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## TEACHING QUALITY MANAGEMENT BASED ON THE TALIS INTERNATIONAL ASSESSMENT PROGRAM

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### ABSTRACT

In the current era of globalization, a new educational system is emerging around the world. the sole purpose of the entire system is to improve the quality of education and digitize their evaluation system. This article reviews the evaluation of the international TALIS program and key criteria for its improvement.

### KEYWORDS

The Teaching and Learning International Survey (TALIS), principal survey, Survey Development, education system.

### INTRODUCTION

This section describes features of the Teaching and Learning International Survey (TALIS) 2018 methodology including sample design and survey design with a particular focus on the U.S. implementation. For further details about the assessment and any of the topics discussed here, see the Organization for Economic Cooperation and

Development (OECD)'s TALIS 2018 Technical Report (OECD 2019).

- International Requirements for Sampling, Data Collection, and Response Rates
- Sampling in the United States
- Survey Development
- Translation and Adaptation

- Recruitment, Survey Administration, and Quality Assurance
- Weighting
- Data Limitations
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characteristics, the sample of TALIS teachers had to be selected in a way that represented the full population of ISCED 2 teachers in each education system. The sample design for TALIS 2018 was a stratified systematic sample, with the school sampling probability proportional to the estimated number of ISCED 2 teachers within each school. Samples were drawn using a two-stage sampling process. In the first stage a sample of schools was drawn, and in the second stage a sample of teachers was drawn within each selected school. Statistics Canada (StatCan), one of the members of the TALIS consortium responsible for the design and implementation of TALIS internationally, drew the sample of schools for each education system.

A minimum sample size of 4,000 teachers from a minimum of 200 schools was required in each participating education system. Following the TALIS consortium guidelines, replacement schools were identified at the same time the TALIS sample was selected by designating as replacement schools the two neighboring schools in the sampling frame. The international guidelines specified that within schools, a sample of 20 teachers was to be selected in an equal probability sample unless fewer than 20 teachers were available (in which case all teachers were selected).

Each education system collected its own data following international guidelines and specifications. The technical standards required that eligible teachers

International Requirements for Sampling, Data Collection, and Response Rates

The OECD required all participating education systems (countries and subnational regions) to adhere to the TALIS 2018 technical standards, which provided detailed information about the target population, sampling, response rates, translation, survey administration, and data submission. According to the standards, the population covered in each education system should consist of as many as possible of the eligible International Standard Classification of Education (ISCED) Level 2 teachers and school administrators. Developed by the United Nations Educational, Scientific and Cultural Organization (UNESCO), ISCED is used by countries to map education levels across countries and education systems. In the United States, ISCED Level 2 teachers are those of students in grades 7, 8, and 9 (also labeled lower secondary education for convenience). To provide valid estimates of teacher and principal

were those teaching at least one ISCED Level 2 class, regardless of subject matter. School principals or head administrators of each sampled school were also asked to participate. School principal and teacher data were collected independently, so teacher eligibility was not dependent on principal participation (or vice versa).

The response-rate target was at least 75 percent of schools and at least 75 percent of teachers across the participating schools in each education system. A minimum participation rate of 50 percent of schools from the original school sample and 75 percent of schools after replacement, was required for an education system's data to be included in the main international comparisons. Education systems were allowed to use replacement schools (selected during the sampling process) to increase the response rate as long as the 50 percent benchmark before replacement had been reached.

The data collected by each participating education system was adjudicated by the TALIS international consortium to ensure that the data met the TALIS technical standards for data collection. The principal and teacher data were adjudicated separately. For school-level data adjudication depended on only school data (the principal participation) and for teacher-level data, adjudication depended on only teacher data (50 percent of teachers in the school had to participate). Thus, for TALIS 2018, there are two datasets—a school dataset with data from the

principal survey, and a teacher dataset with data for teachers, each defined by their respective participation standards.

Internationally, TALIS 2018 was designed to be as inclusive as possible. In-scope teachers, those comprising the international target population, were all classroom teachers teaching at least one ISCED Level 2 class and their school principals, and all subject matters are included. Out-of-scope teachers included:

- Teachers in schools for special education needs students and their principals.
- Substitute, emergency, or occasional teachers who are defined as teachers filling in on a temporary basis (no longer than 6 consecutive weeks) for a teacher who is still employed as either a full-time or part-time teacher at the school.
- Teachers teaching exclusively to adults who are defined as teachers teaching only to adults, whether the adult students follow a standard or an adapted curriculum.
- Teachers on long-term leave who are defined as teachers “on long-term leave” who are absent and not expected to be back during the survey administration period.
- Teacher aides who are typically non-professional or paraprofessional staff supporting teachers in providing instruction to students.

