

Indiana I AM Alternate Assessment Research

22-70622

Proposal

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Date: April 4, 2022

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Section 3A: Literature Review

Introduction

The last 20 years have brought considerable change in the ways in which a free appropriate public education is provided to students with significant cognitive disabilities (SWSCDs). Perhaps the most important shift is related to the nature of education for this highly diverse population and to expectations for their achievement. The education of this population historically focused on functional and daily living skills. However, over time, expectations for these students have shifted to require that they have access to and success with the same academic standards as other students. This shift in expectations has required significant changes in practice and policy. In practice, educators have needed to adjust attitudes, curriculum and instructional goals and practices, and approaches to assessment. In the realm of policy, this shift in expectations has led to accountability for schools for the performance of SWSCDs in state assessment systems and to the development of the so-called “1% rule,” allowing a small proportion of students to take different assessments from their peers. To address the need for appropriate assessment for these students, two testing consortia—the National Center and State Collaborative (NCSC) and Dynamic Learning Maps (DLM)—were established. These consortia created modern, standards-aligned, technology-enabled assessments that are currently used, or whose design informs alternate assessments, in multiple U.S. states and territories. This generation of alternate assessments represents significant improvements over prior approaches to assessing SWSCDs.

Nonetheless, states continue to experience practical challenges in administering assessments to SWSCDs, including time, students’ abilities to navigate complex item types, utility of information provided, and alignment to instruction. At the same time, measurement approaches continue to evolve, and states such as Indiana continue to improve alternate achievement standards to represent how skills develop over time.

Over the years, like many states, Indiana has made changes to its statewide assessment system to ensure that all students have the best possible opportunities to show what they know and are able to do. As part of these efforts to continuously improve its assessment systems, and in response to feedback from educators about challenges with administration of the state’s current alternate assessment, Indiana’s Alternate Measure (I AM), the Indiana Department of Education (IDOE) seeks to carry out a comprehensive yearlong program of research and development, which will result in recommendations for a new model of alternate assessment in the state.

In particular, IDOE is interested in considering a through-course approach, which could spread testing throughout the school year. Such approaches can offer benefits such as providing information to inform instruction during the school year and decreasing testing time at any one moment in time, but they also come with challenges, such as determining what content to assess when, and how to summarize performance information into an overall summative score and proficiency designation, as required by law.

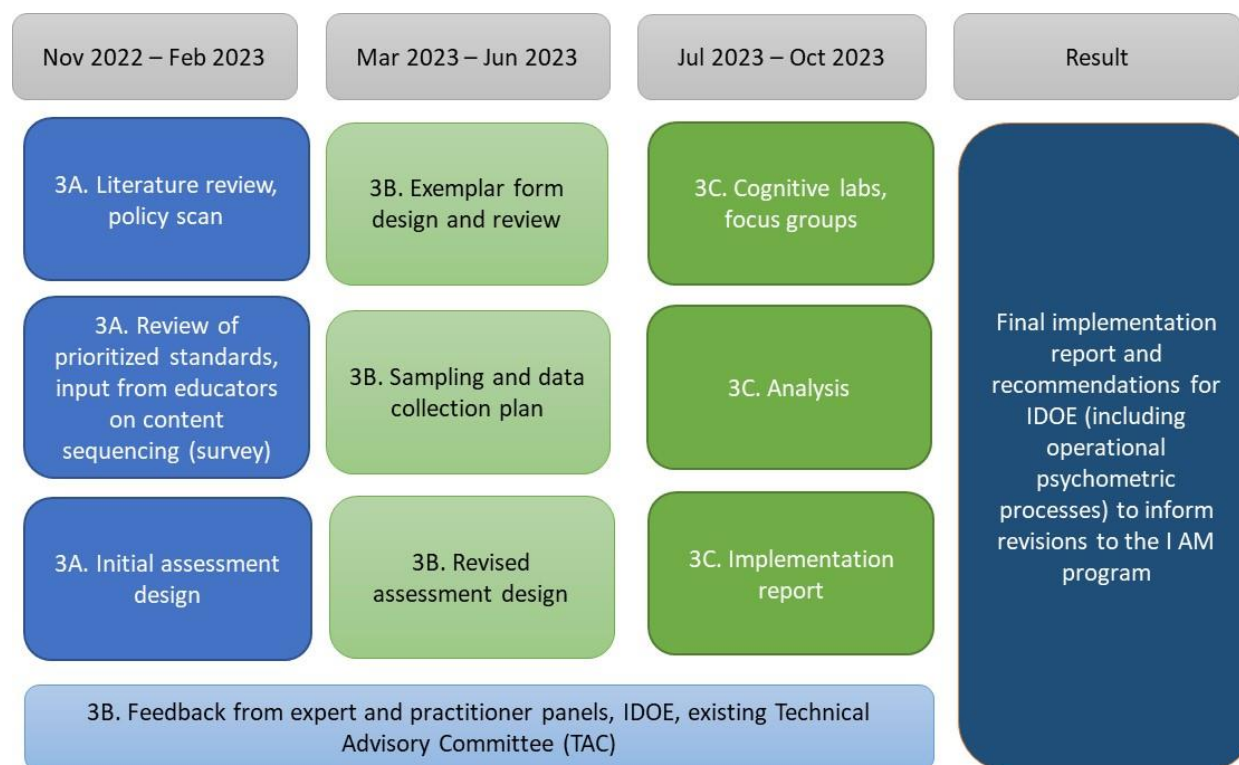
The proposed Indiana I AM Alternate Assessment Research (I AM Research) project is not a straightforward assessment development project to be carried out by a traditional assessment provider; rather, it requires a breadth of experience and skill. To successfully carry out the project, IDOE needs an independent partner with expertise in multiple areas, including:

- Knowledge of large-scale assessment design (with a focus on alternate and through-year designs in particular)
- Understanding of SWSCDs and methods to assess their knowledge and skills
- Knowledge of relevant content standards and high-quality test development procedures
- Understanding of state assessment policies, and ability to effectively engage with stakeholders, including national experts and practitioners, around assessment policy
- Capacity to conduct high-quality research, including literature reviews, focus groups, and cognitive labs
- Expertise in psychometrics
- Strong project management skills

The proposed WestEd team has expertise in each of these areas, as described further in Section 4 of this proposal (Staff Qualifications). Additionally, WestEd is a nonpartisan, nonprofit research, development, and service agency with depth across the areas listed. We have a history of working successfully with many states, including current work with the state of Indiana on its ISPROUT assessment, and can bring relevant expertise to the project, but we are independent of Indiana's current alternate assessment work. WestEd's team includes several partners who will bring local experience and additional alternate assessment skills to the project. *Briljent*, a certified Indiana woman-owned business, will manage expert and practitioner panels and focus groups, *BCforward*, a certified Indiana minority-owned business, will carry out cognitive lab observations, and *Cognia*, a national nonprofit known for custom assessments, will develop exemplar forms for use in data collection.

The I AM Research request for proposals (RFP) describes several main phases of work, with the ultimate goal of developing a new model of alternate assessment; these phases of work are shown in Figure 1. In the first phase (described in section 3A of the RFP and this proposal), IDOE's selected partner will review current research and practice on alternate assessment and through-year assessment designs and will gather information from educators about how they typically sequence standards-based instruction during the year. This information will provide input for development of an initial assessment design and a set of exemplar test forms to be tested in the field (section 3B of the RFP and this proposal). The final phase of the project (section 3C of the RFP and this proposal) will include a series of cognitive labs to try out the exemplar forms and gather input from test administrators. Throughout the process, feedback from experts and practitioners will be used to refine proposed plans. A specific timeline for project activities is provided in Section 6 of this proposal (Project Plans and Schedules).

Figure 1. Phases of I AM Research Project



The following sections of this proposal describe our approach to each of these I AM Research project phases of work.

State Policy and Literature Review

As previously described, the field of alternate assessment has evolved considerably over the past 20 years, in terms of design, administration, technology platforms, and score reporting. It is essential that IDOE takes all this information into account as it considers the redesign of the I AM assessment. Thus, the state policy review and the literature review play a key role in informing the rest of the project.

WestEd’s experience with assessment and special education (described in Section 4 (Staff Qualifications) of this proposal) means that we understand the issues and the research about alternate and through-year assessment. We also know many of the relevant researchers and state policymakers personally. For example, proposed project staff already provide support to states on meeting the needs of students with disabilities, through the Office of Special Education Programs–funded National Center for Systemic Improvement (NCSI; <https://ncsi.wested.org/>) and the National Center on Education Outcomes (NCEO; <https://nceo.info/>). NCEO has more recently received a federal grant focused on interim assessments, and our support of that grant applies directly to the research on through-course assessment. Additionally, WestEd participates as a member of the Assessment, Standards, and Education for Students with Disabilities (ASES) State Collaborative on Assessment and Student Standards (SCASS), which provides a ready means to contact state members of that group to learn more about their policies and procedures

regarding alternate assessment. Sandra Warren, who has facilitated the ASES SCASS for many years, has agreed to join our expert panel, which will further help ensure that we have relevant information on state policy and practice.

Our experience and relationships in the field will allow us to efficiently and effectively conduct a state policy review and a literature review, ensuring that the most up-to-date information is gathered and helping to situate Indiana as a leader of alternate assessment by allowing IDOE to share this information with peers.

State Policy Review

As described in the RFP, an informed approach to redesign of the I AM assessment begins with taking stock of the current state of the field. WestEd team members will conduct a thorough review of current state policies associated with assessment and alternate assessment in Indiana and across the country.

First, our team will conduct a review of alternate assessment programs in all 50 states. This review will be accomplished through website searches and web scraping methods. Web scraping is an automatic method to obtain large amounts of data from websites. Most of this data is unstructured data in an HTML format, which is then converted into structured data in a spreadsheet or a database, so that it can be used in various applications. There are many ways to perform web scraping to obtain data from websites. For this task, WestEd staff will use a series of open-source web scraping tools available from Google, an approach that we used recently for a similar project with the NCEO (https://nceo.info/state_policies/policy/altassessswd). We will document assessments in use, test designs, any certification processes for those designs, consortium memberships, types of standards alignment, administration and training procedures, participation policies, and accommodation policies, and will gather any other participation, performance, or other relevant data or documentation that is available.

Understanding the policy context of alternate assessment in Indiana, as well as other states' approaches, is critical to inform WestEd's work in redesigning the assessment. Understanding various constraints and opportunities in other states will provide context for the designs used in these states. To gather this information, WestEd staff will collect current and, if available, prior policy documents, including legislation and recommendations, from websites in all U.S. states. These documents will then be organized and coded by document type in Box, WestEd's secure cloud-based file sharing system, and in Smartsheet, WestEd's cloud-based data management system. Next, each document will be read by two project staff members, who will use document analysis, a qualitative coding approach, to extract critical information. Document analysis is a systematic procedure for reviewing or evaluating documents, both printed and electronic (Bowen, 2009). Like other qualitative research methods, document analysis requires that data be examined to elicit meaning, gain understanding, and develop empirical knowledge (Patton, 2014).

WestEd staff will then use thematic analysis, a component of document analysis, to better understand the critical features and themes of alternate assessment policy across states. This process will start with an open coding process for each Indiana policy document, to create a

codebook. The codebook will include categories for identifying related segments of text and combining those segments; these combined segments will become overarching themes. This process will be dynamic, and the categories can, and will likely, expand across coding. First, WestEd staff will read each Indiana legal and policy document, tag text and make notes about themes noticed, and consider themes that are emerging across documents. Then, the tags, notes, and emerging themes will be used to develop an initial codebook. Next, two staff will independently reread the Indiana documents and categorize text by codes from the codebook. A consensus meeting will then occur, in which the two coders will discuss discrepancies, to ensure reliability, and finalize the codebook and emerging themes. The legal and policy documents from all other states will then be coded, using the final codebook, by at least one of the two WestEd staff members, with at least 30 percent of documents coded by both for reliability analyses. This approach will ensure a comprehensive review and understanding of the legal and policy landscape across the United States in relation to alternate assessment.

While the methods outlined above will provide a comprehensive overview of current state policies and practices, WestEd believes we can add considerable value and depth to this state policy information by combining it with additional intelligence gathered directly from state education staff themselves. Therefore, WestEd proposes, in consultation with IDOE, to identify up to 10 states with relevant and innovative approaches to alternate or through-course assessment and conduct either a virtual interview or a follow-up survey to collect additional information, including pragmatic lessons they have learned from implementing their alternative and/or through-course assessments. Of particular interest is how states implementing through-course assessments are handling data missing from one administration. Gathering detailed information about how assessment designs can create summative scores for students who did not take all components of the assessment will inform this work, as will research on scaling and equating of through-course assessments.

WestEd will use the document analysis and the subsequent themes identified in the state reviews to develop questions for the follow-up interviews and/or survey with the 10 target states. Further, questions and items will be developed to gain insights about the potential approaches proposed by WestEd. Any virtual interviews conducted will be recorded, transcribed, and transcripts coded using a thematic analysis approach like that described above. Any surveys conducted will be electronic (e.g., Qualtrics) and include a series of open-ended questions and responses similarly coded using thematic analysis.

The state policy reviews, interviews and/or surveys will culminate in a repository of literature and documents and other resources that can be shared with other states. WestEd will tag the resources for easy search and retrieval. Additionally, WestEd will draft a summary report of lessons learned from these reviews, which might inform the design of the I AM assessment. WestEd staff have considerable expertise in presenting summary findings to technical advisory boards, and one of our Principal Investigators, Dr. Marianne Perie, has presented before state boards of education and legislatures, including those in Indiana. We are prepared to help disseminate these findings as needed by IDOE.

Literature Review

In parallel to the state policy review, our team will conduct an extensive systematic literature review, using searches related to federal and state policies; alternate assessment design; administration and implementation; psychometric studies on scaling and decision consistency; validity and reliability of alternate assessments; communication strategies for students with significant cognitive disabilities; and through-course assessment. The review will encompass professional literature in journals and publications available from commercial publishers, professional organizations (e.g., NCEO, NCA, CCSSO), research organizations (e.g., ETS, SRI, RAND), and policy organizations (e.g., NCIEA), as well as state and federal resources. We will conduct these searches by using a combination of human and machine learning supports to generate comprehensive lists of relevant search terms, filter results that are relevant, obtain source documents, and review and summarize the documents. The systematic review process will follow the procedures outlined by Cooper (2017): searching the literature, gathering information from studies, evaluating the quality of the studies, analyzing and integrating the outcomes, interpreting the evidence, and reporting the results. Further, we will follow PRISMA guidelines for each phase of the search and coding process. Dr. Nicholas A. Gage, a leading expert in systematic review and meta-analysis in special education, will direct our research tasks, including this literature review.

First, the WestEd team will develop a strategic Boolean search term protocol to increase the accuracy of database searches. Boolean search is a structured search process that allows the user to insert words or phrases such as AND, OR, or NOT to limit, broaden, and define the search results and to use different levels to refine results. We anticipate that search terms will include, for example, “special education” OR “alternat*” OR “disabilit*” OR “low-incidence” OR each IDEA disability category (e.g., “Deaf Blindness”) at level 1; AND “assessment” OR “test” OR “formative” OR “summative” and related terms at level 2; and AND “psychometric” OR “scaling” OR “reliability” OR “validity” or “decision” and related terms at level 3. The Boolean search strategy will be revised and tested iteratively to arrive at a robust set of search terms.

Next, WestEd staff will implement the search protocol across relevant databases. WestEd has access to EBSCOhost (including APA PsycARTICLES, Criminal Justice Abstracts, and ERIC), the SAGE Premier Journal Collection, National Bureau of Economic Research working papers, and Education Week. For this project, the WestEd staff will use EBSCOhost to search APA PsycARTICLES and ERIC, as these databases, collectively, include most education-related sources. The resulting records, which will include author, title, source, and abstract, will be collected and exported from EBSCOhost as a CSV file for analysis.

Then, the titles and abstracts of all records will be reviewed and coded, based on inclusion/exclusion criteria that will be developed by the WestEd team. Studies and related papers will be identified, and full texts will be collected, organized, tagged, and saved in Box. A full coding protocol will then be developed, which will lead to extraction of critical information from each full-text record (e.g., alternate assessment tools, design features, samples, reliability, validity). WestEd staff will conduct full coding of records, creating a dataset of all relevant information from all records, which will be stored in Smartsheet. Additionally, a protocol for evaluating the quality of empirical studies will be developed and applied to each record. The

protocol will be based on existing quality review protocols, including those developed by the What Works Clearinghouse, the Council for Exceptional Children, the American Psychological Association, and the Cochrane Collaborative. The full-text coding and quality review data will be compiled into comprehensive tables for analysis.

Finally, we will use web scraping to collect web-based resources and information about alternate assessment, to supplement the research identified through the database searches. For this task, WestEd staff will create our own code and approach for web scraping, accessing large website APIs such as Google's, and targeting the NCEO website and its annual briefs. This approach will gather information broadly about alternate assessments, perspectives on alternate assessments, and approaches to alternate assessment design. Results of the systematic review and web scraping will be integrated into a narrative that describes the critical components of alternate assessment through a thematic analysis across studies, to establish the current state of the field. The narrative will be accompanied by a set of tables that describe the results of the data extraction. The extracted resources will be tagged with metadata and made available for inclusion in the resource repository we create.

WestEd will then conduct a second, related systematic review and web scraping to gather information about through-course design. This systematic review will be very targeted and will focus exclusively on what is known about through-course design broadly (i.e., in general education) and what is known about through-course design in alternate assessment specifically. WestEd staff will again follow the procedures recommended by Cooper (2017) and will search the same electronic databases. The Boolean search terms will be developed and tested iteratively to collect a complete list of relevant records. Explicit inclusion/exclusion criteria will be developed, and a final collection of full text documents will be identified and coded. WestEd staff will then apply the procedures described earlier to the analysis of information about through-course design.

The results of the policy and literature reviews will be synthesized into a complete report, with an accompanying repository of tagged resources for sharing with other states to inform future practices. These resources will be made available to the Indiana TAC. Given the comprehensive nature of these reviews, WestEd will also develop a series of 1–2-page policy briefs/executive summaries that present the main findings of each review, including infographics. WestEd will also develop PowerPoint slides that will be presented to the TAC, to describe the results of the reviews and to provide opportunities for the TAC to ask questions and clarifications about the findings and the review process. Given other project work within the state, WestEd staff are familiar with the Indiana TAC and have presented to multiple TACs over the years. As with the policy review, WestEd is prepared to present these findings to various audiences within Indiana, including other advisory committees, the State Board of Education, and state legislature as directed by IDOE.

Review of Prioritized Standards and Teacher Survey

Most states, including Indiana, do not prescribe curriculum or require districts or schools to follow a schedule or approach with regard to providing instruction based on state standards. As a result, there may be differences in when schools cover content, which may be a challenge in

creating a through-course design that is flexible enough to accommodate such differences while also ensuring that accurate and reliable summative scores for students can be calculated.

While work on the state policy review and the literature review is proceeding, WestEd will gather information on how well current I AM items address priority content standards, and when prioritized content is most often taught in the state.

Review of Prioritized Standards for Assessment

WestEd will review the Indiana Content Connectors and compare them to the prioritized standards. This analysis will provide information about the relative importance of standards within and across grades, but we also need to consider how that content knowledge and skill builds over time. Since there is no single accepted set of learning progressions across states or in the field of education more generally, WestEd staff will crosswalk the Content Connectors and prioritized standards with learning progressions developed and published by the two main alternate assessment consortia: NCSC (now the Multi-State Alternate Assessment [MSAA] consortium) and DLM. The Indiana Performance Level Descriptors (PLDs) will also be compared to the learning progressions, to determine whether one progression is a better fit for Indiana than another. We presume that the NCSC learning progressions will match Indiana's materials more closely than the DLM learning progressions will, since Indiana was once a member of NCSC and continues to use the Content Connectors developed through that consortium work. Mapping to these learning progressions will help identify potential gaps in the item bank (by examining how items align to common descriptions of skill development), which will be useful in both near-term exemplar item and form development and potential future item development.

To carry out this work, WestEd staff will review the prioritized standards, collected learning progressions, and any other related documents. They will then develop a matrix of critical features of each and will independently align prioritized standards with learning progression elements, including notes on their decision-making processes. They will then meet to review each crosswalk matrix and come to consensus on the alignment between the prioritized standards and the learning progression elements. The matrix will then be expanded into a narrative framework of critical components of assessment aligned with prioritized standards and established learning progressions.

Next, WestEd will inventory the current I AM item bank and compare each item with the prioritized standards and the learning progression framework, to determine what is assessed and what gaps appear between the standards/framework and actual items. The item bank analysis will involve two or more WestEd staff independently reviewing each item and aligning the item with the prioritized standards and the learning progression framework. Then, these staff will review one another's analyses and hold a consensus meeting to develop a final item bank analysis database. The database will list each item and show each component of the prioritized standards and learning progression framework. Items that connect or represent each component will be noted, and the database will also include notes about the items. After the final database is developed, a WestEd staff person will analyze gaps between the item bank and the framework. Gaps may occur in content or complexity since students will need the opportunity to demonstrate

growth in both dimensions. Two WestEd staff will conduct the gap analysis independently, using the item bank analysis database. Then, the staff will meet and come to consensus on the final gap analysis results, which will be integrated into the item bank analysis database.

