4 & Grade 8” strata are involved in either TIMSS at Grade 4 or PIRLS; and 4) A subset of these “Grade 4 & Grade 8” schools also were involved in TIMSS at Grade 8.

Exhibit 120: Allocation of the School Sample between Studies in Ontario

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only English	85	39	46	0
Grade 4 only French	59	53	6	0
Grade 4 & Grade 8 – English	175	81	94	106
Grade 4 & Grade 8 – French	31	27	4	2
Grade 8 only	42	0	0	42
Total	392	200	150	150

Exhibit 121: Allocation of School Sample in Ontario, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only English	46	0	45	0	0	1	0
Grade 4 only French	6	0	6	0	0	0	0
Grade 4 & Grade 8 – English	94	1	90	1	0	2	0
Grade 4 & Grade 8 – French	4	0	4	0	0	0	0
Total	150	1	145	1	0	3	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools (MOS < 6), First Nations schools, and special education schools.
- ◆ Within-school exclusions consisted of students with special educational needs and students who do not speak English or French.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school type, and English/French status.
- ◆ Implicit stratification by geographic region (Barrie, London, Ottawa, Sudbury, Thunder Bay, and Toronto) and type of school (Catholic, private, Protestant separate, and public).
- ◆ Sampled two classrooms in large schools (MOS > 70).
- ◆ There were some certainty-selected schools, but there were too few to use special estimation variance procedures.
- ◆ Maximum possible overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 122: Allocation of School Sample in Ontario, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – English	38	0	38	0	0	0	0
Grade 8 only – French	4	0	4	0	0	0	0
Grade 4 & Grade 8 – English	106	3	98	1	0	3	1
Grade 4 & Grade 8 – French	2	0	2	0	0	0	0
Total	150	3	142	1	0	3	1

Québec, Canada

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special needs schools, very small schools (MOS < 10), Native schools, and non-Ministry Schools.
- ◆ Within-school exclusions consisted of children with disabilities.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type and English/French status.
- ◆ Implicit stratification by public/private status, and Native status (yes or no).
- ◆ Sampled one classroom per school.
- ◆ There were some certainty-selected schools, but there were too few to use special estimation variance procedures.
- ◆ Oversampling of the “English” strata.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 & Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 123: Allocation of School Sample between Studies in Québec

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	184	184	184	0
Grade 4 & Grade 8	16	16	16	16
Grade 8 only	184	0	0	184
Total	384	200	200	200

Exhibit 124: Allocation of School Sample in Québec, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – French	114	0	108	1	0	5	0
Grade 4 only – English	70	2	65	0	0	2	1
Grade 4 & Grade 8 – French	6	0	6	0	0	0	0
Grade 4 & Grade 8 – English	10	0	10	0	0	0	0
Total	200	2	189	1	0	7	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of special needs schools, very small schools (MOS < 10), Native schools, and non-Ministry schools.
- ◆ Within-school exclusions consisted of children with disabilities.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school type, special programs school status, and English/French status.
- ◆ Implicit stratification by public/private status, and Native status (yes or no).
- ◆ Sampled two classrooms per school in the special programs stratum (one classroom per program).
- ◆ There were some certainty-selected schools, but there were too few to use special estimation variance procedures.
- ◆ Oversampling of the “English” strata.

- ◆ Census of all English schools in the Grade 8 only schools. Schools were used as variance strata whenever at least two classrooms or all classrooms were sampled.
- ◆ Overlap was maximized between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 125: Allocation of School Sample in Québec, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – French – No special program	73	0	67	0	0	4	2
Grade 8 only – French – With special program	46	0	45	0	0	1	0
Grade 8 only – English – No special program	55	0	51	0	0	4	0
Grade 8 only – English – With special program	10	0	10	0	0	0	0
Grade 4 & Grade 8 – French – All	6	0	6	0	0	0	0
Grade 4 & Grade 8 – English – All	10	0	10	0	0	0	0
Total	200	0	189	0	0	9	2

Abu Dhabi, UAE

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools, and schools with students taught in languages other than Arabic and English.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” schools and educational zones.
- ◆ Implicit stratification by private/public status, curricula (24), school gender (boys, co-educational, or girls), and test language (English, Arabic, or both).

