

TIMSS and PIRLS Stratified Two-Stage Cluster Sample Design

The basic international sample design for both PIRLS and TIMSS is a stratified two-stage cluster sample design, as follows:

First Sampling Stage

For the first sampling stage, schools are sampled with probabilities proportional to their size (PPS) from the list of all schools in the population that contain eligible students. The schools in this list (or sampling frame) may be stratified (sorted) according to important demographic variables. Schools for the field test and data collection are sampled simultaneously using a systematic random sampling approach. As each school is sampled, two replacement schools also are sampled. These are held in reserve in case the original school refuses to participate. Replacement schools are used solely to compensate for sample size losses in the event that the original school does not participate. School sampling is conducted for each country by Statistics Canada with assistance from the IEA DPC, using the sampling frame provided by the country's National Research Coordinator.

Second Sampling Stage

The second sampling stage consists of the selection of one or more intact class from the target grade of each participating school. Class sampling in each country is conducted by the National Research Coordinator using the within-school sampling software *WinW3S* developed by the IEA DPC and Statistics Canada. Having secured the sampled school's agreement to participate in the assessment, the NRC requests information about the number of classes and teachers in the school and enters it in the *WinW3S* database. Classes smaller than a specified minimum size are grouped into pseudo-classes prior to sampling. The software selects classes with equal probabilities within schools. All students in each sampled class participate in the assessment. Sampled classes that refuse to participate may not be replaced.