These analyses can help inform assessment design because we can identify what types of items may be needed to develop a through-year assessment that develops both content knowledge and skill in specific areas over time. We can then produce sets of items written to the same constructs but varying in terms of complexity, using existing items where possible to fill out content and skill progressions or to offer different modes of response. Different item types may better assess specific Content Connectors, or aspects of them, than existing item types, for instance. Considering constructs from entry point to mastery may result in a design that can also provide rich information back to teachers. Additionally, comparing the current I AM item bank to the learning progressions will inform the amount of item development needed to support a full through-course design in the future

Teacher Survey

To collect information on curriculum and instructional content practices across the state, WestEd will create an electronic survey for special educators. The survey will connect classroom activities to the Content Connectors and identify patterns in scope and sequence. Using the policy and literature reviews, the prioritized standards and the learning progression framework, and the item-bank analysis as guides, the survey will capture information about special educator practice and curriculum implementation for students participating in alternate assessments, with an emphasis on students with cognitive impairment.

The survey will be developed in Qualtrics, one of the online survey platforms WestEd uses for ease of distribution and to provide a user-friendly interface. It will gather information about instructional context (e.g., grade level(s) taught, corporation, setting, student backgrounds) and allow teachers to identify themselves for follow-up interview or feedback opportunities. There is a dearth of curricula appropriate for this student population. Nonetheless, we will endeavor to understand which Content Connectors teachers address at different times of the school year, and look for progressions used at the classroom, school, or corporation levels. One potential way to accomplish this goal is to use a grid that asks, “Which of the following Content Connectors do you typically cover in fall, winter, and spring?” so that we can learn which Content Connectors teachers cover at each point in the school year.

Survey items will include required selected-response items (single or grid-type formats like that described above) and open-response items designed to gather information on when and how prioritized standards and related Content Connectors are typically taught. Open-ended items may include, for example, “Which, if any, curriculum resources do you use in ELA and math?”; “How often do you adapt the curriculum scope for a student or group of students?”; or “How do you use Content Connectors to develop your instructional plans?”

Cumulative analysis

These teacher surveys and reviews of prioritized standards will demonstrate what is needed to develop a through-course model for I AM, building on key criteria identified through the policy and literature reviews. WestEd will create a summary brief and presentation for this phase of the work that describes the degree to which the current item bank follows a learning progression and how it aligns to the scope and sequence implemented across the state for SWSCDs. If other states have documented scope and sequence assumptions or learning progressions they use, those will be compared to the findings from the item bank analysis and teacher survey.

Study Plan

Using all of the information gathered through the previously described activities and through discussions with the expert and practitioner panels (described in more detail in the next section), WestEd will generate a study plan that summarizes all learnings. The literature review will provide up-to-date information on current research about how best to evaluate the knowledge and skills of SWSCDs, including those without a formal means of communication. The literature and policy reviews will also provide information on use and effectiveness of item types beyond multiple-choice with this population. The policy review will provide details of other state assessment designs and link them to state policies and will indicate how Indiana policy might inform a specific approach (e.g., if certain approaches might not be possible given state requirements). Reviewing the latest information on through-course assessments could also inform the new I AM design. For example, our work with through-course assessments has taught us that two of the most challenging aspects of through-course designs are determining what content should be measured at each event and determining how to combine scores from each event into a summative score.

The study plan will also propose options for segmenting content across the year within grades and for using the learning progressions to identify a student's level of understanding and to monitor growth throughout the year. If state policy allowed, Indiana could also choose to follow other states' approaches of covering all standards in a grade span, rather than in a single grade. The study plan will document appropriate flexibilities to account for different sequences across corporations and address requirements for comparability purposes. Finally, it will detail what needs to be supplemented in the item bank, not only in terms of content, but in terms of item format. Drawing on the literature and state practice review, this plan will also detail different item types that should be added to the bank.

Section 3B: Design of an Alternate Assessment

In the next phase of the I AM Research project, WestEd will move from gathering and analyzing information to using that information to design a more responsive alternate assessment for Indiana SWSCDs. This work will include the following components:

1. Convening and working with expert and practitioner panels to develop a comprehensive design document and plan for data collection
2. Creating an exemplar form for one grade in English language arts (ELA) and one grade in mathematics, including new item development and form development
3. Determining a sampling plan for trying out the exemplar forms in cognitive lab settings

Expert and Practitioner Panels

Gathering feedback from national experts on issues related to alternate assessments and SWSCDs and from educators who work with this student population will be important for this project. WestEd has secured agreements from six national experts in assessing SWSCDs, including one current Indiana TAC member and a representative of higher education in Indiana, to participate in an expert panel. These experts are listed in Table 1 (see Appendix E for letters of commitment and résumés). Dr. Steve Ferrara, Senior Advisor at Cognia and another recognized national expert in assessment, will also participate in the national expert panel.

Table 1. Proposed National Expert Panel Members

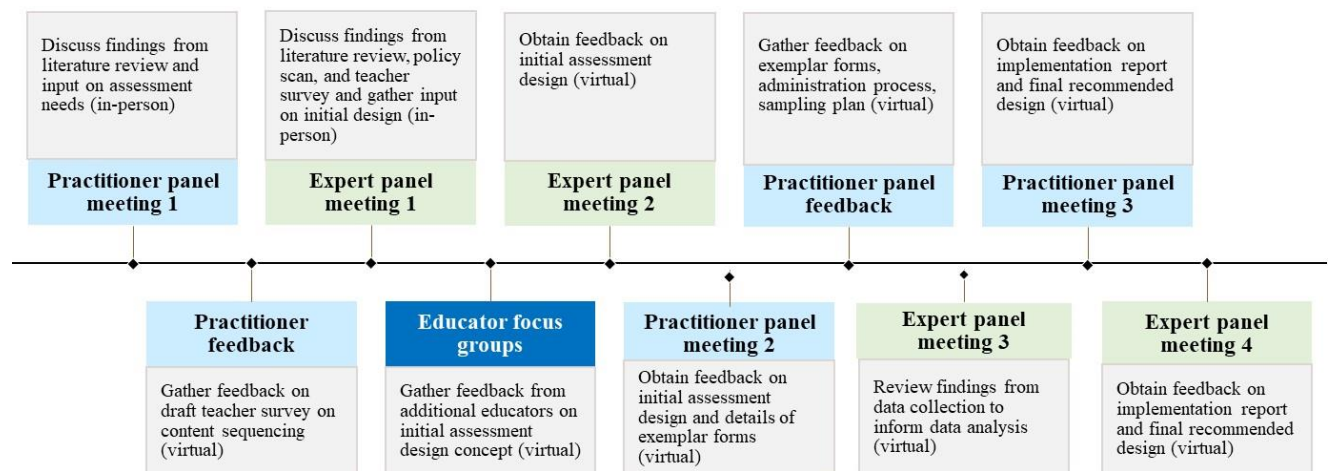
Name	Title and Affiliation
Jolly Piersal	IEP Resource Center Director, Indiana State University
Melissa Fincher	Managing Associate, edCount
Sandra Warren	Special Education Specialist, CCSO
Karla Egan	Founder, EdMetric, and current Indiana TAC member
Derek Briggs	Professor, Research and Methodology, University of Colorado
Cara Laitusis	Principal Research Scientist, ETS

Immediately after contract award, WestEd will work with IDOE to finalize this list and identify candidates for a practitioner panel who possess both the instructional expertise and assessment experience with SWSCDs. This panel will be instrumental in providing feedback and guidance on the plans throughout the process.

The charge for both these panels will be to provide technical and practical guidance on the potential design of a through-course alternate assessment program. We believe that significant engagement with these panels and with additional practitioners will help result in a final assessment design that reflects technical excellence and that will meet the needs of educators and peer review. To that end, we propose a series of meetings (in-person and virtual) and written

feedback opportunities with the expert panel and the practitioner panel, as well as additional focus groups with educators. The proposed series of meetings and feedback topics are described in Figure 2. We will adjust this in collaboration with IDOE as needed and allow additional periods of engagement if deemed necessary.

Figure 2. Proposed Panel Meetings and Meeting Topics



The lesson learned from the literature reviews, teacher survey, and discussions with the panels will culminate in a draft comprehensive design document that proposes several possible assessment designs that address the issues IDOE has learned about with the current version of I AM. This design document will include information on how the assessment system will use tasks aligned to the state standards to assess students throughout the school year. Using lessons learned from the literature review and the survey, early designs can compare longer item-based approaches to shorter task-based or scenario-based approaches implemented on a more frequent basis. Some states choose to rotate standards/essential elements/core content connectors throughout a grade span, while other states assess every standard every year. Indiana has focused on the latter approach; however, WestEd will explore both possibilities in the early educator focus groups shown in Figure 2. Other possibilities to be discussed are matrix sampling content over a grade span while still testing every year (as a way to shorten tests for students) and combining required and teacher-selected tasks to offer options for educators depending on their students' individual needs, similar to the DLM approach.

WestEd will propose two or three assessment designs and share them with several focus groups virtually to determine which design teachers believe will provide the best format. Working in conjunction with IDOE, we can determine when and how to involve the practitioner group. One approach could be to distribute members of the practitioner panel amongst the focus groups and then debrief with the practitioner panel to get both a wider distribution of feedback as well as targeted feedback from the specific educators familiar with all phases of the project.

From that feedback, WestEd will narrow the plan to one or two design options with expanded descriptions and send them to the practitioner panel for their feedback. Then, we propose to meet

with the expert panel to discuss the interaction between the proposed designs and potential analyses. Based on these activities, WestEd will enhance the final assessment design with information about selecting content, creating tasks, and scoring student performance. The final design document will guide preparation of exemplar forms.

Exemplar Forms

To develop exemplar forms for trial administration, WestEd will augment its alternate assessment development expertise with that of Cognia, who will serve as a subcontractor on the project. Cognia's team members will take the lead on initial exemplar task development, with WestEd staff serving as independent reviewers of the exemplar tasks and the creation of forms. Through this approach, IDOE will benefit from the combined expertise of both organizations. WestEd and Cognia will utilize the vertical progression of knowledge and skills outlined by the Indiana Content Connectors to outline a full continuum of assessments from grades 3–8, and then work with IDOE to select a target grade for each subject area for form development. We suggest that IDOE consider selecting an elementary grade for ELA and a middle school grade for mathematics, or vice versa, to allow for a proof-of-concept analysis for the proposed design for both subjects and with different-aged children.

We may be able to use some items from the current I AM item bank, but we anticipate that exemplar forms will require development of new items of different types and presentation formats. Without knowing the exact design that will ultimately be selected by IDOE in conjunction with its practitioner and expert advisors, we propose to develop three to four short forms for one grade level in ELA and mathematics, assuming a through-course design with three to four testing events. For the purposes of item development budgeting, we assume creation of at least 32 items for ELA and 32 for mathematics, which can then be grouped into multiple forms designed to be administered at different times of year. ELA item development will also include passage development or selection as needed.

What follows is a sample design process that will need to be updated based on the design document. For purposes of this proposal, we assume an assessment in each grade/subject area consists of three to four forms that will be given at various times throughout the school year. A task will be created for each assessed Content Connector. Each form will consist of two to four tasks created with items that increase in complexity along a mini-progression for that Content Connector. Each task will include three to five items, clear instructions for the teacher/test administrator on administration (e.g., when to continue, when to stop and move to the next task) as well as scoring rubrics. Using mini-progressions within a single task should assist teachers in understanding their students' skills and where they need to focus their instruction for that Content Connector. Tasks must also be aligned with the existing PLDs and must distinguish clearly among different levels of performance. Finally, tasks will allow for multiple means of answering, such as choosing a picture that represents a part of the text or selecting the correct explanation when hearing or reading it.

As an example of how a progression within a grade will be developed, we will start by looking across grades. The ELA standards and Content Connectors are vertically articulated across grade levels. For instance, Content Connector 3.R.2.1.a.1 states, "Answer questions to demonstrate

understanding of a text, referring explicitly to the text as the basis for the answers,” and Content Connector 4.R.2.1.a.1 states, “Refer to details and examples in a text when explaining what the text says explicitly.” These standards are high priorities in existing grade 3 and grade 4 blueprints, respectively, and students in each grade level should encounter a task assessing those skills. Item writers who are both content experts and who understand this population can articulate the smaller pieces of knowledge that make up each Content Connector and move students from beginning understanding to full understanding within a grade and then from one grade to the next. The full progression of the skill may cross multiple grades, with the items that are on grade level for each grade clearly noted in the progression. Each item can be scored correct or incorrect, but the sequence of responses provides the most information about student performance. Cognia and WestEd will create rubrics that allow teachers to match student responses to the mini-progression, both to provide a score and to better understand a student’s ability.

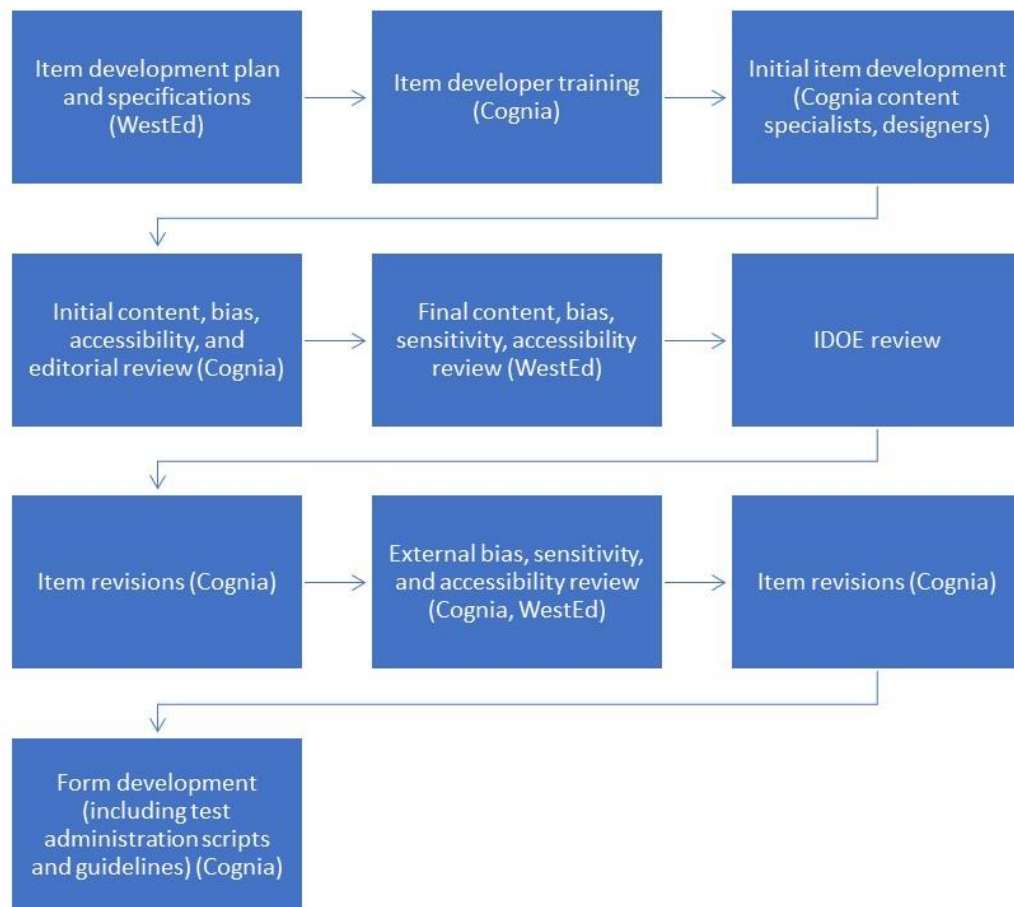
One challenge in ELA is weighing whether to assess a student’s level of understanding of a Content Connector through many items about the same passage or using a single item across multiple passages of varying levels of complexity. Part of the earlier work in this study (e.g., literature reviews, practitioner input) will also help us determine whether the same Content Connector should be addressed through multiple events at different times with the complexity raised throughout the year, or whether a Connector should only appear on one form at a specific time.

Additional considerations for task development include providing multiple means of answering questions. Tasks need to disentangle knowledge of the standard from means of communication to the greatest extent possible, a challenge heightened by the range of abilities within the population of students taking alternate assessments. Some students may be able to choose a picture that represents a part of the text or select the correct explanation when hearing or reading it, but one of the most challenging populations to assess is what has been called “the 1% of the 1%,” although they make up closer to ten percent of the SWSCD population. This group of students does not have a consistent means of communication, and their disability creates a disconnect between what they know and what they can demonstrate they know. Fortunately, Indiana has already utilized a modified version of the Learning Characteristics Inventory (LCI; Kearns, Towles-Reeves, Kleinert, Kleinert, J. (2006)) for educators to provide additional details about this population by completing eleven questions prior to student engagement in the assessment. Approximately 7.1% of students taking the alternate assessment in Indiana have been identified as having no consistent means of communication. This population will need to work with pictures and selecting between two choices as the instructor works with the student to help them develop a means of communication. This structure will also work with students who use eye gaze to communicate. All tasks will be developed with the thought of a student interacting with them using a head switch or augmentative device. We will also consider whether a separate scale is needed for these students to focus on a smaller number of skills while decreasing supports as is done in other states, like Florida, for example.

Item Development Processes

Although the exemplar forms to be developed for this project will only be used in a cognitive lab setting, they may serve as models for future operational testing, and therefore, they must be developed using the same rigorous processes that we would use for an operational testing program. Our multi-tiered review process, illustrated in Figure 3, is designed to produce items and assessments that are valid measures of performance expectations and that are appropriate for the student population being tested.

Figure 3. Item to Form Development Process



Adherence to this multi-step process is designed to reduce construct-irrelevant factors that can negatively affect measurement validity. As described in the following sections, we will implement exacting quality standards so that all items developed under this contract meet the standards and expectations of both IDOE and the assessment profession. Each item developed for the project will:

- Measure the Content Connectors with consistent interpretation of these standards across item writers, content specialists, and reviewers
- Meet the requirements of the item specification and blueprint documents

- Be grade/age appropriate, through engagement of content specialists and reviewers who are familiar with the abilities, skills, and knowledge of students at the appropriate grades/ages
- Measure subject-specific skills and knowledge that span the range of student performance defined in the PLDs
- Maximize accessibility for students through the application of Universal Design for Learning (UDL) principles during the item development process
- Engage student interest, using multiple item formats and interesting age-appropriate contexts
- Be free of any bias or sensitivity issues that might affect student performance
- Exhibit strong alignment to the intended assessment construct

IDOE will need to determine the extent of external review desired. Typically, all items developed by Cognia and WestEd go through external content review, bias review, and accessibility review. However, given that these are exemplar forms, IDOE may choose to do the full review themselves. As shown in Figure 3, we are proposing external bias and sensitivity and accessibility committee reviews; we will revise this assumption as needed, based on feedback from IDOE. Internal to the project, WestEd staff will act as the content, bias, and accessibility reviewers for Cognia after their internal review.

WestEd and Cognia will work together closely to create an item development plan with item specifications that align with the design document, follow the principles of standard test design, align to the Indiana Content Connectors, PLDs and learning progressions, and indicate the content and complexity that should be assessed to ensure their appropriateness for all SWSCDs. Throughout the development process, WestEd and Cognia will use our understanding of the characteristics of the existing item pool and of how new items will supplement existing items to move the project forward. The item development plan, once approved by Indiana, will serve as a comprehensive guide to our item development efforts, and its approval will signal the beginning of item development activities.

Item Development Plan and Specifications

After IDOE and various review panels have weighed in on the design document, WestEd staff will create an item development plan, an overall blueprint, and item specifications. The item development plan and specifications will outline the various parameters for task development and item development within the task. We will also specify which Content Connectors are assessed at each event and the range of the learning progression to be assessed at the grade level chosen. Moreover, we will identify points along the learning progression at which items are needed.

The item specifications will include linkages between the Content Connectors, PLDs, and learning progression, indicating the content and complexity to be assessed. They will also include rules for creating graphics and methods of allowing for students to demonstrate their knowledge in different ways.

WestEd will work with Cognia to ensure that the item development plan, blueprint, and the specifications are clear, and we will invite IDOE to planning discussions to ensure that all documents match IDOE's intent.

Training and Initial Item Development

Before the item development cycle begins, all levels of the test development staff participate in training. This training, organized and conducted by content leads (in this case for ELA and mathematics), is designed to provide an orientation to the project, specifications, and style in advance of item development. The training will provide a general overview of the project, including Indiana expectations; item types and characteristics; and how the Core Connectors, item specification documents, and selected style guide inform item development. Additionally, training includes definitions and examples of performance levels, complexity levels, and difficulty levels. The style guide is reviewed to ensure that specific styles for Indiana will be adhered to as items are developed.