- ◆ Sampled two classrooms per school in the West region.
- ◆ All schools from the West region were sampled. Classes within schools were used to build jackknife replicates for variance calculation. There were certainty schools (schools selected with certainty) outside of that region, and variance calculation was done following the same approach for these schools.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 and Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 126: Allocation of the School Sample between Studies in Abu Dhabi

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	73	73	73	0
Grade 4 & Grade 8	95	95	95	95
Grade 8 only	75	0	0	75
Total	243	168	168	170

Exhibit 127: Allocation of School Sample in Abu Dhabi, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 4 only – Abu Dhabi	35	0	35	0	0	0	0
Grade 4 only – Al Ain	23	1	22	0	0	0	0
Grade 4 only – West region	15	2	13	0	0	0	0
Grade 4 & Grade 8 – Abu Dhabi	55	0	54	0	0	1	0
Grade 4 & Grade 8 – Al Ain	29	0	29	0	0	0	0
Grade 4 & Grade 8 – West region	11	0	11	0	0	0	0
Total	168	3	164	0	0	1	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of very small schools and schools with students taught in languages other than Arabic and English.
- ◆ No within-school exclusions.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school status and educational zones.
- ◆ Implicit stratification by private/public status, curricula (24), school gender (boys, co-educational, or girls), and test language (English, Arabic, or both).
- ◆ Sampled two classrooms per school in the West region and in the “Grade 8 only-Abu Dhabi” stratum.
- ◆ All schools from the above strata were sampled. Classes within schools were used to build jackknife replicates for variance calculation. There were certainty schools (schools selected with certainty) outside of these strata, and variance calculation was conducted following the same approach for these schools.
- ◆ Maximum possible overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 128: Allocation of School Sample in Abu Dhabi, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Grade 8 only – Abu Dhabi	35	1	34	0	0	0	0
Grade 8 only – Al Ain	26	0	26	0	0	0	0
Grade 8 only – West region	14	0	14	0	0	0	0
Grade 4 & Grade 8 – Abu Dhabi	55	1	53	0	0	1	0
Grade 4 & Grade 8 – Al Ain	29	1	28	0	0	0	0
Grade 4 & Grade 8 – West region	11	0	11	0	0	0	0
Total	170	3	166	0	0	1	0

Dubai, UAE

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with students taught in languages other than Arabic and English, special education schools, and very small schools (MOS < 10). Statistics on the number of students taught in languages other than English and Arabic were not available and were estimated using the sample (11 such schools were identified in the sample). The corresponding exclusion rates are found under the within-school exclusion rates.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by “Grade 4” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by curricula (14) and assessment language (English, Arabic, or both).
- ◆ Sampled two classrooms per school.
- ◆ All schools were sampled. Classes within schools were used to build jackknife replicates for variance calculation.
- ◆ School sample overlap between TIMSS (Grade 4), PIRLS, and TIMSS (Grade 8): 1) Samples were drawn all at once; 2) All sampled schools in the “Grade 4 and Grade 8” stratum were asked to participate in all studies; and 3) All sampled students for TIMSS at Grade 4 also were asked to take PIRLS.

Exhibit 129: Allocation of the School Sample between Studies in Dubai

Explicit Strata	Total Sampled Schools	Allocation of Schools		
		To PIRLS Grade 4	To TIMSS Grade 4	To TIMSS Grade 8
Grade 4 only	43	43	43	0
Grade 4 & Grade 8	109	109	109	109
Grade 8 only	34	0	0	34
Total	186	152	152	143

Exhibit 130: Allocation of School Sample in Dubai, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Dubai Grade 4 only	43	0	40	0	0	0	3
Dubai Grade 4 & Grade 8	109	0	98	0	0	1	10
Total	152	0	138	0	0	1	13

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 100 percent.
- ◆ School-level exclusions consisted of schools with students taught in languages other than Arabic and English, special education schools, and very small schools (MOS < 10). Statistics on the number of students taught in languages other than English and Arabic were not available and were estimated using the sample (11 such schools were identified in the sample). The corresponding exclusion rates are found under the within-school exclusion rates.
- ◆ Within-school exclusions consisted of students with special educational needs.

Sample Design

- ◆ Explicit stratification by “Grade 8” / “Grade 4 & Grade 8” school type.
- ◆ Implicit stratification by curricula (14) and assessment language (English, Arabic, or both).
- ◆ Sampled two classrooms per school.
- ◆ All schools were sampled. Classes within schools were used to build jackknife replicates for variance calculation.
- ◆ Maximum possible overlap between the Grade 4 and Grade 8 school samples (see Grade 4 above).

Exhibit 131: Allocation of School Sample in Dubai, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
Dubai Grade 8 only	34	0	32	0	0	0	2
Dubai Grade 4 & Grade 8	109	1	98	0	0	1	9
Total	143	1	130	0	0	1	11

Alabama, US

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 92 percent. Coverage in this state was restricted to students in public schools (92% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS national sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 132: Allocation of School Sample in Alabama (full sample), Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	30	2	26	0	0	2	0
Low Poverty	33	1	29	0	0	3	0
Total	63	3	55	0	0	5	0

California, US

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 91 percent. Coverage in this state was restricted to students in public schools (91% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS national sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 133: Allocation of School Sample in California, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	56	0	49	0	0	6	1
Low Poverty	38	0	30	3	0	5	0
Total	94	0	79	3	0	11	1

Colorado, US

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 94 percent. Coverage in this state was restricted to students in public schools (94% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS national sample and minimized the overlap with the NAEP

(Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 134: Allocation of School Sample in Colorado, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High poverty	16	0	11	0	0	5	0
Low poverty	44	0	39	3	0	2	0
Total	60	0	50	3	0	7	0

Connecticut, US

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 90 percent. Coverage in this state was restricted to students in public schools (90% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected

by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS national sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 135: Allocation of School Sample in Connecticut, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	12	0	11	0	0	0	1
Low Poverty	51	0	51	0	0	0	0
Total	63	0	62	0	0	0	1

Florida, US

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 89 percent. Coverage in this state was restricted to students in public schools (89% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The same schools were sampled for both TIMSS and PIRLS studies. Within the sampled schools, different classrooms (students) were sampled for each study. In general, two classrooms were sampled per study per school.

- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplement” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS national sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 136: Allocation of School Sample in Florida, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	42	0	39	0	0	2	1
Low Poverty	39	0	38	0	0	1	0
Total	81	0	77	0	0	3	1

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 89 percent. Coverage in this state was restricted to students in public schools (89% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.

- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS national sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 137: Allocation of School Sample in Florida, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	28	1	24	0	0	3	0
Low Poverty	37	0	36	0	0	1	0
Total	65	1	60	0	0	4	0

Indiana, US

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 90 percent. Coverage in this state was restricted to students in public schools (90% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample had 100 assessed classrooms.

- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS National sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 138: Allocation of School Sample in Indiana, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	20	3	16	0	0	1	0
Low Poverty	42	1	39	1	0	1	0
Total	62	4	55	1	0	2	0

Massachusetts, US

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 89 percent. Coverage in this state was restricted to students in public schools (89% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.

- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS National sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 139: Allocation of School Sample in Massachusetts, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High poverty	15	1	14	0	0	0	0
Low poverty	43	1	42	0	0	0	0
Total	58	2	56	0	0	0	0

Minnesota, US

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 89 percent. Coverage in this state was restricted to students in public schools (89% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS National sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 140: Allocation of School Sample in Minnesota, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High poverty	7	1	5	0	0	1	0
Low poverty	53	3	46	4	0	0	0
Total	60	4	51	4	0	1	0

North Carolina, US

Fourth Grade

Coverage and Exclusions

- ◆ Coverage is 93 percent. Coverage in this state was restricted to students in public schools (93% of the international target population).
- ◆ No school-level exclusions.

- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ In general, two classrooms were sampled per school.
- ◆ The TIMSS National US sampled schools were not added to this sample. The school sample was selected controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). The strategy minimized the overlap with both the TIMSS national sample and the NAEP (Alpha–public schools) sample. In summary, priority was given to schools not already selected for either the NAEP Alpha or TIMSS national samples, then priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample, then priority was given to schools selected for the TIMSS national sample and not the NAEP Alpha sample, and finally priority was given to schools selected for both these studies. The targeted school sample size was 50.

Exhibit 141: Allocation of School Sample in North Carolina, Fourth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	18	0	17	0	0	1	0
Low Poverty	31	0	29	0	0	2	0
Total	49	0	46	0	0	3	0

Eighth Grade

Coverage and Exclusions

- ◆ Coverage is 93 percent. Coverage in this state was restricted to students in public schools (93% of the international target population).
- ◆ No school-level exclusions.
- ◆ Within-school exclusions consisted of students who lack English language proficiency, and students with disabilities.

Sample Design

- ◆ Explicit stratification by high/low poverty index.
- ◆ Implicit stratification by location (city, rural, suburban, or town) and ethnic status.
- ◆ The sample includes schools that were previously selected as part of the TIMSS national sample as well as supplemental schools. The target sample was to have 100 assessed classrooms.
- ◆ Sampled two classrooms per school in the “supplemental” sample as opposed to one in the TIMSS national (US) sample.
- ◆ The TIMSS National US sampled schools were added to this sample with new school IDs. The “supplemental” school sample was selected by controlling for overlap with the TIMSS National US and NAEP (Alpha–public schools) samples using the Chowdhury approach (samples drawn sequentially). This strategy maximized the overlap with the TIMSS national sample and minimized the overlap with the NAEP (Alpha–public schools) sample. In summary, priority was given to schools selected for the TIMSS national sample (including schools also selected for the NAEP Alpha sample); then priority was given to schools not selected for either the TIMSS national or NAEP Alpha samples; and finally priority was given to schools selected for the NAEP Alpha sample and not selected for the TIMSS national sample.

Exhibit 142: Allocation of School Sample in North Carolina, Eighth Grade

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools			Refusal Schools	Excluded Schools
			Original Schools	1st Replacements	2nd Replacements		
High Poverty	18	0	18	0	0	0	0
Low Poverty	44	1	41	0	0	1	1
Total	62	1	59	0	0	1	1