

# Research

Research and Psychometrics are the hull of our organization.

Our organization is guided in all of its work by the AERA-APA-NCME Standards for Educational and Psychological Testing.

## Research Services: Support for Quality Assurance and Igniting Innovation

Research supports every component of our organization. From quality assurance and data monitoring to creating new product initiatives, our research team focuses on advancing assessment content, delivery, and reporting in educational settings. At the same time, we are advancing the science of assessment and developing new tools for improving testing for all stakeholders.

Our research team consists of a group of veteran psychometricians, statisticians, research scientists, and research statisticians with academic and operational experience in the testing industry. They understand and uphold highest-in-the-industry standards for reliability, validity, and data integrity.

### RECENT SUCCESSFUL RESEARCH AND DEVELOPMENT PROJECTS INCLUDE THE FOLLOWING:

- Automated scoring software
- Plagiarism detection software
- Evaluation of machine-scored assessments
- Innovations in machine-scored reliability procedures
- Contributions in Accessible Portable Item Protocol (APIP)
- Technology-enhanced item editor
- English language proficiency modality research
- IRT parameter estimation with small samples
- Improvement of conditional reliability coefficients
- Improvement of Bayesian IRT scoring
- Implementation of Bayesian methods for setting cut scores



PACIFIC METRICS  
CORPORATION

## PSYCHOMETRIC SERVICES: STATE-OF-THE-ART SCIENCE

Measurement, integrity, and rigor provide the foundation of our assessment services and informs the development of our products and solutions. We are proud to have a talented and nationally recognized staff of psychometricians whose high-stakes assessment experience includes K-12, licensure, and certification environments.

Our psychometric team has published widely in the area of educational assessment and measurement. Their work is frequently cited in both scholarly and applied literature and has received multiple awards from the National Council on Measurement in Education (NCME). Our team has a keen understanding of their professional responsibility to comply with the highest professional standards governing the development, administration, and use of tests.

Clients can take advantage of the following services offered by our psychometric staff:

- **STATISTICAL THEORIES OF TEST SCORES**

We apply item response theory (IRT) and associated statistical methods in the design, analysis, and scoring of tests and the development of measurement scales. This helps our clients use multiple item types, test forms, and approaches to the challenges of high-stakes tests.

- **IMPLEMENTATION OF STANDARD SETTINGS**

We work collaboratively with clients to develop, manage, and support in-depth standard setting procedures that establish the required levels of achievement or proficiency and associated cut scores specified by academic standards.

- **EXPERT TECHNICAL REVIEW PROCEDURES**

We provide technical review of assessments for quality to ensure they are sound in terms of design, implementation, analysis, and interpretation.

- **EXPERT-LEVEL SERVICES IN PSYCHOMETRIC RESEARCH AND DESIGN FOR ASSESSMENT PROGRAMS**

Our team works one-on-one with our clients to integrate the principles of Universal Design and Evidence-Centered Design into item and test development.

- **TECHNICAL STUDIES AND REPORTS**

Our team consults with our clients on what is trending and innovative in assessments. We work to advance scientific research in the field of psychometrics, and we report on our research to further the advances in assessment science.

- **PSYCHOMETRIC SOFTWARE LICENSING AND SUPPORT**

We offer licensing and support for highly specialized software used for psychometric analysis of data from assessments.

- **ASSESSMENT POLICY CONSULTATION**

Our consulting services help clients navigate the assessment policies that have been adopted at the district and state level, making sure clients address policy requirements and the concerns of key stakeholders.

- **FIELD-TEST DESIGN**

Our psychometric staff works with our internal content teams and our clients to write, review, and design assessment items that incorporate the latest psychometric research and practice.