Cognia will take the lead in writing the items, drawing on its decades of experience in multiple states to develop items that are engaging and appropriate for SWSCDs. WestEd will work with Cognia on the internal item review to ensure that the items adhere to the design plan, align with the Content Connectors, and meet accessibility guidelines.

IDOE Review

Items that have been through review by Cognia and WestEd will be presented to IDOE staff for review. We recommend that once IDOE staff complete their review, WestEd and Cognia content staff meet with IDOE staff to discuss item-level feedback. After the initial IDOE review, content specialists will revise the items as necessary, and the items will be resubmitted for additional IDOE review if requested.

Bias, Sensitivity, and Accessibility Review (External)

We are committed to implementing content development processes that are representative and inclusive of the students we serve. Initial bias and sensitivity reviews will be conducted internally by Cognia and WestEd staff as part of the regular item development and review process. However, we also believe that external reviews will provide valuable feedback for this population of students, and that these reviews should include consideration of accessibility as well as of bias and sensitivity. To that end, we propose a panel review of items developed for the exemplar forms, to be held in person in Indiana. Panelists will review items for fairness to ensure that the items will not advantage or disadvantage demographic subgroups of students for non-educational reasons or limit accessibility due to a student's disability.

During the review of items, panelists may recommend edits to items. Reviewers note their recommendation for each item on a review form, prior to a group discussion. Facilitators carefully document recommendations for each item, ensuring that recommendations are presented to IDOE for consideration at the subsequent reconciliation meeting. We will be happy to discuss the final agenda for bias, sensitivity, and accessibility review training with IDOE and

adjust based on feedback. (As noted previously, IDOE may choose to perform this review internally without engaging educator committees.)

Post-Review Item Revisions

After the reviewers complete their work, Cognia content specialists and accessibility specialists will meet with IDOE to review the panelists' recommendations and make final decisions for each item. Recommendations will focus on the bias, sensitivity, and accessibility recommendations from the panels, such as:

- Simplifying graphics
- Changing distractors that might pose issues for students with hearing and/or visual impairments
- Rearranging items in which the medium level of complexity appeared more difficult than the high level of complexity
- Reducing the complexity of the materials and/or distractors
- Revising items for clarity

We typically meet with clients to review recommendations shortly after panel reviews. The purpose of the reconciliation meeting is to review the panelists' recommendations and confirm which edits will be made, so that our content and accessibility specialists know exactly which revisions need to be made to which items.

Cognia's content leads and accessibility specialists will address all revisions and corrections. After they apply edits, items will undergo a final internal quality assurance review. Cognia content and design staff—including content, accessibility, proofreading and graphics specialists—collaborate to revise and correct all items, including verifying that all revisions are made correctly and that no unintended changes are introduced. Once the items are approved internally, they will be made available for final approval by IDOE. Throughout the item revision process, we will maintain detailed records and document corrections, resolution procedures, and outcomes. Any lessons learned will be documented in the implementation manual.

Form Development

Once the items are fully reviewed and approved, the final task composition will be determined, and then tasks will be assembled into three to four forms following the blueprint in the design document, as described earlier.

An important part of form development that will be discussed in the design document is ensuring the data collected from the form produces information to populate a score report. WestEd has quite a bit of experience in developing score reports that are interpretable and provide useful information. We will work with the practitioner panel to determine the information needed in each report and ensure the form supports that analysis and reporting.

As a broad example, the original NCSC learning progressions in mathematics move students from “adding, subtracting, and multiplying fractions, including mixed numbers” to “Using

operations and standard algorithms with whole numbers, fractions (unlike denominators), and decimals (to the hundredths)” to “using operations with complex fractions” as students move from grades 3 and 4 to grades 5 and 6 to grades 7 and 8. These broader learning progressions, focusing solely on fractions, can be broken into smaller units within a single grade. The DLM learning progressions breaks down their Essential Elements into very small units, such as by identifying halves and quarters and including visual or tactile manipulatives. All these types of approaches will be brought to bear in determining appropriate targets for and progressions of items within a task and then validated during the item tryouts. Creating visuals of student progress within a learning progression is one way a report can be more informative.

Regardless of the final test design, the forms will be balanced for time and reading load and be accompanied by teacher administration scripts and rubrics.

For the purposes of the proposed work under this scope, we will plan on paper-based forms that can be administered one-on-one, since we will be using them in cognitive labs and reviewing them in focus groups and panel discussions. We will develop administration guidelines to follow all IDOE-approved accommodations.

Rubrics that teachers can use to judge student performance and progress will accompany each form. For students with limited communication abilities, the rubrics may include a score for the support needed.

Preceding reviews will have been conducted at the item and task level. At the form level, we will be reviewing the information obtained from each form and the reporting that it can support. Forms will be short enough to ease the administrative burden, but long enough to provide useful feedback to teachers. Instructions for teachers will be clear and concise, and rubrics designed to be informative to their work.

Sampling Plan

Working with the expert panel, WestEd will create a plan for student data collection through cognitive labs conducted by teachers and observed by project staff. More information about cognitive labs is included in Section 3C of this proposal. Sampling decisions are important so that we can try out items with students of various levels and styles of communication, as well as students from different corporations. We will solicit input from the practitioner panel for corporations and schools to include in the data collection. Because the data collection period begins in the summer, we may be able to find summer programs geared toward SWSCDs, in which we could test multiple students in a single location. However, our general assumption is that we will need to conduct cognitive labs at the start of the 2022–23 school year. More detail on timeline is included in Section 6 (Project Plans and Schedules).

One challenge with conducting cognitive labs for a through-course test is matching the student to the test. Use of a through-course assessment assumes that a student will be taught some material and then tested on it at several points throughout the year. Given that the RFP specifies a pilot window of July–October, we will be unable to match that scenario in the cognitive labs. Instead, it may be necessary to give forms to students out of grade level, such as giving a grade 5 student

a grade 4 form designed to be administered toward the end of grade 4. Working with the expert panel, WestEd will create a sampling plan that will allow us to collect the best possible evidence of what works and what does not with the assessment design and the exemplar forms.

Our initial goal is to recruit approximately 20 students per grade/subject in total (six or seven students for each part of the through-course assessment, assuming that there are three parts to the through-course assessment model representing fall, winter, and spring administrations). The goal will be to try out items with students of different proficiency levels. However, we will review our assumptions with the expert panel and adjust as needed. Most of our data will need to come from students with a means of communication, but we will also conduct tryouts with one or two students with no consistent communication per grade for the purpose of soliciting feedback from teachers about whether the tasks are reasonable to use to with those students.

Section 3C: Data Collection

Our goals in data collection for the I AM Research project are to gain understanding of the implications of the proposed design for students taking the assessments, in terms of content alignment, feasibility, interaction design, and learning. We also seek to understand how the newly designed assessments fit into teachers' instruction, content, and decision-making, and how they compare to prior versions of I AM from a teacher perspective.

To accomplish these goals, WestEd's team will conduct cognitive labs using the exemplar forms with students and follow-up focus groups with test administrators, to determine the degree to which the tasks are written at the appropriate level and the degree to which they provide opportunities for students to show what they know and can do. These small-scale tryouts will allow us to conduct both a strong qualitative analysis and some simple quantitative analyses to determine whether the exemplar forms will meet the goals that IDOE has set for the updated I AM assessment.

Cognitive Labs

We propose to use cognitive lab methods to collect design data and user experience data from SWSCDs. Cognitive labs traditionally involve interviews that use a think-aloud protocol to solicit students' thoughts and feelings about test items and provide insight into the perceptions of test takers. Asking students in the population of interest—SWSCDs—to think aloud is often not possible. Instead, we will observe students while soliciting teacher insights into students' interactions with the items. We propose to design and conduct cognitive labs to evaluate the quality, appropriateness, and accessibility of the new items and new formats developed to measure the Indiana Content Connectors.

As mentioned earlier, our proposed plan is to create paper materials for exemplar form tryouts. Assuming the test will ultimately be delivered online, we could upload items into the current I AM vendor system for tryouts, and we will explore that possibility with IDOE and its vendor. However, at this first stage of item tryouts, we assume that we will not have access to the administration vendor's platform. Additionally, since the purpose of the cognitive labs is to try out the tasks, not the assessment interface, creating paper-based, hands-on tasks will provide useful information. We will work with IDOE to determine if they would prefer to try out all items in a progression for a grade or focus on a variety of item types within the first testing event.

After recruiting students according to the approved sampling plan described in the previous section, we will arrange a time to bring the materials onsite and conduct cognitive labs. The observer will follow a strict protocol of obtaining consent to observe, explaining the cognitive lab, and then stepping back to observe.

As previously noted, a traditional cognitive lab asks students to think aloud during the task. However, with this population, more can be learned by observing interactions between teachers and students as they work through each task. The observer will have protocol to follow, as well

as a detailed study sheet for each task, to record observations about the instructions, presenting the task, and answering the questions. Data about questions that students ask or details that seem confusing to students or test administrators will be recorded. Correct and incorrect student responses will be recorded, along with information about how the student appeared to select or generate the response.

One challenge of trying out a through-course assessment during a short window of time is determining, based on the tryout, the degree to which through-course assessment can truly detect growth during the school year. To keep the data collection within the window specified by the RFP, WestEd will separate the components of the through-course process. For example, the first grade 3 test could be given to incoming third graders, while the last one might be given to incoming fourth graders.

Focus Groups

As noted previously, we plan to assess about 20 students per grade/subject, and we assume they will be spread across several schools and corporations. We will use focus group methods to solicit feedback on the revised I AM design from teachers and other test administrators. Focus groups involve groups of individuals with shared backgrounds, roles, and interests engaging in interactive dialogue around posed questions. This approach allows for multiple perspectives to be surfaced and for responses to emerge in dialogue. The individuals selected here will be the educators who worked with the students in the cognitive labs.

Upon completing a set of cognitive labs within one corporation (or across corporations, depending on the numbers of schools participating), the observer will conduct a focus group of all the test administrators who participated in the cognitive labs, to obtain their feedback about the proposed assessment. Participants will be asked, for example, about the ease of understanding the questions, the alignment of the tasks to the student understanding, the match between the student level of communication and interaction with the task, and the number of questions included in a single session. The focus groups will follow a protocol of set questions and probes, but facilitators will have flexibility to create follow-up questions as needed to understand points more deeply.

In addition to asking questions about what the administrators experienced, the protocol will also ask them to focus more broadly on other students they have taught and how the tested tasks might work with those students. The facilitator will discuss scenarios involving students with different types of disabilities and differing levels of communication, to gather insights on strengths and weaknesses of the proposed design.

With permission from the participants, the focus groups will be audio recorded and transcribed, with the transcriptions used to supplement the facilitator notes.

Data Analysis

The first analysis of the observation data and the focus groups will be a qualitative analysis. Using content analysis, WestEd researchers will code the responses and organize them into

themes for reporting. The themes will be tied to the research questions, and will be shared, initially, with the practitioner panel. We will discuss our conclusions with them to gather feedback on the reasonableness of the interpretation of the analysis. We will also discuss potential revisions and next steps for the assessment design and implementation.

From a quantitative perspective, we will be looking for confirmation or disconfirmation of the learning progressions—that is, whether the items presented to students seem to follow expected patterns.

Because we assume that items will be presented in order of a progression with stopping rules, we expect students to get early items correct and then begin answering incorrectly. If the cognitive labs support these assumptions, the next step will be developing a scoring model that converts each point in the progression into an ability estimate that can be either aggregated over the year or inputted into a model to create a summative score.

WestEd will simulate data for various progressions, using the observed data as a starting point. The simulated data will assume multiple administrations per year but will also assume some missing data. We will simulate missing data at both the student level (e.g., representing absence during one testing window or enrolling in school mid-year) and the school level (e.g., representing temporary school closure for various reasons). With the simulated data set, working with the expert panel, WestEd will create two or three models for calculating the summative score. Within each model, we will address issues of missing data from the first, second, and/or third administrations, to determine the best approach to calculating a score for use in accountability.

If possible, we will work with the administration vendor to administer the fall form to a representative set of students for each of the two grade/subject tests developed at the beginning of the school year. These additional data would aid the analyses, psychometric models, and ensure that the simulated data is a reasonable approximation of actual data.

Lastly, we will use data from either this first test administration or the simulated data to fill out the sample score reports included in the design document and vetted through the practitioner panel. The intention of the reports is to provide information to teachers about student performance in the progression and link to information on possible next steps. We will also create sample end-of-year reports that show progress made across the year and include the final score and performance level that will inform the accountability system.

Implementation Report

The final product of the project, to be delivered after the data collection, will be an implementation report, including the revised design document and exemplar forms as well as an implementation manual. The implementation report will summarize the cognitive labs, focus groups, data simulations, and all associated analyses. In addition, it will include recommendations for operational psychometric processes, including recommendations of the best psychometric model to apply, key components of score reports, and procedures for handling

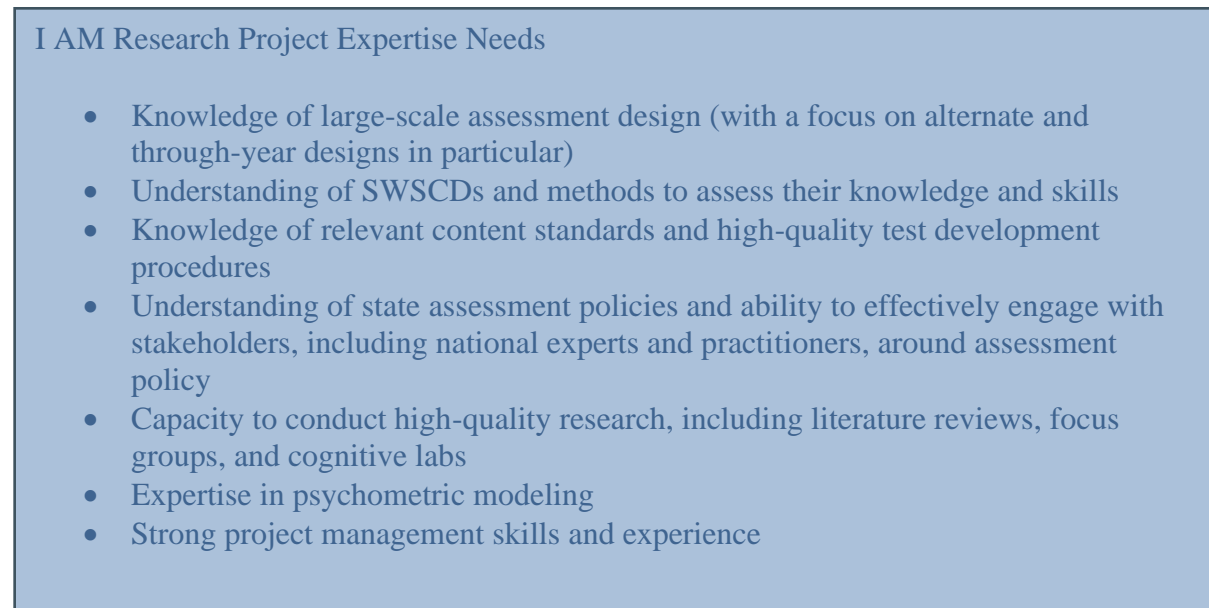
missing data. Finally, it will include suggestions for improvements to the assessment system, for further IDOE consideration.

This final report is the culmination of all the activities. We expect two documents will be provided to the operational vendor: the Design Document and the Implementation Report. The first will be updated throughout the process so that it reflects the best thinking around the design, and the latter will include the revised exemplar forms and instructions for administering, scoring, scaling, and reporting those forms.

Section 4: Staff Qualifications

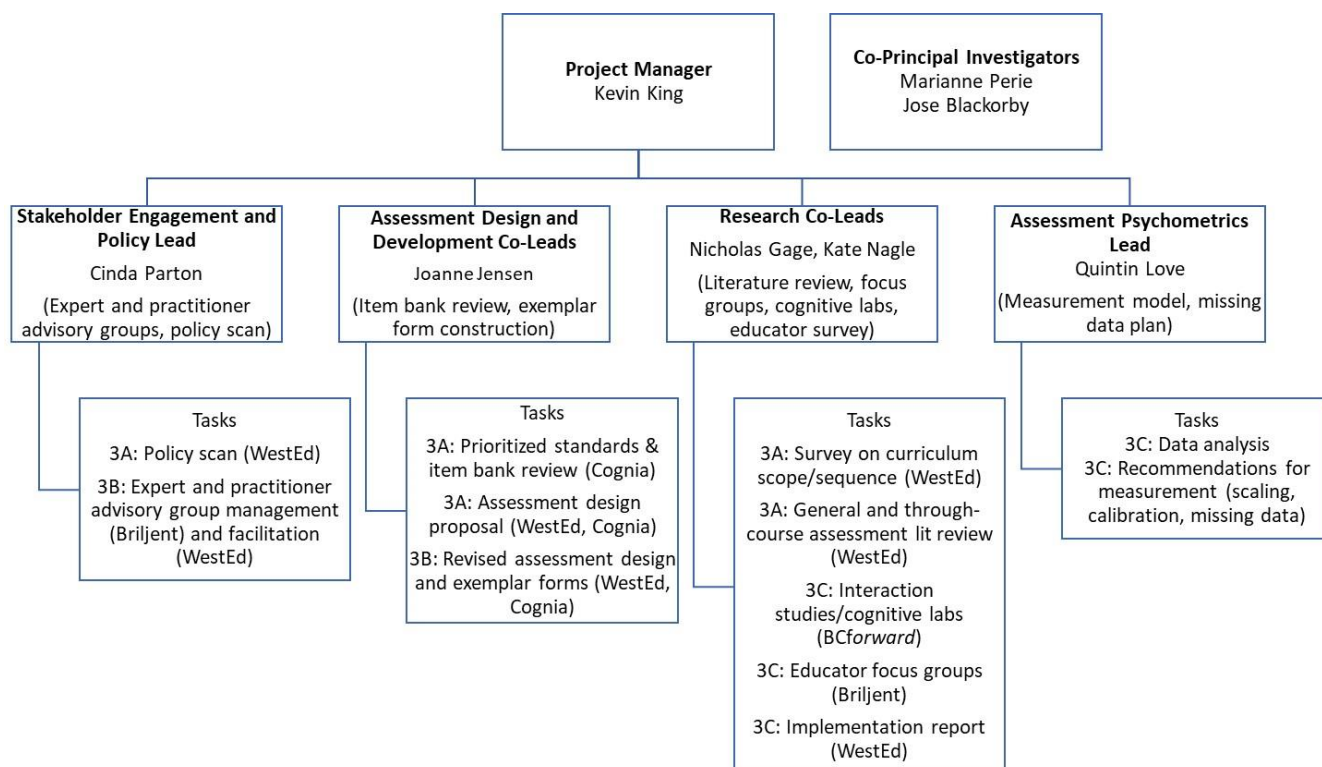
The I AM Research project requires a team with expertise in multiple areas (listed in Figure 4). As previously noted, this project is not a straightforward assessment development project to be carried out by a traditional assessment provider; rather, it requires a breadth of experience and skill. WestEd’s proposed project team has expertise in each of these areas, including substantial assessment, research, and special education knowledge.

Figure 4. I AM Research Project Expertise Needs



WestEd proposes to organize project work around staff with these skills, as shown in Figure 5. Our management plan includes two co-Principal Investigators (co-PIs), **Dr. Marianne Perie** and **Dr. Jose Blackorby**, who are nationally known experts in large-scale assessment and UDL, and who have worked with multiple states and assessment consortia to design and validate alternate assessments and tools for SWSCDs. They will provide substantive leadership to the project and will work closely with the expert panel and TAC members. The proposed Project Manager, **Mr. Kevin King**, has led projects for 12 years at WestEd. He will be the main client contact and will be accountable for overall project success. Mr. King will be supported by task leads with expertise in key areas, including stakeholder engagement and policy, psychometrics, research methods, and content and test development procedures. These task leads, in turn, will oversee staff from WestEd and its subcontractor partners, Cognia, Brilljent, and BCforward, ensuring that IDOE benefits from a team that can efficiently and successfully carry out this multifaceted work. The roles of WestEd’s subcontractor partners are described in more detail in Section 5 (Subcontractors).

Figure 5. I AM Research Proposed Project Team Organization Chart



Because the I AM Research project requires such a variety of skills, the project cannot simply be staffed with a few people at high percentages of full-time equivalency (FTE). The skills necessary to carry out a high-quality literature review are not the same as those needed to conduct a policy scan or to develop a measurement model, so, as the project develops over time, the staff involved will shift, based on the activities. WestEd proposes to staff the project in a manner that provides the necessary expertise and oversight but also provides cost efficiencies by not maintaining staff at high levels when their specific expertise is not needed. We will use our co-PIs and task leads to provide guidance and oversight as relevant to the project with additional team members assisting with execution of project activities. Our proposed co-principal investigators, Dr. Perie and Dr. Blackorby, will commit just over 10 percent of their time to this project, as will each task lead. Our project manager, Mr. King, will commit at least 25 percent of his time. He will be supported by administrative staff to assist with coordination activities.

Biographical sketches of project and task leadership team members are provided in the following section. Full résumés for these WestEd staff and for key subcontractor staff, as well as for WestEd ELA and mathematics content staff who have at least a master's degree in relevant content areas, are included in Appendix B.

