PSYCHOMETRICIAN

DEFINITION

Designs and develops valid and reliable benchmark, formative and interim classroom assessments in collaboration with district instructional staff; and is responsible for statistical and psychometric activities related to appropriate test construction, standard setting, equating, test administration, and reporting.

TYPICAL DUTIES

Designs and develops the psychometric structure of classroom assessments, data collection design, equating, linking and scaling, standard setting, and psychometric analyses using standard and customized psychometric analysis tools and statistical software packages.

Collaborates with teachers and district staff to develop the structure of end of course tests and other subject area assessments as necessary and/ or required.

Provides quality control checks of data analyses results and reports.

Analyzes test summary and item level statistics to determine reliability and identify difficulty level of test items.

Maintains an awareness of current research and evaluation trends in assessment and disseminates that information to personnel throughout the district.

Communicates with stakeholders regarding psychometric principles governing the design, development, administration, and scoring of assessments.

Prepares planning memoranda and documentation related to psychometric analyses, test development, and maintains data files and records related to a variety of item banks.

Develops and oversees process for teachers and staff to submit assessment questions to include in item banks.

Identifies and implements initiatives that will enhance the efficiency of psychometric processing and testing programs.

Coordinates and works with outside testing vendors on test construction.

Monitors expenses associated with psychometric analysis work and oversees the accountability reporting to reduce costs related to psychometric processing.

Performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS AMONG RELATED CLASSES

A Psychometrician designs and develops psychometrically sound and legally defensible classroom assessments by determining the appropriate psychometric theory and model for developing and scoring assessments using statistical software and industry accepted procedures.

The Executive Director, Office of Data and Accountability directs the Office of Data and Accountability.

SUPERVISION

A Psychometrician receives general direction from the Executive Director, Office of Data and Accountability and may provide supervision over other lower-level analytical staff.

CLASS QUALIFICATIONS

Knowledge of:

Design and development of psychometric structure of exams, data collection design, equating, linking and scaling, standard setting, and psychometric tools
Statistical software packages such as SAS and SPSS
General and special research studies related to assessments and assessment theory
Classical and modern (e.g., item response theory) methods of evaluating test items, building comparable test forms, and standard setting
Common Core State Standards and latest developments in assessment by the Partnership for Assessment of Readiness for College and Career (PARCC) and the Smarter Balanced Assessment Consortium (SBAC)
Concepts and theory of IRT pre-equating, Structural Equation Modeling, and other advanced statistical procedures

Ability to:

Develop psychometrically sound assessments using statistical software and industry accepted procedures
Analyze data, prepare summary reports, and make recommendations for improvement
Create data files and records related to a variety of item banks
Demonstrate strong written, oral, and presentation skills
Communicate with stakeholders regarding psychometric principles governing the design, development, administration, and scoring of examination programs
Apply Classical Test Theory and IRT protocols to item and test analyses
Facilitate groups of subject matter experts for standard setting
Use database software (i.e. ACCESS, ORACLE, SEQUEL)
Use user oriented software including Microsoft word processing software, spreadsheets (EXCEL, LOTUS, QUATTRO PRO), Microsoft presentation software, statistical packages (SPSS, SAS), as well as generalized proprietary software
Work collaboratively with District leadership, Board members, colleagues of various professional backgrounds, and other internal and external stakeholders

ENTRANCE QUALIFICATIONS

Education:

Graduation from a recognized college or university with a master's degree in Psychometrics, Education Research, Educational Measurement, Statistics, or a closely related field.

Experience:

Three years of professional level experience designing, developing, analyzing, and evaluating assessments through use of statistical methods, which includes experience in utilizing statistical software packages. Experience with educational assessments is preferable.

Special:

A valid California Driver License
Use of an automobile

SPECIAL NOTE

An employee in this class may be subject to the reporting requirements of the District Conflict of
Interest Code.

This class description is not a complete statement of essential functions, responsibilities, or
requirements. Requirements are representative of the minimum level of knowledge, skill, and/or
abilities. Management retains the discretion to add or change typical duties of a position at any time.

Revised
09-11-13
PJO