- Pedagogical support staff who provide services to students to support the instructional program, such as guidance counselors or librarians.
- Health and social support staff who are health professionals such as doctors, nurses, psychiatrists, psychologists, occupational therapists, and social workers.

National target populations aim for maximum coverage of eligible teachers and schools. However, in some rare cases, for reasons of practicality, safety or economy (e.g., remote schools, unique demographic groups, types of schools, areas under civil unrest, natural catastrophe), the national survey population may be reduced. The U.S. population was not reduced in any way. (See Table A-3 for coverage rates for each country.)

## Sampling in the United States

The TALIS 2018 school sample of 220 schools was drawn for the United States by the TALIS consortium. The U.S. sample was stratified into five explicit groups based on school control (public/private) and grade structure (with three groups—middle/junior high schools with grades 6–8 or 7–9, high schools with grades 9–12, or other schools with grade structures that include at least one ISCED 2 grade). Given the small number of private schools with a middle/junior high school grade structure, this stratum was collapsed

with the high school grade structure in private schools. Within each explicit stratum, schools were sorted by census region (Northeast, Midwest, South, and West), locale (urban/suburban/town-rural),<sup>1</sup> percent minority students,<sup>2</sup> state, and number of ISCED 2 students (measure of size—see paragraph below).

The school sampling frame included any school containing at least one of grades 7 through 9 (defined as ISCED 2 in the United States). The data for public schools were from the 2015–16 Common Core of Data (CCD) and the data for private schools were from the 2015–16 Private School Universe Survey (PSS). The U.S. TALIS 2018 national school sample consisted of 220 schools. This number represents an increase from the international minimum requirement of 200 and was implemented to offset anticipated school nonresponse and reduce design effects.

The CCD and PSS databases include estimates of the number of teachers per school. While the number of full-time equivalent teachers (FTE) was available from the CCD, the number of teachers by ISCED level was not. Following the advice of the TALIS consortium, Westat, a research organization under contract to the National Center for Education Statistics (NCES) in the U.S. Department of Education, used the number of estimated ISCED 2 students from the CCD and PSS databases as the measure of size. Student estimates rather than teachers were used due to the uncertainty of the number of ISCED 2 teachers in certain types of



schools (e.g., grade 9 teachers in grades 9–12 high schools).

Overlap with the 2018 National Teacher and Principal Survey (NTPS) school sample was minimized for the 2018 TALIS. The NTPS school frame was developed from the 2014–15 CCD. The school sample for the NTPS was selected by May 18, 2017, by the U.S. Census Bureau, and the Census Bureau provided Westat with the complete frame of schools (public schools only) with NTPS probabilities of selection for every school on their frame. Westat provided Statistics Canada the NTPS probabilities for the schools that matched the TALIS frame, and in drawing the U.S. TALIS sample Statistics Canada used this information to minimize overlap with NTPS.

In order to obtain a sample of teachers within schools, participating schools provided a list of TALIS eligible teachers (typically in January and February of 2018), and with the data from this list the sample was drawn using sampling software provided by the international contractor.

### Survey Development

The 2018 survey instruments were developed to cover a set of predefined themes defined by the TALIS framework (Ainley and Carstens 2018). These themes were identified by representatives of the participating education systems, the Questionnaire Expert Group (QEG), and the OECD. Items were reviewed by the

TALIS QEG and by representatives of each country for their relevance to TALIS's goals and for possible biases. All participating education systems field-tested the survey items in spring 2017. After the field trial, the descriptive statistics and psychometric properties of the items were reviewed, and items that did not meet the established measurement criteria were dropped for the main assessment.

The field trial also served as a means to test the field operations for the TALIS survey. The field trial evaluated the efficiency, accuracy, and effectiveness of the online questionnaire system in capturing information.

The final U.S. 2018 main study principal survey included 48 questions and the U.S. 2018 teacher survey included 55 questions. Countries were permitted to add “national only” questions/answers and answer categories. Also, each country adapted the international questionnaire to fit national terms, definitions, spelling, and punctuation, which is explained further in the following section. The resulting final set of items covered all 9 content themes of the framework. The United States added two questions to both the principal and teacher surveys asking about the principal's/teacher's race and ethnicity.

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