Biographical Sketches

Marianne Perie, PhD (Co-Principal Investigator), is the Director of the Assessment Research and Innovation content area at WestEd. In this role, she advises on and oversees research and psychometric projects related to new assessment development. Her areas of research focus on standard setting, validity theory, comparability of large-scale assessment, interim assessment, and alternate assessment for students with the most significant cognitive disabilities. Additionally, she currently serves on five state TACs, providing advice on both general and alternate assessments, and she has served on advisory panels for the National Assessment Governing Board, the College Board, and the American Institute of Certified Public Accountants. As an extension of her ongoing advisory work, she has provided testimony to state legislatures and boards of education, evaluated standard-setting workshops, facilitated task-force meetings, and provided professional development on formative evaluation practices and data literacy. She has also designed and directed workshops to draft achievement level descriptors and test blueprints. Prior to joining WestEd, Dr. Perie founded and served as President of Measurement in Practice, LLC, an education consulting firm focusing on K–12 assessment and accountability. Previously, she was the director of two educational research centers at the University of Kansas (KU), overseeing two state operational assessment programs, one career pathway assessment, and several research grants. Additionally, she was a senior advisor on the DLM project, a consortium of states developing an alternate assessment based on alternate achievement standards. Prior to joining KU, she was a Senior Associate with the National Center for the Improvement of Educational Assessment, providing technical assistance to 16 states on accountability and assessment issues related to federal policy, and leading technical work on NCSC and the National Alternate Assessment Center. She also worked with several states on defining and developing both alternate and modified achievement standards, and she has written extensively on both topics. In her early career, she worked on multiple state and district assessments, the National Assessment of Educational Progress, and international assessments, as an employee of the Educational Testing Service and the American Institutes for Research.

Jose Blackorby, PhD (Co-Principal Investigator), is the Director of Research, Learner Variability, and Impact in WestEd's Special Education Policy and Practice content area. He has more than 25 years of experience in large-scale research and evaluation, development, and assessment projects—much of it at the national level—focused on improving programs and outcomes for students with disabilities and other students who struggle. Dr. Blackorby's work has included both formative and summative assessment. He was the principal designer for face-to-face assessments fielded in the Special Education Elementary Longitudinal Study and the National Transition Study 2. These two studies were the first national studies to assess academic, behavioral, and social performance of the full range of students in special education. He was the PI for the National Study on Alternate Assessment and the UDL design lead for Enhanced Assessment Grants for Idaho and Oklahoma. He was also part of the SRI International design team that used evidence-centered design (ECD) methods to design ELA and mathematics design patterns for NCSC. More recently, he was subcontract director for CAST on I-SMART, an Enhanced Assessment Grant to create innovative items in science for the DLM system. His recent work has focused on next-generation applications of UDL and educational technology in instruction and assessments. This work has included design and development and experimental evaluation of an inquiry science application called SNUDLE and a Google application called

Corgi to support higher-order thinking skills among students with learning disabilities. He also co-led a National Science Foundation-funded effort to establish a research agenda related to online learning for students with learning disabilities and autism spectrum disorder. He was a member of the technical working group for the 2020 National Education Technology Plan, as well as an advisor for the federal Office of Educational Technology's COVID-19 response for teachers, leaders, and parents, and he has contributed to the field through publications, products, presentations, and membership on national advisory boards. He also supports innovation in UDL within higher education through his teaching at the Harvard Graduate School of Education.

Kevin King (Project Manager) is a Senior Assessment Manager at WestEd. Mr. King has nearly 20 years of experience in design and development of large-scale assessments, including 12 years leading projects at WestEd. He specializes in designing and implementing innovative assessments. Most recently, he served as the WestEd project director and lead content technical advisor for the Massachusetts Innovative Assessment project and the Delaware Science Assessment System. He previously led Next Generation Science Standards (NGSS)-focused projects for the State of Washington Office of Superintendent of Public Instruction (OSPI) (including test design and item cluster development for general education assessment and alternate assessment), the Louisiana, Arizona, Kentucky, and Nevada Departments of Education; and the 14-state Council of Chief State School Officers (CCSSO) Science Assessment Item Collaborative (SAIC). The CCSSO SAIC project involved developing an assessment framework, item specifications guidelines, and item cluster prototypes. He was instrumental in designing the Kentucky science assessment system, which includes through-course and state summative assessments, and the Delaware Department of Education integrated interim and summative assessments. He also previously served as Project Management Partner liaison for the Smarter Balanced Assessment Consortium (Smarter Balanced), providing direction and oversight for multiple contracts and work groups within the Smarter Balanced system. Prior to joining WestEd, Mr. King served as the director of assessment development in the Assessment and Accountability section of the Utah State Board of Education (USBE). In that capacity, he managed all aspects of test development, including planning, developing, and implementing item and test design; producing, distributing, and administering paper-and-pencil testing programs; transitioning to computer-based testing programs; and developing new testing strategies (e.g., technology-enhanced item development, ECD item development protocols, and text-to-speech item support) for all USBE testing programs. He previously oversaw the development of all science and English language acquisition assessments for the state of Utah, and co-chaired the Smarter Balanced Item Development Work Group, which was responsible for item specifications, training, and item/task development, and through which he developed extensive knowledge of the Common Core State Standards. Mr. King leverages nine years of science classroom experience, covering all science content areas as well as research design methods, in all his work.

Cinda Parton (Stakeholder Engagement and Policy Lead) is a Senior Assessment Manager in the Assessment Design and Development content area at WestEd. Ms. Parton provides leadership and content expertise to a variety of design, implementation, professional development, and research projects. These roles include providing senior technical direction for design and development of large-scale science assessments for the Delaware and Arizona Departments of Education, the IADA-funded science pilot in Massachusetts, and the State of

Washington OSPI. In addition, she serves as project director for the Delaware Science Assessment System, which includes interim (classroom-based) assessment development and assessment literacy training. Ms. Parton also served as content expert for the revision of early learning science standards based on the NGSS for the District of Columbia and was lead analyst for the Indiana Science Standards College and Career Readiness review. Prior to joining WestEd, Ms. Parton served in multiple assessment leadership positions at the district, state, and national levels. She has twelve years of service in the State of Washington OSPI, including eight years as Director of Assessment Development. During that time, she provided direction and oversight for all stages of development and scoring of state assessments in mathematics, ELA, and science. Additionally, she facilitated and supported staff facilitation of all meetings related to test design and development, including TACs, educator reviews, alignment studies, and standard setting, and coordinated and monitored all psychometric aspects of the state's assessment program. Ms. Parton brings 18 years of high school-level science classroom experience, covering all science content areas, to her work.

Joanne Jensen, PhD (Assessment Design and Development Co-Lead), is the Director of the Assessment Design and Development content area at WestEd. In this role, Dr. Jensen is responsible for developing strategic solutions to address state and district needs, and she serves as a senior technical advisor for WestEd's assessment development contracts. With more than 30 years of service at WestEd, she has extensive experience supporting states in the development of standards-based assessments, including both paper-based and computer-administered assessments. In collaboration with state clients, she has led development activities that included performance-based items and tasks, technology-enhanced items, single-option and multiple-option selected-response items, and a range of constructed-response item types. She presently serves as the senior advisor for the development of Arizona's English Language Learner Assessment, Louisiana's summative assessments for social studies and science, Tennessee's formative assessments as part of their comprehensive assessment system, and the Indiana Student Performance Readiness and Observation of Understanding Tool (ISPROUT) for students ages 3–5. She previously served as the senior technical advisor for Louisiana's diagnostic assessments for ELA and mathematics for grades 3–10 and Tennessee's ELA and mathematics assessments for grade 2. She also served as the senior technical and management advisor for a joint project with the Johns Hopkins University to develop the Early Childhood Comprehensive Assessment System for Maryland and Ohio and its extension, through an Enhanced Assessment Grant, to an expanded consortium of states. For more than 15 years, she served as the Project Director for Nevada's Proficiency Examination Program, which included criterion-referenced assessments for grades 3 through high school. She also previously served as the WestEd Project Director for Kentucky's Commonwealth Accountability Testing System (CATS) assessment development; West Virginia's WESTEST Statewide Assessment Program for English/language arts, mathematics, science, and social studies; the Massachusetts Comprehensive Assessment System science and history/social sciences assessments; the End-of-Semester Assessment Program for the Cincinnati Public Schools for grades 9–12 in the content areas of English, mathematics, science, and social studies; and the development of a Comprehensive Student Certification System for the National Academy Foundation, combining career-technical competencies with 21st-century skills.

Nicholas A. Gage, PhD (Research Co-Lead), is a Senior Researcher in the Special Education Policy and Practice content area at WestEd, focused on advancing rigorous research and evaluation in special education. His research interests are centered on the identification of policies and practices at the national, state, local, and classroom levels to support the academic, social, and behavioral needs of students with disabilities. This work is grounded in a multi-tiered systems of support (MTSS) framework, with a particular emphasis on positive behavioral interventions and supports (PBIS). His expertise is in supporting researchers, schools, districts, and states in leveraging their data resources, including alternate assessment data for students with disabilities, to best identify and develop effective and efficient systems of support for students' academic and behavioral needs. His specific expertise includes statistical modeling, alternate assessment, machine learning, research design and methodology, direct observation, single-subject research, MTSS, universal behavioral management, PBIS, Functional Behavioral Assessment, and evaluation of special education programs and practices. Prior to joining WestEd, Dr. Gage was an Associate Professor of Special Education at the University of Florida, where he taught special education and research methods courses. He has more than 100 peer-reviewed publications in many of the top-tier special education journals, serves on nine editorial boards, and is an associate editor of *Exceptional Children*, the *Elementary School Journal*, and *Preventing School Failure*. He has received federal grants from the Institute of Education Sciences and the Office of Special Education Programs, and he has served as lead evaluator or statistician on large randomized controlled trials of assessment and intervention studies focusing on students with disabilities.

Katherine Nagle, PhD (Research Co-Lead), is a Senior Program Associate in the Special Education Policy and Practice area at WestEd, with almost 30 years of experience providing technical assistance (TA) to states, designing and conducting research and evaluation projects, conducting special education policy analysis, and providing instruction and special education services for students with visual impairments/blindness and SWSCDs. Currently, Dr. Nagle develops tools and resources and provides targeted and intensive TA for NCEO on issues related to the 1% threshold for alternate assessment participation. She is a content area specialist for the IDEA Data Center on Indicator 3 Assessment Participation and Achievement on Statewide Assessments. She is also a staff member and state facilitator of the National Center for Systemic Improvement. Prior to joining WestEd, Dr. Nagle supported the work of SRI International on the National Study of Alternate Assessments, the only national study of alternate assessment systems, policies, and practices. This study provided a snapshot of alternate assessment systems. Dr. Nagle also worked on three Enhanced Assessment Grants to improve the technical quality of state alternate and modified assessments and supported the design and development of the NCSC (now MSAA) alternate assessment system, funded by a federal Race to the Top assessment grant. As part of her alternate assessment experience, Dr. Nagle has worked with a team of content-area experts and assessment experts to implement ECD and UDL principles to develop design patterns and exemplar tasks in ELA and mathematics for grades 3–8 and high school; conducted cognitive interviews with students; and prepared training materials and provided training to teachers of SWSCDs on administering alternate assessment tasks to the range of students who make up this population.

Quintin Love, PhD (Assessment Psychometrics Lead), is a Senior Research Associate on the Assessment and Research Innovation team at WestEd. He has experience working as a

psychometrician on the design, calibration, equating, and scaling of large-scale summative assessment programs for multiple states, including Georgia, Indiana, Maine, Missouri, New York, and Tennessee. His work for Georgia includes work on the Georgia Alternate Assessment II program. He also has experience facilitating standard-setting workshops, including for the Georgia Alternate Assessment program. Dr. Love began his professional career as a middle school mathematics teacher and has spent more than five years working as a data analyst, SAS programmer, and psychometrician for various research efforts. He has a doctorate in Educational Psychology from the University of Minnesota and both a master's degree and a bachelor's degree in Middle Grades Education from Albany State University. Dr. Love also holds a graduate certificate in Educational Leadership from Lamar University.

Table 2 summarizes how each proposed staff member's expertise maps to the project needs.

Table 2. Expertise of Proposed Staff Members

Staff Member	Role	Area of Expertise						
		Large-scale assessment	SWSCDs	Content standards & test development	Stakeholder engagement	Research	Psychometrics	Project management
Dr. Marianne Perie	Co-Principal Investigator	•	•		•	•	•	
Dr. Jose Blackorby	Co-Principal Investigator	•	•		•	•		
Mr. Kevin King	Project Manager	•		•	•			•
Dr. Nicholas Gage	Co-Lead (Research)		•			•		
Dr. Kate Nagle	Co-Lead (Research)	•	•			•		
Ms. Cinda Parton	Lead (Policy, Engagement)	•			•			•
Dr. Joanne Jensen	Lead (Test Development)	•		•	•			•
Dr. Quintin Love	Lead (Psychometrics)	•				•	•	

Organizational Experience

In addition to the aforementioned individual staff qualifications and relevant project experience, WestEd has a long history of working successfully with states on projects related to alternate assessment (development and alignment) and in other areas relevant to the I AM Research project. This section describes several projects conducted in the last five years, including work in Indiana.

Washington Access to Instruction and Measurement (WA-AIM). WestEd collaborated with the State of Washington OSPI to develop the WA-AIM alternate assessment aligned to the NGSS. OSPI's goal was to develop an alternate assessment that maintained the three-dimensional expectations of the NGSS and the state's NGSS-aligned general education assessment (Washington Comprehensive Assessment of Science) while being appropriate for the alternate population. WestEd facilitated a series of state-level meetings with Washington state educators (both content-area and special education teachers), at grades 5 and 8 and high school, to select NGSS performance expectations for the alternate achievement standards, develop an access-point framework (including development of essential concepts and complexity differentiation) and performance tasks, and review items for content, bias, and sensitivity. WestEd supported OSPI in the facilitation of the development of alternate achievement level descriptors; worked with the State Alternate Assessment Coordinator to plan, design, and develop all meeting goals and outcomes; and supported educators through the selection of performance expectations and the use of an iterative process to develop performance tasks. The outcome of this work was development and review, with educator participation, of 15 performance tasks based on the alternate achievement standards. The WA-AIM science assessments consist of five stand-alone performance tasks, each of which has three levels of cognitive complexity. The performance tasks for all cognitive levels are both paper-based and hands-on, with simple, accessible materials.

Nevada Assessment System Evaluation (Assessment Audit and Alignment Study). The Nevada Department of Education selected WestEd to conduct an independent evaluation of the tools and assessments used to monitor the performance of the state's K–12 public school students. This work included independent alignment studies of Nevada's science assessments and alternate assessments, as well as an audit of currently used state assessment tools, with recommendations to improve tools and streamline the state's assessment system, and a comparison of Nevada's state assessment system to assessment models used in other states.

Georgia Department of Education (GaDOE) Innovative Assessment Demonstration Authority (IADA) Support. WestEd provides technical assistance to two consortia of districts in the state of Georgia piloting different through-course assessment designs with approval from the federal IADA program. This support includes facilitating a technical advisory committee advising the consortia, providing direct technical assistance to the consortia, and creating a process to collect and evaluate comparability evidence to support the Georgia Department of Education in determining whether these assessments might be used in lieu of the current state assessment and whether they meet the criteria for peer review.

Indiana Science Standards Alignment Study. WestEd was contracted by IDOE to determine the level of college and career readiness captured in its Indiana Academic Standards for Science, adopted in 2016. As part of peer review requirements for accountability, the standards must be reviewed to determine if they meet college and career readiness expectations. As part of the study, WestEd aligned the science standards for grades K–8 and eight high school science courses to *A Framework for K–12 Science Education* (“the Framework”), a set of standards used as the basis for the NGSS. After aligning the Indiana science standards to the Framework, WestEd analysts used six criteria (rigor, coherence, focus, specificity, clarity & accessibility, and

measurability) to determine the strength and nature of the alignments between the two sets of standards.

ISTEP+ ELA and Mathematics Alignment Study. WestEd conducted a study to determine the degree of alignment between the 2015 Indiana Statewide Testing for Educational Progress Plus (ISTEP+) assessments and the 2014 Indiana Academic Standards in ELA and mathematics in grades 3–8. The study resulted in a final report that described the alignment, specified the nature of alignment gaps, and provided IDOE with meaningful and practical recommendations to contribute to the quality of Indiana’s standards and assessments.

Additionally, in 2015, WestEd conducted alignment studies of the Indiana ISTAR+ grade 10 assessments for ELA, mathematics, and biology, and of the ISTAR alternate alignment system for ELA, mathematics, and science in grades 3–8 and 10. Earlier WestEd alternate assessment projects include test development for the Pennsylvania System of School Assessment–Modified and the Kansas Assessment of Modified Measures.

Section 5: Subcontractors

WestEd will partner with three subcontractors who will contribute to the successful completion of the project:

Cognia will lead exemplar form development for this project, in collaboration with content experts from WestEd. Cognia is a nonprofit organization providing assessment services to states, districts, and other partners. Cognia was formed in 2019, the result of the merger of AdvancED—a 125-year global leader in accreditation and school improvement—with Measured Progress, a nearly 40-year trusted national expert in large-scale student assessment solutions. Cognia brings nearly 25 years of experience successfully developing and delivering large-scale alternate assessments, including current work with the MSAA consortium. Cognia has many years of experience working with states to design meaningful instructionally embedded tests that collect data on student knowledge, skills, and understanding related to the academic content standards in Florida, Maine, and Massachusetts. Cognia also has experience with performance task/item-based models of alternate assessment. Combining Cognia’s experience with these various models will allow us to work with Indiana to design an instructionally embedded assessment model that provides the reliability and validity needed, but also provides opportunities for checkpoints throughout the school year rather than a single point in time assessment. Résumés for Cognia’s key staff, Megan Bairstow and Kelly Ickes, can be found in Appendix C.

Briljent will manage the national expert and state practitioner panels and conduct focus groups. Briljent is a women-owned consulting firm specializing in training, project management, and change management with a team of specialized governmental health care policy experts. Briljent’s work includes technical assistance, training analysis, design, development, and delivery services. Briljent has supported several Pre-K-12 education projects including ISTEP, IREAD, ILEARN, ISTAR, ISRPOUT, On My Way Pre-K, Indiana Early Childhood Education, Indiana Teacher Licensing, and the Illinois and Indiana SAT with training and planning services. Résumés for Briljent’s key staff, Cindy Hopkins and Grace Chandler, can be found in Appendix C. Ms. Hopkins will lead work related to focus groups and will collaborate with Ms. Chandler on management of panel meetings.

BCforward will carry out observations of exemplar form administration, including training of test administrators based on administration scripts and guidance prepared by Cognia and WestEd. BCforward is a minority-owned business that provides consulting, technology support, and training, and has a long-standing partnership with IDOE. BCforward has worked with Pearson, McGraw-Hill, Public Consulting Group, Johns Hopkins University and Crowe Horwath in support of projects with IDOE, including training, scoring, and database projects related to the Assessment of Student Achievement, the Indiana English Learner Database, Educator Licensure Testing Program, Early Childhood and Interim K-2 Assessments, and the ILEARN, IREAD-3, and I AM Assessments. A résumé for BCforward’s Indiana project lead, Mary Pouch, can be found in Appendix C.

Table 3 lists the subcontractor organizations and the specific services and deliverables they will provide in alignment with capabilities and prior work.

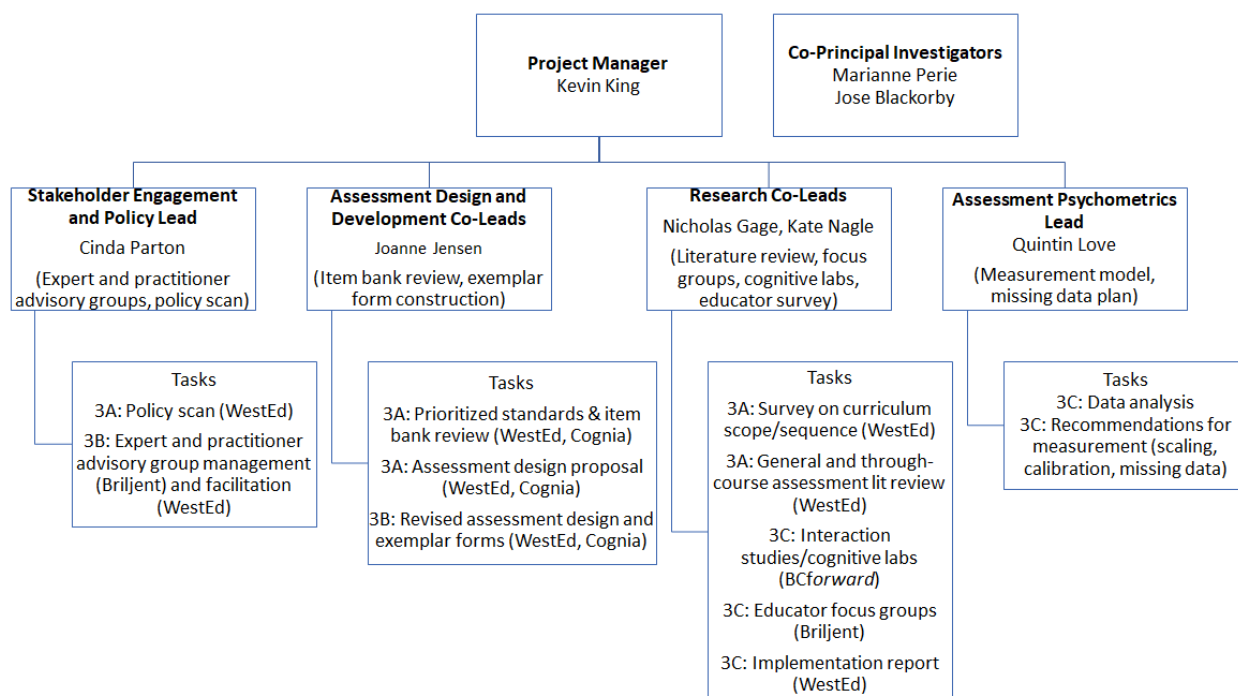
Table 3. Subcontractor Tasks and Deliverables

Subcontractor	Task	Description
Cognia	Develop exemplar assessment forms	In collaboration with WestEd content staff and based on input from national experts, survey data on curriculum scope and sequence, and other information, Cognia will develop a sequence of exemplar assessment forms for one grade level in ELA and mathematics, including new item and passage development as needed. Item/task development will include all stages of item review and development of associated test administration guidance.
Briljent	Manage national expert meetings	Briljent will manage all logistics related to national expert panel meetings. Responsibilities include managing invitations, reimbursing panel members, arranging for meeting space and video conferencing, working with WestEd and IDOE on agendas and meeting materials, and producing meeting notes.
Briljent	Manage practitioner panel meetings	Briljent will manage all logistics related to practitioner panel meetings. Responsibilities include managing invitations, reimbursing panel members, arranging for meeting space and video conferencing, working with WestEd and IDOE on agendas and meeting materials, and producing meeting notes.
BCforward	Conduct interaction study (cognitive labs)	BCforward will assist in planning and carrying out observations of up to 40 one-on-one test administrations in up to 4 corporations to be identified by IDOE. In collaboration with WestEd and IDOE, BCforward will develop and deliver training materials for administration of a prototype test form and a protocol for observations of test administrations. The work will include travel to selected schools to carry out observations, collect observational data, provide raw data, and produce a summary report of feedback.
Briljent	Conduct focus groups	Briljent will plan and conduct focus groups with educators in schools/corporations to be identified by IDOE. In collaboration with WestEd and IDOE, Briljent will develop protocols, manage logistics, collect and analyze data from participants, and produce a summary report of feedback. The purpose of the focus groups will be to obtain feedback directly from educators about prototype test forms and test administration guidelines.

While WestEd and its subcontractors represent four separate organizations, we will work with IDOE as a single, integrated team. Subcontractor staff will participate regularly in all relevant project meetings, both those with IDOE and those for internal team planning, and WestEd will manage all their activities through the master project plan and schedule described in Section 6. Figure 6 (also shown as Figure 5 in Section 4 and repeated here for convenience) shows which WestEd personnel will manage subcontractor activities. For example, Cinda Parton, task lead for stakeholder engagement and policy, will oversee Briljent’s work managing expert and

practitioner panels. As noted previously, Cindy Hopkins and Grace Chandler will lead this work on behalf of Brilljent, so Cinda Parton will serve as their functional manager in this effort.

Figure 6. Subcontractor Management




WestEd frequently manages subcontractors as part of our state assessment contracts, and through this experience we have developed and refined subcontractor management practices, with a particular emphasis on maintaining test security and confidentiality. Immediately upon award of the I AM project, the WestEd team will work with key personnel from our subcontractors to prepare the master project plan and schedule that will guide all project activities. As described in Section 6, the project schedule will drive the agenda at virtually all our meetings with IDOE, as well as internal planning meetings with our project team. After soliciting schedule input from our three subcontractors, WestEd will require them to formally commit to meeting all the deadlines and deliverables they contain at a high level of quality prior to our initial project kickoff meeting with IDOE. Together with our subcontractors, we will review and refine this schedule with IDOE as necessary at our project kickoff. In this way, we will prepare a master roadmap for the project that meets IDOE's needs and expectations, and clearly captures all the commitments WestEd and each subcontractor have made to ensure successful project completion.

The frequency of meetings with subcontractors will vary depending on the project stage. WestEd plans to hold weekly update meetings with IDOE and will include subcontractor staff as appropriate in these meetings. For example, if we are at the project stage of preparing for and implementing the cognitive labs (Section 3C), then the BCforward team will participate in all relevant meetings and planning with WestEd, but if the meeting is focused instead on assessment design issues (Section 3B), then we envision that Cognia will be the subcontractor participating with WestEd.

Similarly, WestEd plans to conduct internal weekly planning meetings with key personnel from all three of its subcontractors so that all the project teams are fully informed of and contributing to the latest project developments. During peak periods when one of the subcontractor's tasks are at the forefront, WestEd will likely hold near daily calls and meetings with that subcontractor, in addition to the regularly weekly meetings with all three subcontractors.

In addition to holding weekly check-in meetings with the subcontractors, the WestEd project director will use several tools to manage their work, ensure they meet all their commitments on time and at a high level of quality, and establish rigorous test security and confidentiality protocols. One such tool is the progress report that WestEd subcontractors will be required to complete every month of the project. As shown in Figure 7, the progress report requires each subcontractor to document their activities completed that month, milestones/accomplishments achieved, challenges/solutions/lessons learned, and activities planned for the following month. In this way WestEd will maintain a written record of the performance of all subcontractors throughout the duration of the project. Since WestEd will be collecting this information monthly, any potential issues or threats to successful delivery will be identified and addressed before they can become a major issue.

Figure 7. Sample Progress Report



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PROJECT NAME		COST CODE		SUBCONTRACT #	
CONTACT NAME	EMAIL ADDRESS	PHONE #		REPORTING PERIOD	

NARRATIVE OF ACTIVITIES COMPLETED DURING REPORTING PERIOD
MILESTONES/ACCOMPLISHMENTS
CHALLENGES, SOLUTIONS, LESSONS LEARNED
PLANNED ACTIVITIES

Signature	X _____ By signing, I certify that, to the best of my knowledge, the information provided is true and correct.
Prepared By	
Position/Title	
Date Prepared	

Along with ongoing communication and documentation, WestEd will ensure subcontractor accountability through regular review of subcontract invoices. Before authorizing payment, the project director will review the progress achieved relative to the costs incurred. Should this review reveal that the subcontractor failed to comply with their contractual obligations, the

project director will work with the subcontractor to address the situation. If the situation is not remedied promptly, the project director will notify WestEd's Director of Administration and Finance, who has the authority to suspend payment until the problem is resolved.

Test security and confidentiality have long been central to WestEd's assessment work. We recognize the critical importance of maintaining security at all times through our assessment work in dozens of states. Therefore, we take all necessary steps to ensure that materials remain secure at all times. In projects like I AM, where secure materials will be shared among WestEd, our three subcontractors, and IDOE, it is essential to store, share, and transfer files through a password-controlled, cloud-based data storage system. WestEd uses Box.com for this purpose. As noted in Section 7, the agenda for the project kickoff meeting includes a session on processes for maintaining test security and confidentiality, and the use of Box and related tools. In this way, from the very first day of the project, we will ensure that staff from WestEd, our subcontractors, and IDOE share a common vision for and commitment to maintaining test security and confidentiality throughout all phases of the project.

Beyond the kickoff meeting, we will require project staff, both internal to WestEd and from our subcontractors, to sign confidentiality agreements and include data security measures as part of their training. Figure 8 contains WestEd's standard confidentiality and non-disclosure agreement.

Finally, WestEd, our subcontractors, and IDOE staff will not be the only ones handling secure testing materials; throughout the course of our work we will also be sharing them with committees and panels of teachers, students, and other stakeholders. We will require all such participants to sign a test security and non-disclosure form like the one shown in Figure 8 prior to gaining access to secure materials. Further, our staff have extensive experience maintaining the security of test materials during the meetings themselves. For example, secure materials used during in-person meetings are checked out and then checked back in at the close of each meeting session. Guidelines for the use of secure materials during the meetings are shared and discussed with participants prior to the distribution of materials.

Figure 8. Sample Confidentiality and Non-Disclosure Agreement



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CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT

Test security and student confidentiality are of utmost importance to WestEd and the Federal Department of Education or other institutions with which WestEd is under contract. An employee or contractor for WestEd has access to materials and identifiable student information that must be maintained and regarded with the highest level of confidentiality, security and discretion.

As an employee/contractor of WestEd, you agree to the following:

- Agree to treat all materials and student data as proprietary and confidential, as well as in accordance with any security guidelines and all applicable law
- Agree to not disclose, use, reveal, or relay any information or materials (including individual items) utilized in any specific assignment and/or project to anyone except as required as part of the project
- Agree to adhere to any and all security requirements of WestEd and any institution funding a project on which you are working
- Agree to not reproduce any assessment-related materials, directly or indirectly, and not to disclose the content of these materials
- Agree to handle all materials and data in a professional, secure, discreet and confidential manner

You also understand that the violation of this agreement may result in disciplinary action, up to and including termination. This agreement is intended to supplement any WestEd required proprietary, confidentiality or non-disclosure agreement. Where there is a conflict in provision(s) between this Agreement and any WestEd required proprietary, confidential or non-disclosure agreement required of all employees, the provision(s) within agreements required of all employees shall control.

We are certain that you share our concern that all potential assessment materials and student or other information be handled in a professional, secure, and confidential manner, as described above. We ask your adherence to these guidelines by signing below.

SIGNATURE

DATE

Section 6: Project Plans and Schedules

Over the past five years, WestEd has successfully managed over 2,750 projects. At any given time, the agency has between 450 and 700 active contracts and grants. We are currently managing more than a dozen large-scale assessment development and/or delivery contracts with state and commercial clients. These types of projects all demand high-quality, on time delivery, and often require coordination across multiple vendors and client stakeholder groups. To achieve success on such large, complex, high stakes projects, it is essential to start with a clear, detailed, and transparent schedule that guides all project activities.

WestEd project directors complete rigorous internal training on project and program methodology (e.g., project planning; issue and risk identification, assessment, and resolution; scope, timeline, and budget tracking; resource allocation; and definition of roles and responsibilities). This training helps to ensure that all our project staff have a shared understanding of best practices and industry standards for managing large, complex projects involving multiple teams and workgroups. We have made similar investments in technology systems. For example, we hold an agencywide license for Smartsheet, Box, and several other web-based project management and collaboration tools that facilitate setting up and developing project schedules and plans, sharing them with both internal and external team members, and communicating real-time updates

WestEd will leverage all our management expertise and associated tools with the I AM Research project to ensure that IDOE's needs and project goals are met within the given timeline and budget, and at the highest possible level of quality. Our project schedule will be central to this effort and will establish clear expectations and deadlines for all parties. Moreover, this information will always be completely transparent to IDOE. We will post the project schedule in a secure shared folder so that IDOE project staff can directly access it in real time, 24/7/365. In this way we will provide the best possible information to IDOE, eliminate surprises, and reduce the risk of issues with the project timeline.

Immediately upon award of the contract and prior to the official project kickoff, WestEd staff will prepare a project schedule that clearly maps out the day-to-day project activities necessary to ensure timely, high-quality delivery. Our experience provides us with the necessary background to know the amount of time specific tasks require, the order in which tasks must occur, and the necessary resources that must be allocated. While WestEd will produce the initial schedule document, it will be essential for IDOE staff to have input as well, as it will serve as one of the primary documents for guiding all project activities and planning. For this reason, we propose that the bulk of the initial project kickoff meeting be spent reviewing our proposed project schedule collectively with the WestEd and IDOE project teams and refining it as/if necessary to

ensure that staff from both organizations are comfortable that it accurately represents the timeline and flow that all project activities should take.

WestEd project managers use Smartsheet, a web-based project management and collaboration tool, to develop and maintain project schedules. The Smartsheet schedule will be placed in a secure shared folder so that IDOE project staff always have access to it. We will then use this schedule to drive the agenda at all our project meetings, checking on the status of activities that were due to be completed before the meeting, and looking ahead several weeks to ensure that all future activities are on track. If any risks or potential delays are identified, WestEd staff will discuss the implications with IDOE and jointly agree on the best path forward to mitigate any potential risks and ensure on-time delivery. In this way, all project staff from WestEd and IDOE will have a shared understanding of exactly which tasks must be completed when and by whom, and together we will constantly be checking to confirm that all activities are on track.

WestEd has chosen Smartsheet as our preferred scheduling software because it allows users to:






- Develop a project plan to coordinate and track any kind of work
- Collaborate in real time with a team, partners, and clients to track project deliverables, issues, and timeline
- Customize sheets and attach files, notes and discussions in the context of the project
- Set alerts to be reminded about upcoming deadlines, and schedule notifications to be alerted when updates occur
- View projects in spreadsheet grid, calendar, or Gantt chart views
- Develop reports across sheets to monitor multiple projects or tasks
- Access it anywhere via mobile apps (iPad, iPhone, Android)

The project schedule we produce for IDOE will include each task, its associated duration, and the person responsible for completing it. In this way, every step in the project will be clearly spelled out, with specific dates and accountability assigned to individuals for every task. As described in Section 7, Project Status and Planning Meetings, WestEd will provide weekly updates (by Wednesday COB unless otherwise directed by IDOE). And because the schedule will be accessible to IDOE project staff online, and reviewed at every staff meeting, with work groups reporting on the status of their work as compared to the schedule, IDOE will know exactly when deliverables will arrive and when they must be reviewed and returned, if necessary.

Figure 9 provides a snapshot of a sample Smartsheet workplan, to give IDOE a sense of the level of detail and rigor we will capture in our plan prior to the project kickoff meeting, then use to structure our weekly project updates and check-ins with IDOE throughout the lifetime of the project. This document is included in Appendix D along with a sample meeting agenda (as discussed in Section 7, Status and Planning Meetings).

Figure 9. Sample Smartsheet Workplan

Forms **I AM Research Project - Master Work Plan** ☆

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Assigned To	Responsible (WestEd)	Task Name	Durati...	Start	Finish	F
		Project Management	255d	11/01/22	10/31/23	
WestEd	Kevin King	Project Kickoff	1d	11/01/22	11/01/22	
WestEd	Kevin King	Weekly Project Meetings (Ongoing)	255d	11/01/22	10/31/23	
		Every Tuesday at 9:00 am PT	255d	11/01/22	10/31/23	
		Phase 1: Literature Review	79d	11/02/22	02/28/23	
WestEd	Nicholas Gage	State Policy Review	26d	11/02/22	12/09/22	
WestEd	Nicholas Gage	Literature Review	26d	11/02/22	12/09/22	
Briljent	Marianne Perie Cinda Part	Practitioner panel meeting on literature review and assessment needs (ir	1d	12/16/22	12/16/22	
WestEd	Joanne Jensen	Review of prioritized standards	28d	11/07/22	12/16/22	
WestEd	Nicholas Gage Kate Nagle	Draft teacher survey on content sequencing	11d	12/19/22	01/06/23	
WestEd	Marianne Perie Jose Black	Present to existing Indiana TAC	1d	01/03/23	01/03/23	
Briljent	Nicholas Gage Cinda Part	Practitioner panel feedback on draft teacher survey (written, virtual)	6d	01/06/23	01/13/23	
Briljent WestEd	Marianne Perie	Expert and panel meeting on findings from reviews and input on initial as	1d	01/07/23	01/07/23	
WestEd	Nicholas Gage Kate Nagle	Teacher survey administration completed	1d	02/03/23	02/03/23	
WestEd	Marianne Perie Jose Black	Initial assessment design	38d	01/07/23	02/28/23	

Section 7: Status and Planning Meetings

WestEd believes in regular, transparent communication with all our clients. Immediately upon contract award, we will work with IDOE to schedule a series of project management meetings. These meetings will include the initial project kickoff meeting, which will take place within one month of initial contract execution, and weekly project update meetings. In addition, from time to time, we anticipate issues will arise where IDOE staff and the WestEd project team will need to discuss key project developments that are time-sensitive and cannot wait for the regular weekly update meetings. In these instances, the WestEd team will set up ad hoc project meetings so that we can address these issues in a timely manner. At WestEd, we take great pride in being available and responsive to our clients. We will not only establish our formal meeting schedule well in advance, but we also pledge to be accessible to IDOE staff throughout the lifetime of the entire project as the need arises.

Project Kickoff

While the RFP calls for the initial project kickoff meeting to occur within a month of project execution, we will strive to hold it even earlier, ideally within the first two weeks, so that we can launch the project and begin work as soon as possible. WestEd proposes to host this meeting remotely using our Zoom video conferencing functionality. While the final agenda will be discussed and jointly agreed by WestEd and IDOE, based on our experience with project kickoff meetings, WestEd recommends that the agenda include the following key topics and points of discussion:

- Project purpose
 - Discussion of the goals IDOE seeks to achieve through this project
- Introductions of the WestEd, subcontractor, and IDOE project teams
 - Roles of each project staff member
 - Communications protocols and contact information for project staff
- Project tools and documentation protocols
 - Processes for maintaining test security and confidentiality at all times
 - Structure and process for sharing files over secure shared networks
 - Overview of WestEd project management tools (e.g., Smartsheet schedule, Box folders for sharing documents)
 - Templates for meeting agendas and minutes
- Review of project plan and schedule
 - Proposed timeline for completing key project tasks and deliverables
 - RACI (Responsible, Accountable, Consulted, Informed) chart that documents roles of WestEd and IDOE staff regarding various project activities
 - Schedule for all project meetings, including weekly project updates
- Quality assurance

- Agreement on quality assurance metrics
- Identification of project risks
- Discussion of risk mitigation strategies
- Summary notes with action items captured, with deadline and person accountable

In this way, the project kickoff meeting will establish the roles and responsibilities of WestEd and IDOE project staff, the shared protocols for conducting and documenting project activities, and the master project schedule that will drive the agenda for weekly project meetings going forward. To ensure the meeting is as efficient and effective as possible, the WestEd project team will prepare in advance the detailed project schedule, document templates, and project management tools to share with IDOE for their reaction and input, as opposed to starting the conversation from scratch.

Weekly Project Meetings

Weekly project meetings will help to ensure that WestEd and IDOE project staff are always informed of the latest project developments and have a regular forum in which to share ideas and refine project plans as necessary. For efficiency and cost savings purposes, we anticipate that the weekly meetings will be held remotely via Zoom as well. Prior to each weekly meeting, the WestEd project manager will share the draft agenda with the IDOE project lead for review and comment. Once the two agree on the final agenda, and at least 24 hours prior to the meeting, the WestEd project manager will post the meeting agenda on our secure, shared project Box folder and email the link to all WestEd and IDOE project staff. If the meeting includes review and discussion of additional project documentation, these documents will also be posted on Box at least 24 hours prior to the meeting so that project staff have ample time to review them.

WestEd intends to use its standard agenda template for these meetings, including any refinements of adaptations requested by IDOE. Our agenda template includes the following categories:

- Zoom link
- Meeting date and time
- Anticipated meeting attendees from WestEd, our subcontractors, and IDOE
- Links to documents (if any) that will be discussed at the meeting
- A list of key decisions from the previous meeting
- Action items, with people accountable and due dates, from the previous meeting
- New agenda topics, with a brief description
- From the project schedule:
 - Key activities scheduled to be completed in the prior week
 - Key activities planned for the following two weeks
- Identification of any potential project risks and associated mitigation strategies

As previously noted in Section 6, the project plan and schedule will always drive the core of the agenda. We will use the meetings both to look back to ensure that we have successfully addressed all our commitments from the prior week, then look ahead at least two weeks to ensure that we are prepared for the work ahead. In the rare cases where future deadlines are at risk, we

will discuss risk mitigation strategies and alternate plans and jointly agree with IDOE staff on the best path forward.

During all weekly meetings, the WestEd project manager will be sharing the agenda over the Zoom link and taking notes directly into a table next to each agenda item so that all WestEd and IDOE staff will have full visibility into how the project manager is documenting the discussion and assigning follow-up actions. In this way, any misunderstandings will be identified and addressed in real time, such that at the end of the meeting all participants will have an explicit, shared understanding of all agreements reached during the meeting.

Following the meeting, the WestEd project manager will use the notes taken on the agenda to produce the formal meeting minutes, which the project manager will post in the shared project Box folder within 24 hours of the meeting's completion. The project manager will email a link to the minutes to all project staff once they are posted.

Additional Meetings

Occasionally, additional meetings will be required beyond our regular weekly meetings. Frequently these occur when subteams within the project need to discuss a particular issue in detail. For example, WestEd's content development staff may need to meet with their IDOE counterparts to discuss standards, editing processes, and use of item formats; or WestEd's proofreading team may need to meet with IDOE reviewers to discuss the project style guide. These subteam meetings help ensure that all staff from both WestEd and IDOE share a common vision for the project and can implement the needed procedures to make the vision a reality.

These occasional subteam meetings will follow the same rigor and protocols as our regularly scheduled weekly meetings. This means that WestEd will post agendas and associated materials for these meetings at least 24 hours in advance for IDOE review, capture the meeting notes in real time on the shared screen over Zoom, and post the formal meeting minutes in the shared Box folder within 24 hours.

As previously described, through our experience managing thousands of projects, WestEd has developed and refined a suite of project management tools, templates, and protocols that we will leverage for the I AM project. While we find these materials all essential for effective project management, we can adjust and adapt them as/if necessary to meet the specific needs of the I AM project. For this reason, we have included an introduction to these tools and protocols at our project kickoff meeting and will welcome any feedback or suggestions from IDOE staff on how to adjust them as necessary to make them as effective as possible for meeting the specific needs of the I AM project.

Appendix A: References

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Appendix B: WestEd Staff Résumés

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Ms. Kathryn Rhoades	93
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Marianne Perie

WestEd, 730 Harrison St, San Francisco, CA 94107

SUMMARY OF RELATED EXPERIENCE

Marianne Perie is the Director of Assessment Research and Innovation at WestEd. With over 20 years of experience in district, state, national and international assessment, Dr. Perie provides oversight of various research projects aimed at increasing the validity of test results and improving the usability for teachers and students. Her areas of expertise include standard setting, validity theory, assessment design, and research design. Dr. Perie received a BA in Psychology from Cornell University and a PhD in Educational Research, Evaluation, Measurement, and Statistics from the University of Virginia.

EDUCATION

1994 PhD, Educational Research, Evaluation, and Measurement, University of Virginia, Charlottesville

1990 BA, Psychology, Cornell University, Ithaca

PROFESSIONAL EXPERIENCE

2022–Present

Director, Assessment Research and Innovation
WestEd, San Francisco, CA

Dr. Marianne Perie leads a group of psychometricians and researchers to work with state and industry clients to develop new psychometric techniques, scoring and reporting mechanisms, inclusive assessment design, and innovative testing formats.

2018–Present

President, Measurement in Practice, LLC
Stilwell, KS

Dr. Marianne Perie is the President of Measurement in Practice, LLC, a small educational consulting firm focusing on K–12 assessment and accountability. She currently serves on nine state technical advisory committees (TACs) and the psychometric oversight committee for the AICPA. As an extension of the advisory work, she has provided testimony to state legislatures and state boards of education, evaluated standard-setting workshops, facilitated task-force meetings, and provided professional development on formative evaluation practices and data literacy. She has worked with states on evidence-centered design of assessments written to new content standards, emphasizing the importance of developing performance level descriptors early

in the process. Finally, she has advised Project Lead the Way on communicating technical issues related to their STEM assessments and NWEA on improving their validity argument around their MAP assessments. She has consulted with the Council for Chief State School Officers, coordinating the state collaborative on Technical Issues in Large Scale Assessment, serving as a critical friend to states planning new accountability systems, and providing professional development on various assessment issues. She has written a chapter on comparability in large-scale assessments for the National Academy of Education.

2016–2018

**Director, Center for Assessment & Accountability Reach and Design
University of Kansas, Lawrence, KS**

Dr. Perie formed the research center she named Center for Assessment and Accountability Research and Design. Overseeing a small group of researchers, she led 12 staff and graduate assistants through the work of a grant funded by the U.S. Department of Education to take English language arts and math learning maps developed through the DLM project and make them accessible to teachers. The staff designed instructional frameworks and formative assessment tools to locate the students on the map and move them forward. She designed research studies on the usability of the maps, the visualization tools, and the software as well as the outcomes of students whose teachers worked with the map. In addition, she led a project to develop a new accountability system for Oklahoma as well as one focused on performance tasks for classroom use in Alaska.

2013–2016

**Director, Center for Educational Testing and Evaluation
University of Kansas, Lawrence, KS**

Dr. Perie joined CETE as its co-director in January 2013 and managed a staff that grew from 85 researchers to over 150 researchers, staff, and graduate students. Under her tenure, there were four major assessment development and administration projects as well as three research grants. She oversaw all the assessments developed for the state of Kansas and worked with the Kansas Department of Education on issues of both assessment and accountability. She oversees the work of the Career Pathways collaborative working to develop an assessment for students in Career and Technical Education Programs that results in a technical certification. She won a grant to work with the Alaska Department of Education to design their new assessment program and was a senior technical advisor to the Dynamic Learning Maps consortium.

2013–2018

**Courtesy Graduate Faculty
University of Kansas, Lawrence, KS**

Dr. Perie was granted special graduate faculty status in October 2013. She has co-taught a graduate seminar on current issues in measurement in the division of Psychology and Research in Education (PRE998). She currently serves on two dissertation committees.

2006–2013

Senior Associate

National Center for the Improvement of Educational Assessment, Inc., Dover, NH

Dr. Perie was granted special graduate faculty status in October 2013. She has co-taught a graduate seminar on current issues in measurement in the division of Psychology and Research in Education (PRE998). She currently serves on two dissertation committees.

2003–2006

Senior Program Administrator

Educational Testing Service, Princeton, NJ

Responsibilities included leading all K-12 standard-setting planning, design, and implementation for state NCLB contracts as well as several international contracts. She developed an internal training program to teach staff to run standard-setting workshops, co-authored an update to the 1982 Passing Scores publication, and taught graduate-level seminars on standard setting. In 2005, she also worked as the National Reports Coordinator for the National Assessment of Educational Progress (NAEP). During this time, she collaborated with NCES, NAGB, and a staff of 20 to design, analyze, write, and produce all national-level NAEP reports using data from the 2004 and 2005 surveys.

1995–2006

Principle Research Analyst

American Institutes for Research, Washington, DC

Responsibilities included leading standard setting activities on three state assessment programs as well as with one large district. She also served as the psychometric liaison for a large state assessment program and as the co-PI on an NSF grant analyzing the item construct validity of science assessments. She worked to design reporting plans for state assessment programs and ran psychometric analyses to determine feasibility of continuing NAEP long-term trend. She worked on the Voluntary National Test (VNT), specifically examining the feasibility of linking VNT to NAEP. She co-directed international activities contract and conducted cognitive labs examining validity of international assessment items and background questionnaires. She analyzed several large-scale data sets, including those from NAEP and national and international literacy assessments, and produced reports for the National Center of Education Statistics (NCES). She also served as technical advisor on U.S. educational data to an international group within the Organization of Economic Cooperation and Development (OECD).

SELECTED PUBLICATIONS AND PRESENTATIONS

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- Walker, C. & Perie, M. (2019). State partnerships moving forward with college-readiness assessments: a response to Camara, et al. *Educational Measurement: Issues and Practices*, 38(4) pp. 29–30.
- Roeber, E., Olson, J., Topol, B., Webb, N., Christophersen, S., Perie, M., Pace, J, Lazarus, S. and Thurlow, M. (2018) *Feasibility of the use of the ACT and SAT in lieu of Florida Statewide Assessments*. White paper commissioned by the Florida State Department of Education. Available online at <http://www.fldoe.org/core/fileparse.php/5663/urlt/FeasIBILITYactsat.pdf>
- Perie, M. (2017). An assessment for every purpose, under heaven. Presentation to the Michigan Assessment Consortium, Assessment Learning Network. Lansing, MI. December, 2017.
- Perie, M. (2017). Management of everything: The role of a testing company leader. Part of symposium entitled *Walking a tightrope: Navigating the balance of policy and psychometrics*. Presented at the Annual Meeting for the National Council on Measurement in San Antonio, TX. April, 2017.
- Perie, M. (2017). Essential features of interim assessments used for various purposes. Part of symposium entitled *Contemporary issues with interim assessments*. Presented at the Annual Meeting for the National Council on Measurement in San Antonio, TX. April, 2017.
- Bruce, W., Burrill, G., Nelson, J., and Perie, M. (2017) Fairness in assessment: Compared to what? An invited panel discussion at SXSW Edu in Austin, TX. March, 2017.
- Kopriva, R., Thurlow, M., Perie, M., Lazarus, S., & Clark, A. (2016). Test takers and the validity of score interpretations. *Educational Psychologist*, 51(1) pp.108–128.
- Perie, M. & Zhao, F. (2016). A passage-based approach to setting cut scores on ELA assessments. Presented at the Annual Meeting for the National Council on Measurement in Washington, DC. April, 2016
- Chen, J. & Perie, M. (2016). Comparability within computer-based assessment: Does screen size matter? Presented at the Annual Meeting for the National Council on Measurement in Washington, DC. April, 2016
- Perie, M. & Huff, K. (2015). Determining content and cognitive demand for educational assessments. In S. Lane, M. Raymond, & T. Haladyna (eds). *Handbook of Test Design*. New York, NY: Taylor and Francis.
- Perie, M. & Domaleski, C. (2013). Promoting equity in state education accountability systems, Presented at the CCSSO Large-Scale Assessment Conference in National Harbor, MD. June, 2013
- Perie, M. (2013). Developing PLDs for "readiness" using a statistical approach. Presented at the Annual Meeting for the National Council on Measurement in San Francisco, CA. April, 2013

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Gotch C. & Perie, M. (2012). Using validity arguments to evaluate the technical quality of local assessment systems. Presented at the Annual Meeting of the American Educational Research Association in Vancouver, Canada, April 2012.

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Perie, M. (1998). The challenge of data collection: How to collect nationally comparable data from states and districts without duplicating efforts or over-burdening respondents. Panel presentation presented at the Annual Meeting of the American Evaluation Association in Chicago, IL, November, 1998.

Perie, Marianne and Baker, David P. (1997). *Job Satisfaction among America's Teachers: Effects of Workplace Conditions, Background Characteristics, and Teacher Compensation*, U.S. Department of Education, National Center for Education Statistics.

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Delcourt, M., Loyd, B., Bland, L., Moon, T., & Perie, M. (1993). Trends in Achievement and Intrinsic/Extrinsic Motivation of High Ability Children. Presented at the Annual AERA meeting in Atlanta, GA, April 1993.

Loyd, B., Perie, M. & Moon, T. (1992). The Effect of Nonachievement Factors on the Grading Process. Presented at the Annual AERA conference in San Francisco, CA, April, 1992.

Dunning, D., Perie, M., & Story, A. (1991) Self-serving prototypes of social categories. *Journal of Personality and Social Psychology*, 61, 6.

SELECTED PROFESSIONAL ACTIVITIES

- Massachusetts Technical Advisory Committee (2019–2021)
- Florida Technical Advisory Committee (2017–present)
- Wisconsin Technical Advisory Committee (2017–present)
- Washington, DC Technical Advisory Committee (2017–present)
- Indiana Technical Advisory Committee (2016–2021)
- Oklahoma Technical Advisory Committee (2013–present; Chair 2018–present)

- New York Technical Advisory Committee Co-Chair (2012–present)
- Tennessee Technical Advisory Committee Chair (2012–present)
- Council for Chief State School Officers, Technical Advisor (2012–2020)
- AICPA Psychometric Oversight Committee (2018–2021)
- Kentucky Technical Advisory Committee (2017–2020)
- Council for Chief State School Officers, Coordinator for Technical Issues in Large Scale Assessment (TILSA) (2014–2017)
- ELPA21 Consortium Technical Advisory Committee (2014–2015)
- North Carolina Technical Advisory Committee (2013–2014)
- College Board Research Advisory Committee (2012–2017)
- GED Testing Service Technical Advisory Committee (2008–2014)
- Pennsylvania Technical Advisory Committee Facilitator (2007–2012)
- Puerto Rico Technical Advisory Committee (2007–2012)

PROFESSIONAL AFFILIATIONS

- American Educational Research Associate (1991–present)
- National Council on Measurement in Education (1991–present)
- Chair, NCME Publications Committee (2013–2015)
- Member, NCME Publications Committee (2009–2013)
- Chair, NCME Brenda Loyd Dissertation Committee (2009–2010)
- Member, NCME Brenda Loyd Dissertation Committee (2007–2009)
- Chair, Large Scale Assessment Special Interest Group (2006–2008)
- Editorial Board, Educational Measurement: Issues and Practices (2004–2006, 2010–present)
- Chair, NCME Outreach and Partnership Committee (2004–2005)
- Member, NCME Outreach and Partnership Committee (2003–2006)

Jose Blackorby

WestEd, 2470 Mariner Square Loop, 2nd Floor, Alameda, CA 94501

SUMMARY OF RELATED EXPERIENCE

Jose Blackorby, Ph.D., is Director of Research, Learner Variability and Impact in WestEd's Special Education Policy and Practice Program. He has been working to improve outcomes for children and youth with disabilities for more than 20 years. He has led large-scale national studies, designed assessments, developed innovative technology solutions for STEM and higher order thinking skills, as well as significant design and experimental research. He was principal designer for the first national face to face assessments of academic, behavior, and self concept for the full range of students with disabilities for SEELS and NLTS2. He has been PI or key staff on multiple enhanced assessment grants on alternate assessment, and National Center and State Collaboratives (NSSC). He was recently subcontract director on ISMART, an enhanced assessment grant to apply UDL to STEM within the Dynamic Learning Maps (DLM) system. His current work focuses on next generation applications of Universal Design for Learning (UDL) in instruction and assessments. Current projects include the development of an open source EPUB player called *Clusive*, an experiment with of an UDL based inquiry science notebook called SNUDDLE, and a Google application called CORGI to support higher order thinking skills for struggling learners. He also supports OSEP funded technical assistance efforts on the NCSI, the TIES Center and CIDDL. In collaboration with UDL-IRN, he provides leadership for UDL Credentialing and Certification Initiative which is building an online platform called Learning Designed to provide personalized pathways to micro credentials for educators and certifications for school buildings and education technology products. This initiative will contribute to efforts to implement UDL at scale. He has contributed to the field through publications, products, membership on national advisory boards, as well as higher education teaching at HGSE.

EDUCATION

2015 PhD, Special Education, University of Washington, Seattle, WA
 2009 MA, Special Education, University of Washington, Seattle, WA
 1982 BA, Fine Arts, Colgate University, Hamilton, NY

PROFESSIONAL EXPERIENCE

2021–Present
Director of Research, Learner Variability and Impact, Special Education Policy & Practice
WestEd, San Francisco, CA

Co-Principal Investigator, Center for Inclusive Software for learning (CISL)

CAST, Wakefield, MA

CISL is building an accessible software suite to support student learning using digital materials. CISL software is free and includes accessibility and UDL features to support access, comprehension, and engagement.

2016–Present

Principal Investigator, Teaching Higher Order Thinking with CORGI

CAST, Wakefield, MA

This design based implementation study worked with teachers and students to identify and design new features for the Google application, CORGI, to support students with learning disabilities and other students who struggle in higher order thinking. New higher order thinking routines, multimedia input, and Google slides output. Data were collected on use and usability as well as promise on STEM content learning.

2016–Present

Principal Investigator, Goal 3 Experiment of SNUCLE

CAST, Wakefield, MA

This study is an experiment of the SNUCLE Science Notebook to implement an inquiry science curriculum in 4th grade classes. Measured outcomes included curriculum based science content measures, a district interim assessment, a standardized science assessment, and a motivation for science survey.

2006–2012

Principal Investigator, National Study on Alternate Assessments

SRI, Menlo Park, CA

This was a national study that addressed the status of alternate assessments across the country including design, implementation, validity and alignment work. The study also included a national survey of special educators.

1999–2010

Principal Investigator, Special Education Longitudinal Study

SRI, Menlo Park, CA

This national study of students with disabilities focused on characteristics, services, placements and outcomes nationally for all disability categories. It included the first national face to face assessment of students with disabilities.

SELECTED PUBLICATIONS AND PRESENTATIONS

Blackorby, J., Basham, J. & Hall, T. (2021, July). *UDL Solutions for the Covid-19 Pandemic and Beyond*. Presented at the OSEP Project Directors Meeting (virtual).

Dolan, B., Karvonen, M., Blackorby, J., Wojeck, C., Swinneburne, R. (2019, April). *Innovation in Assessment using UDL: I-SMART*. Presented at UDL-IRN Summit, Orlando, FL.

Cameto, R., Knokey, A-M., Nagle, K., Sanford, C., Blackorby, J., Sinclair, B., & Riley, D. (2009). *State profiles on alternate assessments based on alternate achievement standards*. A report from the National Study on Alternate Assessments (NCSE 2009-3013). Menlo Park, CA: SRI International.

Blackorby, J., & Dolan, B. (2019, June). *Universal Design for Learning in Postsecondary Education: The Next Generation*. Paper presented at the National Conference on Student Assessment, San Diego, CA.

Blackorby, J., Basham, J., Gravel, J., & Woycik, C. (2021, March). *CORGI – Teaching Higher Order Thinking Skills*. Demonstration presented at the annual Council of Exceptional Children (virtual).

Basham, J., Blackorby, J., & Marino, M. (2020). Opportunity in Crisis: The Role of Universal Design for Learning in Educational Redesign. *Learning Disabilities: A Contemporary Journal* 18(1), 71-91, 2020.

Blackorby, J., Knokey, A. M., & Basham, J. (2019, October). *Innovations in UDL: CORGI and CISL*. Santa Clara County Inclusion Collaborative Statewide Conference, San Jose, CA.

Blackorby, J., Knokey, A. M., & Basham, J. (2019, October). *Escape Room: UDL Style*. Santa Clara County Inclusion Collaborative Statewide Conference, San Jose, CA.

Blackorby, J., & Dolan, B. (2019, June). *Universal Design for Learning in Postsecondary Education: The Next Generation*. Paper presented at the National Conference on Student Assessment, San Diego, CA.

Blackorby, & Goldowsky, B. (2019, January). *Making OERs Sizzle*. Paper presented at CEC Conference, Indianapolis, IN.

Yu, J., Fikes, A.E., Ferguson, K., Wei, X., Tiruke, T., Hall, T., & Blackorby, J. (2019, April). Efficacy Study of the Science Notebook in a Universal Design for Learning Environment. Paper presented at the annual meeting of the American Education Research Association Special Conference, Santa Barbara, CA.

Hartmann, E., & Blackorby, J. (2018). *Expert Learning is for all learners*. New York, NY: Corwin Press.

Basham, J., Blackorby, J., & Stahl, S. (2018). *Universal Design for Learning: Because Students Are (the) Variable*. In Ferdig & Kennedy (Eds.) *Handbook of Research on K-12 Online and Blended Learning*. Pittsburgh, VA: CEC.

Blackorby, J., & Hartmann, E. (2018, August). *UDL in Postsecondary Settings: The Example of T-560-Universal Design for Learning -Meeting the Challenge of Individual Differences*. Paper presented at Annual Meeting of the American Psychological Association (APA), San Francisco, CA.

Blackorby, J., Dieker, L., Izzo, M., Edyburn, D., & Erikson, K. (2018, July). *To Infinity and Beyond: The Future of Educational and Assistive Technology*. Presented at OSEP's 2018 Project Director's Meeting, Washington, DC.

Schiller, E., Blackorby, J., Bakia, M., Friedman K., & Gardner, S. (2018). *Emerging digital technologies in STEM learning: A research agenda for improving success of students with learning disabilities or with autism spectrum disorder*. Arlington, VA: SRI International.

Blackorby, J., Schiller, E., Wei, X., & Bulgren, J. (2018, March). *CORGI – Teaching Higher Order Thinking Skills*. Paper presented at the annual Society for Research in Education and Evaluation Conference (SREE), Washington, DC.

Blackorby, J. (2018, July). *UDL Credentialing and Certification Initiative (CCI): Micro credentials in UDL*. Presented at OSEP's 2018 Project Director's Meeting, Washington, DC.

Blackorby, J. (2017, November). *Ignite Talk: Learner Variability*. Digital Promise/EdSurge Fusion Conference, San Francisco, CA.

Blackorby, J. & Grey, T. (2017, March). *Big Data and the Changing World of Special Education*. Paper presented at the CSUN Technology and Disability Conference, San Diego, CA.

Blackorby, J. (2017, October). *Future of Universal Design for Learning*. Santa Clara County Inclusion Collaborative Statewide Conference, San Jose, CA.

Blackorby, J., Schiller, E., Spriggs, C., & Bulgren, J. (2017, July). *CORGI – Teaching Higher Order Thinking Skills*. Paper presented at the annual KU-CRL Conference, Lawrence, KS.

DuCharme, K., Blackorby, J. & Beuhler, E. (2017, March). *UDLMakers: Workshop on UDL in Maker's Spaces*. Workshop presented at the SXSWedu conference, Austin, TX.

Blackorby, J. (2016, December). *Accessibility in Modern Assessment Systems*. Paper presented at the White House Assessment Convening, Washington, DC.

Blackorby, J., Lenz, K., Campbell, A., & Wei, X. (2015). *Evaluation of CSR Colorado*. Denver, CO: Denver Public Schools.

Blackorby, J. (2016, January). *STEM and Persons with Disabilities: What do we know and what do we need to know?* Paper presented at the annual meeting of the American Education Research Association Special Conference, Santa Barbara, CA.

Blackorby, J. (2014, April). *National data on students with autism spectrum disorder: What's available? What's possible?* Paper presented at the CEC Convention, Philadelphia, PA.

Jenkins, J. R., Schiller, E., Blackorby, J., Thayer, S. K., & Tilly, W. D. (2013). Responsiveness to Intervention in reading architecture and practices. *Learning Disability Quarterly*, 36(1), 36-46. doi: 10.1177/0731948712464963

Wei, X., Lenz, K. B., & Blackorby, J. (2013). Math growth trajectories of students with disabilities: Disability, gender, race, and SES differences from ages 7 to 17. *Remedial and Special Education*. Published online 16 July 2012. doi: 10.1177/0741932512448253

Blackorby, J. Lenz, K., & Wei, X. (2012, April). *Evaluation of the Effects of the Intel Reader on Improving the Reading Performance of Adolescents with Learning Disabilities*. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, BC.

Blackorby, J (2011, April). *Growth in reading achievement in a national sample of students with disabilities ages 7 to 17*. Paper presented at the Council for Exceptional Children's Annual Conference, National Harbor, MD.

Blackorby, J., Schiller, E., Mallik, S., Hebbeler, K., Huang, T., Javitz, H., Marder, C., Nagle, K., Shaver, D., Wagner, M., & Williamson, C. (2010). *Patterns in the identification of and outcomes for children and youth with disabilities*. Menlo Park, CA: SRI International.

SELECTED PROFESSIONAL ACTIVITIES

- Planning Committee, Unconference on Special Education, Washington, DC May 2020
- NSF DRK-12 Conference Planning Committee, Washington, DC, 2020.
- COVID Distance Learning Response, National Education Technology Plan, Office of Educational Technology, Washington, DC, 2020.
- Technical Work Group Member, National Education Technology Plan, Office of Educational Technology, Washington, DC, 2020.
- Conference Co-Chair. Institute for Education Sciences, Washington, DC: 2018.
- Conference Planning Committee. Office of Special Education Programs, Washington, DC: 2018.
- Member. Educator Advisory Panel. Understood.Org, New York, NY: 2018-2022.
- Panel review member. Office of Special Education Programs, Institute for Education Sciences, National Science Foundation.

Kevin King

WestEd, 730 Harrison Street, Suite 500, San Francisco, CA 94107

SUMMARY OF RELATED EXPERIENCE

Kevin King is a Senior Assessment Manager in Assessment Design and Development at WestEd, and leads the State Science Solutions Team. Mr. King specializes in designing and implementing innovative assessments. He has served as the WestEd project director and lead content technical advisor for the Massachusetts Innovative Assessment project. His relevant content expertise is biology. He currently provides content leadership to the science content team in Next Generation Science Standards (NGSS) projects for the Washington Office of Superintendent of Public Instruction (test design and item cluster development for general education assessment and alternate assessment), the Louisiana Department of Education, the Arizona Department of Education, and the Delaware Department of Education (design of the Next Generation Science Assessment System, including innovative task design). He previously led NGSS-focused projects for the Kentucky Department of Education; the Nevada Department of Education; and the 14state Council of Chief State School Officers (CCSSO) Science Assessment Item Collaborative (SAIC), which involved developing an assessment framework, item specifications guidelines, and item cluster prototypes. He was instrumental in designing the Kentucky science assessment system, which includes through course and state summative assessments, and the Delaware Department of Education integrated interim and summative assessments. Mr. King previously served as Project Management Partner (PMP) liaison for the Smarter Balanced Assessment Consortium (Smarter Balanced), providing direction and oversight for multiple contracts and work groups within the Smarter Balanced system.

Prior to joining WestEd, Mr. King served as the director of assessment development in the Assessment and Accountability section of the Utah State Board of Education (USBE). In that capacity, he managed all aspects of test development, including planning, developing, and implementing item and test design; producing, distributing, and administering paper--and--pencil testing programs; transitioning to computer-based testing programs; and developing new testing strategies (e.g., technology-enhanced item development, evidence-centered design item development protocols, and text--to--speech item support) for all USBE testing programs. He previously oversaw the development of all science and English language acquisition assessments for the state of Utah, which utilized a -two dimensional- science framework based on standards that require closely integrating practice and content, and co-chaired the Smarter Balanced Item Development Work Group, which was responsible for item specifications, training, and item/task development, and through which he developed extensive knowledge of the Common Core State Standards.

Mr. King leverages nine years of science classroom experience, covering all science content areas as well as research design methods, in all of his present work.

EDUCATION

- 2003 MEd, Teaching and Learning, University of Utah, Salt Lake City, UT
- 2003 National Board Certified Teacher, Adolescence and Youth Adulthood/Science
- 1998 Utah Teaching License, Level 3, Secondary Science Education (6–12), Utah State Office of Education, Salt Lake City, UT
- 1994 BS, Biology, James Madison University, Harrisonburg, VA

PROFESSIONAL EXPERIENCE

2012–Present

Senior Assessment Manager, Assessment Design and Development

WestEd, San Francisco, CA

Responsibilities include leading the State Science Solutions Team, which involves managing resources to meet state needs for assessment and standards implementation related to the NGSS, supporting science solutions design and product development, and coordinating product innovation, including new assessment, item, and alignment solutions; and managing short- and long-term assessment development projects for all content areas. Developed an assessment framework, item specifications guidelines, and NGSS-aligned three-dimensional item cluster prototypes for the CCSSO SAIC. Served as PMP liaison for Smarter Balanced, which involved facilitating meetings and contracts and maintaining communication protocols for multiple Smarter Balanced work groups (including test administration/student access, technology approach/reporting, and interim assessment), related executive staff, and contract managers.

2010–2012

Co-Chair, Item Development Work Group, Smarter Balanced Assessment Consortium Utah State Board of Education, Salt Lake City, UT

Responsibilities included leading work-group members from across multiple states; communicating with the Smarter Balanced Executive Committee, work groups, project management, and other teams; and serving as contract lead for three contracts: item specifications and guidelines, item writing training modules and development policies), and pilot item development and research.

2009–2012

**Assessment Development Director, Assessment and Accountability
Utah State Board of Education, Salt Lake City, UT**

Responsibilities included supervising staff who developed Utah standardized assessments, including assessments for English language arts, mathematics, science, English language proficiency, direct writing, kindergarten, alternate, and graduation; overseeing development of computer-based test delivery, including multiple program transitions (e.g., paper-based testing to computer-based testing, preequating to postequating, hand scoring to automated essay scoring); developing Utah's interim test system; writing and overseeing federal reports and peer-review submissions; participating in committees (e.g., Technical Advisory Committee, Policy Advisory Committee); and supporting Utah's involvement in Smarter Balanced.

2006–2008

**Assessment Consultant
Cyprus Learning Network, Salt Lake City, UT**

Responsibilities included consulting with the English language arts, mathematics, social studies, and science departments for 18 middle school and high school courses, and training teachers in developing assessments for power standards (i.e., blueprint and item writing).

2005–2012

**Assessment Consultant
Teaching American History Grants, Salt Lake City, UT**

Responsibilities included developing end-of-level diagnostic tests, based on the Utah Core Curriculum, for four secondary-level and three elementary-level social studies content areas. Developed items, pilot tested the design, reviewed item statistics, designed the blueprint, facilitated review committees, and developed operational forms.

2003–2009

**Assessment Development Specialist
Utah State Board of Education, Salt Lake City, UT**

Responsibilities included: directing Utah Science Criterion Referenced Test development for nine courses/grades; directing Utah Academic Language Proficiency Assessment development for full battery of assessment, including five grade spans, two levels for each grade span, four modalities; and directing Demonstrated Competencies Assessment development and supporting item development (including test form construction and cut score determination), which involved multiple content areas (including general financial literacy, science, social studies, mathematics, English language arts, computer technology, and health),

Experience included standard setting, item development, bias and sensitivity reviews, curriculum revisions, review committees for multiple content areas (including English language arts, mathematics, social studies, language acquisition, basic skills, and alternate assessment).

2003

Co-Lead Facilitator

Park City Academy of Teachers, Park City, UT

1998–2003

Teacher, Academic Counts Facilitator, Senior Tutor Coordinator, Science Fair Advisor

Park City High School, Park City, UT

Courses taught: Biology, Physical Science, Honors Biology, Earth Systems, Instructional Teaching Assistant Course, and Science Research.

1995–1998

Teacher, Biology, Anatomy & Physiology, Senior Science Investigations, Integrated

Algebra I/Biology/Research; Thomas A. Edison High School, Fairfax, VA

1994–1995

Teacher, Biology and Earth Science

James W. Robinson Secondary School, Fairfax, VA

SELECTED PUBLICATIONS AND PRESENTATIONS

King, K. (2018, June). *Emerging NGSS large-scale assessment alignment challenges*. Symposium presentation at the National Conference on Student Assessment, San Diego, CA.

King, K. (2018, June). *NGSS regular and alternate assessments: Achieving a cohesive model*. Symposium presentation at the National Conference on Student Assessment, San Diego, CA.

King, K. (2018, June). *NGSS claim and subclaim models*. Symposium presentation at the National Conference on Student Assessment, San Diego, CA.

King, K. (2017, September). Invited presenter at the Reidy Interactive Lecture Series (RILS) focused on assessing student learning of the NGSS.

King, K. (2016, June). *SAIC and the NGSS; Assessment framework and item cluster prototypes: New tools to support NGSS large-scale assessment development*. Symposium presentation at the National Conference on Student Assessment, Philadelphia, PA.

Council of Chief State School Officers. (2015). *Science Assessment Item Collaborative assessment framework for the Next Generation Science Standards*. Washington, DC: Author.

PROFESSIONAL AFFILIATIONS

- Council of State Science Supervisors

Nicholas Gage

WestEd, 730 Harrison Street, San Francisco, CA 94107

SUMMARY OF RELATED EXPERIENCE

Nicholas Gage, a Senior Researcher, has extensive experience conducting rigorous research of education and special education interventions. His specific research interests include identification of policies and practices at the national, state, local and classroom level to support the academic, social, and behavioral needs of students with disabilities, with a focus on high needs students. Dr. Gage's expertise includes STEM for students with disabilities, positive behavior interventions and supports, statistical modeling, research design and methodology, direct observation, single-subject research, and program evaluation. He is a certified What Works Clearinghouse reviewer for both group and single-case experimental designs, was PI on a STEM-focused IES Development project and served as lead evaluator/statistician on grants totaling over \$10 million.

EDUCATION

- 2010 PhD, Special Education (Leadership in Behavioral Disorders), University of Missouri, Columbia, MO
- 2009 MPA, Public Policy/Non-Profit Business Management, University of Missouri, Columbia, MO
- 2006 MA, Education, Goddard College, Plainfield, VT
- 2003 BA, Cultural Studies and Critical Theory, Goddard College, Plainfield, VT

SUBJECT MATTER INTEREST AND DIRECT EXPERIENCE

- Special Education
- Rural Special Education
- STEM and technology
- Design Research
- Implementation Science
- Functional Behavior Assessment
- Multilevel Modeling
- Structural Equation Modeling
- Quantitative Analysis

PROFESSIONAL EXPERIENCE

2021–Present

**Senior Researcher, Special Education Policy & Practice
WestEd, San Francisco, CA**

Lead Evaluator: CORGI-BIO: Knowledge and Skills for 21st Century Schools submitted to U.S. DOE- Office of Elementary and Secondary Education – Education Innovation Research (EIR) Mid-phase. Lead evaluation of a high school science intervention leveraging universal design for learning (UDL).

2013–2021

**Assistant/Associate Professor, School of Special Education, School Psychology, and Early Childhood Studies,
University of Florida, Gainesville, FL**

Principal Investigator: Project Integrate: Integrating School-wide Positive Behavior Interventions and Supports and School Mental Health Services using the Interconnected Systems Framework funded by Office of Special Education Services (#H325D190027). PI and Methodologist: An intervention to provide youth with visual impairments with strategies to access graphical information in math word problems, Goal 2 project funded by IES (#R324A180135). Methodologist: Efficacy of Prime Online: Teacher Professional Development for Inclusive Elementary Mathematics Classrooms, Goal 3 project funded by IES (#R324A180135).

2011–2013

**Institute of Education Sciences Post-Doctoral Fellow, Center for Behavioral Education and Research, Neag School of Education, Department of Educational Psychology
University of Connecticut, Mansfield, CT**

Lead Methodologist: Connecticut Kindergarten through 3rd Grade Literacy Initiative, funded by state of Connecticut.

SELECTED PUBLICATIONS AND PRESENTATIONS

Grasley-Boy, N. M., Gage, N. A., Lombardo, M., & Anderson, L. (2021). The Additive Effects of Implementing Advanced Tiers of SWPBIS with Fidelity on Disciplinary Exclusions. *Journal of Positive Behavior Interventions*. Doi:10.1177/10983007211011767

MacSuga-Gage, A. S., Kaplan, R., Ellis, K., & Gage, N. A. (2021). Comparing academic and behavioral outcomes in rural and urban settings for students with disabilities. *Rural Special Education Quarterly*.

Rosenblum, L. P., Zebehazy, K. T., Gage, N. A., & Beal, C. R. (2021). Pre-algebra students' performance locating and interpreting data in graphs and maps. *Journal of Visual Impairment and Blindness*.

Gage, N. A., Beahm, L., Kaplan, R., MacSuga-Gage, A. S., & Lee, A. (2020). Using Positive Behavioral Interventions and Supports to Reduce School Suspensions. *Beyond Behavior*, 29(3), 132–140. <https://doi.org/10.1177/1074295620950611>

Gage, N. A., Kramer, D., & Ellis, K. (2020). High school students with emotional and behavioral disorders perceptions of school climate. *Journal of Disability Policy Studies*. <https://doi.org/10.1007/s43494-020-00024-0>

Lee, A., & Gage, N. A. (2020). Updating and Expanding Systematic Reviews and Meta Analyses on the Effects of School-Wide Positive Behavior Interventions and Supports. *Psychology in the Schools*, 57, 783-804. <https://doi.org/10.1002/pits.22336>

Gage, N. A., Katsiyannis, A., Carrero, K. M., Miller, R., & Pico, D. (2020). Exploring Disproportionate Discipline for Latinx Students With and Without Disabilities: A National Analysis. *Behavioral Disorders*. <https://doi.org/10.1177/0198742920961356>

Gage, N. A., Grasley-Boy, N., Lombardo, M., & Anderson, L. (2020). The Effect of School-Wide Positive Behavior Interventions and Supports on Disciplinary Exclusions: A Conceptual Replication. *Behavioral Disorders*. <https://doi.org/10.1177/0198742919896305>

Kern, L., Evans, S. W., Lewis, T. J., State, T. M., Mehta, P. D., Weist, M. D., Wills, H. P., & Gage, N. A. (2020). Evaluation of a comprehensive assessment-based intervention for secondary students with social, emotional, and behavioral problems. *Journal of Emotional and Behavioral Disorders*. <https://doi.org/10.1177/1063426620902721>

van Dijk, W., Gage, N. A., & Grasley-Boy, N. (2019). The relation between classroom management and mathematics achievement: A multilevel structural equation model. *Psychology in the Schools*, 56(7), 1173-1186.

Grasley-Boy, N., Gage, N. A., & Lombardo, M. (2019). Effects of SWPBIS on disciplinary exclusions for students with and without disabilities. *Exceptional Children*, 86, 25-39. doi. 10.1177/0014402919854196

Gage, N. A., Grasley-Boy, N., George, H. P., Childs, K., & Kincaid, D. (2019). A quasi-experimental design analysis of the effects of school-wide positive behavior interventions and supports on discipline in Florida. *Journal of Positive Behavior Interventions*, 21, 50-61. doi: 10.1177/1098300718768208

Gage, N. A. & Stevens, R. N. (2018). Rigor, replication, and reproducibility: Increasing the relevance of behavioral disorders research. *Education and Treatment of Children*, 41, 567-588.

Gage, N. A., Whitford, D. K., & Katsiyannis, A. (2018). A review of school-wide positive behavior interventions and supports as a framework for reducing disciplinary exclusions, *Journal of Special Education*, 52, 142-151. doi: 10.1177/0022466918767847

Gage, N. A., Adamson, R., MacSuga-Gage, A. S., & Lewis, T. J. (2017). The relation between the academic achievement of students with emotional and behavioral disorders and teacher characteristics. *Behavioral Disorders*, 43, 213-222. doi: 10.1177/0198742917713211

Gage, N.A. (2015). Evidence-based practices for classroom and behavior management: Tier 2 and Tier 3 strategies (Document No. IC-15). Retrieved from University of Florida, Collaboration for Effective Educator, Development, Accountability, and Reform Center website: <http://ceedar.education.ufl.edu/tools/innovation-configurations/>

Gage, N. A. (2014). Students with emotional disturbance manifesting internalizing behavior: A latent class analysis. *Education and Treatment of Children*, 36, 127-145. doi: 0.1353/etc.2013.0038

Gage, N. A., Lewis, T J., & Stichter, J. P. (2012). Functional behavioral assessment-based interventions for students with emotional and/or behavioral disorders in school: An HLM-meta-analysis. *Behavioral Disorders*, 37(2), 55-77.

SELECTED GRANTS

- 2019. Office of Special Education Programs, U.S. Department of Education, “Project Integrate: School-wide Positive Behavior Interventions and Supports, School Mental Health, and Integrated Systems Framework” PI: Nicholas A. Gage, Co-PIs: Ashley S. MacSuga-Gage and Joni Splett – FUNDED, \$1,160,142.
- 2016. Office of Special Education Programs, U.S. Department of Education, “Project TIER: Teachers, Intervention, and Efficacy Research: Developing the Next Generation of Special Education Scholars” PI: Holly Lane & Co-PI: Nicholas A. Gage – FUNDED \$1,250,000
- 2016. Institute of Education Sciences, U.S. Department of Education, “An intervention to provide youth with visual impairments with strategies to access graphical information in math word problems”, IES National Center for Special Education Research Technology for Special Education, Development & Innovation Goal - PI: Nicholas A. Gage, Co-PI: Carol Beal – FUNDED \$1,400,045

AWARDS

- 2021. Martin J. Kauffman Distinguished Early Career Research Award, Council for Exceptional Children (CEC), Division of Research
- 2015. Association of Positive Behavior Support (APBS) Ted Carr Early Career Research Award, APBS International

SERVICE

- Associate Editor: Exceptional Children (2020-present), The Elementary School Journal (2019-present), Remedial and Special Education (2017-2019)
- President (2016-2019), Council for Children with Behavioral Disorders, a Subdivision of the Council for Exceptional Children

Katherine M Nagle

1140 3rd Street NE, Suite 360, Washington, D.C. 20002

SUMMARY OF RELATED EXPERIENCE

Katherine Nagle, Ph.D., Senior Program Associate at WestEd has almost 20 years' experience providing technical assistance (TA) to states; designing and conducting research and evaluation projects; and conducting special education policy analysis. Currently, Dr Nagle develops tools and resources and provides targeted and intensive TA for the National Center for Education Outcomes (NCEO) on issues related to the 1% threshold for alternate assessment participation. She is a content area specialist on the IDEA Data Center on Indicator 3 Assessment Participation and Achievement on Statewide Assessments and Indicator 17 (SSIP) of the SPP/APR. She is also a staff member and state facilitator of the National Center for Systemic Improvement, providing TA to states on development, implementation, and evaluation of SSIPs. Prior to joining WestEd Dr. Nagle supported the work of SRI International on the National Study of Alternate Assessments, provided TA to enhanced assessment grantees to improve the technical quality of state alternate and modified assessments, and supported the design and development of the National Center and State Collaborative alternate assessment system, now known as the Multi State Alternate Assessment. In addition, Dr Nagle has direct classroom experience with and understanding of the wide variation in the instructional and assessment needs of children with the most significant cognitive disabilities

EDUCATION

- | | |
|------|---|
| 2001 | PhD, Special Education, University of Utah, Salt Lake City, UT |
| 1997 | MA, Special Education, University of Utah, Salt Lake City, UT |
| 1984 | BA, Ancient and Modern History, The Queens University of Belfast, Belfast, Northern Ireland |

PROFESSIONAL EXPERIENCE

- | | |
|------------------|---|
| 2019-
Present | <i>Continuous Improvement Specialist:</i> NH CSI Schools Progress Monitoring Project, Learning Innovations (LI), WestEd, Washington DC. |
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Dr. Nagle is a continuous improvement specialist in six CSI Schools in NH. She works closely with schools implementing the Four Domains of Rapid School Turnaround in their school improvement plans. Nagle provides data analysis and progress monitoring supports to school teams and facilitates ongoing school improvement meetings.

2018–
Present
Charter School Program Monitor: Charter Management Organization Replication and Expansion (CMO) grants, Learning Innovations (LI) WestEd, Washington DC.

Dr. Nagle is a member of several three person monitoring teams that prepare, conduct, and report on Charter Management Organization Replication and Expansion grantees. In this capacity she typically reviews performance indicators related to school quality, increasing academic achievement for low income and minority students, serving English Learners and students with disabilities, and strategies for meeting project outcomes.

2018–
Present
TA Facilitator and Staff Member, National Center for Systemic Improvement (NCSI), Learning Innovations (LI) WestEd, Washington, D.C.

Dr. Nagle is a Part B technical assistance facilitator for Louisiana, Minnesota, New Mexico, Montana, Oklahoma, and Tennessee, co-leads the Communication and Collaboration service area team, serves on the Systems Change service area team and is part of the continuous improvement cohort. NCSI, funded by OSEP, helps states transform their systems to improve outcomes for infants, toddlers, children and youth with disabilities, by providing states with technical assistance to support their school districts and local early intervention service programs in improving education results and functional outcomes for children with disabilities.

2018–
Present
TA Facilitator and Staff Member, National Center for Education Outcomes (NCEO), Learning Innovations (LI) WestEd, Washington DC.

Serves as a targeted and intensive technical assistance provider for the OSEP funded NCEO. NCEO supports states in their efforts to implement U.S. Department of Education accountability systems, including ESEA accountability and IDEA State Systemic Improvement Plans (SSIPs) and State-Identified Measurable Results (SIMRs), and issues around the 1% threshold for alternate assessment participation.

2017–
2018
Co-Project Director, Center to Improve Program and Project Performance, Center for Learning and Development SRI International, Washington, D.C.

Provided technical assistance to OSEP projects and programs in developing logic models and evaluation plans and conducting high quality evaluations of evidence-based interventions. Helped develop project and program measures and facilitated 3+2 grant review.

2015–
2018
Co-Director Montana Continuous Improvement in Education Research to Improve Secondary School Literacy Outcomes, Center for Learning and Development SRI International, Washington, D.C.

Provided on-site and virtual support to high-school teachers engaged in improvement science continuous improvement cycles to improve literacy outcomes in four high schools with large populations of American Indian students.

- 2014-2018 *State Facilitator/ Service Area Specialist* National Center for Systemic Improvement, Center for Learning and Development SRI International, Washington, D.C.
- Provided technical assistance to five states on State Systemic Improvement Plans, Annual Performance Reports, and state General Supervision Systems. Provided technical on data analysis, including root cause analysis, infrastructure analysis, evaluation planning, and evaluation of evidence-based practices leading to impact on the state identified measurable result. Member of Strategic Change and Communication and Collaboration service area teams. Member of Results Based Accountability and Graduation and Postsecondary Outcomes cross state learning collaboratives.
- 2013-2018 *Project Director /Topic Specialist IDEA Data Center Project*, Center for Learning and Development SRI International, Washington, D.C.
- Project director and work group leader, topic specialist, and learning community leader for IDC Tools and Products Activity Area: Assessment.
- 2012-2016 *Principal Investigator/Project Leader, Rural Mathematics Excellence Project (Investing in Innovation Development Grant)*, Center for Learning and Development, SRI International, Washington, D.C.
- Quasi experimental design implementation and outcomes evaluation of the effectiveness of a shared responsibility model for student success in mathematics in rural school districts in Virginia. Managed the overall conduct of the project including working with the project developer and ABT technical assistance provider; developed and implemented the evaluation and analysis plan; developed data collection instruments, conducted data collection, analysis, and report writing activities.
- 2012-2015 *Research Associate, Model Demonstration Coordination Center*, Center for Learning and Development SRI International, Washington, D.C.
- Facilitated monthly communication with program grantees and OSEP and provided technical assistance for grantees of the Stepping-UP Technology Implementation program. Developed data collection instruments for OSEP to facilitate understanding of project implementation.
- 2012-2015 *Research Associate, Factors Associated with High School and Post-high School Outcomes of Deaf and Hard-of-Hearing (DHH) Students*, Center for Learning and Development SRI International, Washington, D.C.
- Data analysis and report writing from the National Longitudinal Transition Study-2 (NLTS2) to identify school-related interventions that are associated with the academic, occupational, social, and independence outcomes of DHH students in secondary school and early adulthood.

2011–
2014 *Research Associate, Task Designer*, National Centers and State Collaboratives, Center for Learning and Development SRI International, Washington, D.C.

Technical assistance to develop assessment tasks for students with significant cognitive disabilities using evidence-centered design (ECD) and universal design for learning (UDL) aligned to the Common Core State Standards in mathematics and English language arts.

2010–
2012 *Research Associate Task Leader*, Evaluation of Response to Intervention Practices in Elementary School Reading, Center for Learning and Development SRI International, Washington, D.C.

Supported development and revision of the study design, developed data collection instruments, screened and recruited schools and districts, analyzed data, and assisted in report writing.

2009–
2011 *Research Associate*, Utah Enhanced Assessment Grant, Center for Learning and Development SRI International, Washington, D.C.

Provided technical assistance in applying evidence-centered design to the development of design patterns and tasks for use in alternate assessments based on alternate achievement standards aligned to the National Council for Teaching Mathematics Standards. Designed suites of assessment tasks, developed supporting materials, provided supports for task administration training in three states, and developed technical reports.

2008–
2010 *Research Associate*, Idaho Enhanced Assessment Grant, Center for Learning and Development SRI International, Washington, D.C.

Provided technical assistance in applying evidence-centered design to the development of design patterns and tasks for use in alternate assessments based on alternate achievement standards aligned to the common core state standards in English language arts. Co-designed suites of assessment tasks, developed supporting materials, provided supports for task administration training in three states, and developed technical reports.

2006–
2010 *Research Associate*, National Study on Alternate Assessment, Center for Learning and Development SRI International, Washington, D.C.

Investigated and reported on the implementation of federal policies and practices related to alternate assessment design and implementation for students with significant cognitive disabilities.

2001–
2006 *Project Director, Education Policy Reform Research Institute*, University of Maryland, College Park, MD

Research activities focused on the impact of federal and state standards-based education policy and accountability reforms on students with disabilities and the programs that serve them. Responsible for all logistical and substantive components of the research project including case study research design, site

visits, data collection, qualitative data analysis and report writing, and quantitative analysis of new and extant data.

2004-2006 *Project Director*, The Laboratory for Student Success, University of Maryland, College park, MD

Conducted interviews and survey research and analysis in rural schools in Delaware, Pennsylvania, and Maryland. Identified characteristics of rural schools that were effective with students with disabilities.

2005-2006 *Independent Consultant*, Greece Independent School District, NY

Court appointed joint expert to determine the extent of non-compliance and violation of the Individuals with Disabilities Education Act. This was a class action suit brought against the school district and resulted in a Consent Decree based on the recommendations of the joint experts.

2005-2006 *Independent Consultant*, Academy for Education Development, Washington, D.C.

Program assessment of special education services to students with disabilities in the country of Qatar. Conducted literature review, analyzed existing education policy documents, developed a menu of options for redesign of special education program. Developed 5-year plan and pilot evaluation design for the Supreme Education Council of Qatar.

2003–2004 *Independent Consultant*, District of Columbia Public Schools, Washington, D.C.

Conducted an independent evaluation of the District of Columbia Public Schools Special Education program. Utilized both qualitative and quantitative research methods. Report was presented to DCPS Superintendent with recommendations for program improvement including focused monitoring of educational variables, professional development, development and implementation of standards-based reform, and development of an inclusive accountability system.

1999–2001 *Adjunct Faculty*, Department of Special Education University of Utah, Salt Lake City, UT

Taught graduate-level and undergraduate courses in special education policy and clinical courses in education of students with visual impairments and students with severe disabilities.

1997–1999 *Teacher for Students with Visual Impairments*, Jordan School District, Salt Lake City, UT

Itinerant teacher for students with visual impairments preschool through age 21. Conducted individual diagnostic assessments of students with visual impairments placed in general education classrooms, provided special materials, consulted with school personnel, and provided individualized instruction in disability specific skills.

1996– *Teacher for Students with Visual Impairments*, Utah School for the Blind, Salt
1997 Lake City, UT

Conducted individual diagnostic assessments of preschool students with visual impairments placed in a self-contained preschool program. Provided age appropriate instruction in early childhood knowledge skills and attributes and provided individualized instruction in disability specific skills

1995– *Teacher Consultant*, Utah School for the Blind, Ogden, UT
1996

Provided outreach services concerning infants, toddlers and students with visual impairments to schools and families in Utah. Conducted individual diagnostic assessments of students with visual impairments, provided special materials, consulted with school personnel and families, and provided individualized instruction in disability specific skills.

1994– Vision Aide, Jordan School District, Salt Lake City, UT
1995

1993– Substitute Teacher, Utah School for the Blind, Salt Lake City, UT
1994

1991– Head of History and Geography, Hillcrest Preparatory School, Nairobi, Kenya
1993

1988– Head of History and Geography, Trevor-Roberts School, London, UK
1991

SELECTED PUBLICATIONS AND PRESENTATIONS

Nagle, K. M., Shaver, D. M., Newman, L., & Marschark, M. (2016). College and Career Readiness: Course Taking of Deaf and Hard of Hearing Secondary School Students. *American Annals of the Deaf*, 160(5), 467-482.

Schiller, E., Hayes, S., & Nagle, K. (2015, November). *Performance indicators as a tool for measuring progress toward a SIMR*, White Paper, Rockville, MD: IDEA Data Center.

Shaver, D., Wagner, M., Nagle, K. & Ryan, T. (2015). *Improving implementation of programs and practices for children with disabilities. Lessons learned from the Model Demonstration Coordination Center*. Menlo Park, CA: SRI International.

Marschark, M., Shaver, D. M., Nagle, K. M., & Newman, L. (2015). Predicting the academic achievement of deaf and hard-of-hearing students from individual, household, communication, and educational factors. *Exceptional Children* 81, 350-369.

- Nagle, K., & Cameto, R. (2013). Lessons learned from AA-MAS: The Oklahoma Modified Alternate Assessment Program (OMAAP). In M. L. Thurlow, S. S. Lazarus, & S. Bechard. (Eds.). (2013). Lessons learned in federally funded projects that can improve the instruction and assessment of low performing students with disabilities (pp. 368-383). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Retrieved from <http://www.cehd.umn.edu/nceo/OnlinePubs/LessonsLearned.pdf#page=368>
- Newman, L., Wagner, M., Huang, T., Shaver, D., Knokey, A.-M., Yu, J., Contreras, E., Ferguson, K., Greene, S., Nagle, K., & Cameto, R. (2011). *Secondary school programs and performance of students with disabilities. A special topic report of findings from the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2012-3000)*. U.S. Department of Education. Menlo Park, CA: SRI International. Retrieved from www.nlts2.org/reports/2011_11/nlts2_report_2011_11_complete.pdf.
- Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., Wei, X., with Cameto, R., Contreras, E., Ferguson, K., Greene, S., & Schwarting, M. (2011). *The post-high school outcomes of young adults with disabilities up to 8 years after high school. A report from the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2011-3005)*. Menlo Park, CA: SRI International. Retrieved from www.nlts2.org/reports/
- Newman, L., Wagner, M., Huang, T., Shaver, D., Knokey, A.-M., Yu, J., Contreras, E., Ferguson, K., Greene, S., Nagle, K., & Cameto, R. (2011). *Secondary school programs and performance of students with disabilities. A special topic report of findings from the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2012-3000)*. Menlo Park, CA: SRI International. Retrieved from www.nlts2.org/reports/2011_11/nlts2_report_2011_11_complete.pdf
- Cameto, R., Bergland, F., Knokey, A.-M., Nagle, K. M., Sanford, C., Kalb, S. C., Blackorby, J., Sinclair, B., Riley, D., & Ortega, M. (2010). *Teacher perspectives of school-level implementation of alternate assessments for students with significant cognitive disabilities. A report from the National Study on Alternate Assessments (NCSE 2010-3007)*. Menlo Park, CA: SRI International.
- Cameto, R., & Nagle, K. (2007). *Facts from NLTS2: Orientation and mobility skills of secondary school students with visual impairments*. Menlo Park, CA: SRI International. Retrieved from www.nlts2.org/fact_sheets/nlts2_fact_sheet_2007_11.pdf
- Kohl, F. L., McLaughlin, M. J., & Nagle, K. M. (2006). Alternate achievement standards and assessments: A descriptive investigation of 16 states. *Exceptional Children*, 73(1), 107-123.
- Nagle, K. M., Malmgren, K., & Yunker, C. A. (2006). Students with disabilities and accountability reform: Can a rising tide raise all boats? *Journal of Disability Policy Studies*, 17(1), 29-38.

- Nagle, K. M., Hernandez, G., Ember, S., McLaughlin, M. J., & Doh, F. (2006). Characteristics of effective rural elementary schools for students with disabilities. *Rural Special Education Quarterly*, 25(3), 3-12.
- Nagle, K. M., & Crawford, J. (2005). Opportunities and challenges: Perspectives on NCLBA from special education directors in urban school districts. *Journal of Special Education Leadership*, 18(2), 8–13.
- Nagle, K. M. (2001). Transition to employment and community life for youth with visual impairments: Current status and future directions. *Journal of Visual Impairments and Blindness*, 95(12), 725-738.
- Hayes, S., Nagle, K., & Lomax, E. (April, 2021). *Navigating Uncharted Waters: Engaging Stakeholders in Indicator 3 Baseline and Target Setting*. Presentation, IDC 2021 Interactive Institute. Retrieved, <https://ideadata.org/resources/resource/1785/the-assessment-data-journey-are-we-there-yet>
- Meinders, D., & Nagle, K. (November, 2020). *Pursuing Coherence in Systems Improvement, Session 1 Getting Started*. Topical Session, NCSI 2020 Fall CSLC Virtual Convening.
- Meinders, D., & Nagle, K. (November, 2020). *Pursuing Coherence in Systems Improvement, Session 2: Going Deeper*, Topical Session, , NCSI 2020 Fall CSLC Virtual Convening.
- Nagle, K., Hayes, S., Boyd, T., & Walters, S. (October 2020). *The Assessment Journey: Are We There Yet? Interactive Tool*,
- Cashman, J., Nagle, K., & Ferguson, A. (2017, June). *Leading by Convening: Turning Stakeholders into Allies*. Keynote Presentation, Region 5 Parent Technical Assistance Center Annual Meeting, Albuquerque, NM.
- Cashman, J., Nagle, K., & Ferguson, A. (2017, June). *Bridging Tools: Creating Active Roles for Family Centers and Families*. Breakout Session, Region 5 Parent Technical Assistance Center Annual Meeting, Albuquerque, NM.
- Nagle, K. M., & Cameto, R. (2011, April). *Teacher perspectives: School-level implementation of alternate assessments for students with significant cognitive disabilities*. Roundtable session presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Nagle, K. M., & Cameto, R. (2011, April). *Comparing scores on alternate assessments based on modified achievement standards and scores on general assessments*. Poster presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

- Nagle, K. M., & Cameto, R. (2009, July). *Teacher understanding and use of state-developed guidelines for assessment eligibility and the development and implementation of standards-based IEPs*. Paper presented at the 2009 OSEP Project Directors' Conference in Washington DC.
- Nagle, K. (2009, June). Preliminary Evaluation of the National Science Foundation's Research in Disabilities Education Program: Findings from Pilot Study 2. Paper presented at the National Science Foundation's Joint Annual Meeting, Washington, D.C.
- Nagle, K. (2008, June). Preliminary Evaluation of the National Science Foundation's Research in Disabilities Education Program: Findings from Pilot Study 1. Paper presented at the National Science Foundation's Joint Annual Meeting, Washington, D.C.
- Almond, P. J., Nagle, K. M., Haydel DeBarger, A., Knokey, A.-M., & Cameto, R. (April, 2009). *Identifying construct irrelevant barriers to reading achievement for low performing students taking alternate assessments judged against modified achievement standards*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Nagle, K. M., & Thurlow, M. L. (2006 June). *Implications for current performance-based accountability in educational reform*. Paper presented at the Fourth Anglo-American Symposium on Special Education and School Reform: Issues in the Classification of Children in Education: Perspectives and Purposes of Disability Classification Systems, Cambridge, England.
- Nagle, K. M., & Malmgren, K. W. (2006, April). *Increasing teacher collective responsibility for the academic achievement and development of students with disabilities*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Nagle, K. M., & Malmgren, K. (2005, April). *Educators' perceptions on accountability reform and the teaching and learning of students with disabilities*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

SELECTED PROFESSIONAL ACTIVITIES

- Ad hoc proposal reviewer National Science Foundation
- Ad hoc proposal reviewer US Department of Education Office of Special Education Programs

PROFESSIONAL AFFILIATIONS

- Member Council for Exceptional Children
- Member American Education Research Association
- Member Association for Education and Rehabilitation Of the Visually Impaired

Cinda Parton

730 Harrison Street, San Francisco, CA 94107

SUMMARY OF RELATED EXPERIENCE

Cinda Parton is a Senior Assessment Manager in Assessment Design and Development at WestEd. Ms. Parton provides leadership and content expertise to a variety of design, implementation, professional development, and research projects. These roles include providing senior technical direction for design and development for large-scale science assessments for the Delaware Department of Education, the Washington Office of Superintendent of Public Instruction, the Arizona Department of Education and the Innovative Assessment Development Authority (IADA)-funded science pilot in Massachusetts. She has served as project manager and primary content expert for the development of California Science Test Science Academies for the California Department of Education and provided leadership and facilitation in the development and delivery of the NGSS Performance Task Development Project for the Los Angeles County Office of Education. Ms. Parton served as content expert for the revision of early learning science standards based on the NGSS for Washington, D.C., and was lead analyst for the Indiana Science Standards College and Career Readiness review.

Prior to joining WestEd, she served in multiple assessment leadership positions at the district, state, and national levels. She has a combined twelve years of service in the Washington Office of Superintendent of Public Instruction as Director of Assessment Development and as Science Assessment Specialist, overseeing all aspects of assessment development for all content areas, with a focus on science. She was instrumental in transitioning Washington's science assessments from measuring traditional science standards to measuring the NGSS. She also served on the national executive committee of the Smarter Balanced Assessment Consortium.

Ms. Parton brings 18 years of high school-level science classroom experience, covering all science content areas, to her present work.

EDUCATION

- | | |
|------|--|
| 1991 | MEd, Curriculum and Instruction, Eastern Washington University, Cheney, WA |
| 1987 | BA, Chemistry/Secondary Education, Eastern Washington University, Cheney, WA |

PROFESSIONAL EXPERIENCE

- 2017– Present *Senior Assessment Manager*, Assessment Design and Development (formerly Standards, Assessment, and Accountability Services [SAAS]), WestEd, San Francisco, CA
Manages resources to meet state needs for assessment and standards implementation related to the NGSS; supports science solutions design and product development; coordinates product innovation, including new assessment, item, and alignment solutions; and manages short- and long-term assessment development projects for all content areas. Manages projects to design and facilitate educator professional development that uses assessment resources to enhance educators' understanding of instructing to standards.
- 2009– 2017 *Director, Assessment Development*, State of Washington Office of Superintendent of Public Instruction (OSPI), Olympia, WA
Provided direction and oversight for all stages of development and scoring of state assessments in mathematics, English language arts, and science. Facilitated and supported staff facilitation of all necessary test development meetings, including technical advisory committees, content reviews, data reviews, bias reviews, range-finding, item writing, alignment studies, and standard setting. Supervised professional and administrative support staff in mathematics, English language arts, and science content areas. Coordinated and monitored all psychometric aspects of the state's assessment program.
- 2008– 2009 *Science Instructional Coach*
Mead School District, Mead, WA
Provided instructional support for all science teachers at two large high schools. Guided development of formative assessment resources, trained teachers in data analysis, and assisted teachers in planning and implementing research-based practices in effective science instruction.
- 2008– 2009 *Freelance Item Writer*
Northwest Evaluation Association, Portland, OR
Developed science assessment items matched to item specifications.
- 2004– 2008 *Science Assessment Specialist*
OSPI, Olympia, WA
Provided leadership for all phases of development and scoring of the Washington Assessment of Student Learning for science for grades 5, 8, and high school, including facilitation of all required committees. Planned and delivered professional development, in science instructional materials, teaching strategies, and assessments for teachers, curriculum leaders, and administrators throughout the state. Developed and produced both technical and informational documents and presentations for various stakeholders.
- 1997– 1999 *Adjunct Professor, Education*
Gonzaga University, Spokane, WA
Formulated structure, content, and requirements for Secondary Methods in Science course. Lectured, led weekly discussions, and administered assignments and grades to preservice science teachers.
- 1987– *Teacher; Science Department Chair* (1998–2004), Joel E. Ferris High School

2004 Spokane Public Schools, Spokane, WA
Taught Chemistry, Second Year/AP Chemistry, Second Year Biology with AP Option, Science 9, Science 9 Honors, and Science 10 Honors courses. As Science Department Chair, managed personnel, budget, and supplies; observed and evaluated eleven staff in the department; provided leadership in curriculum and classroom instruction; and facilitated communication among staff, administration, and the community.

Conducted research in bioinorganic chemistry under the direction of Gonzaga University chemistry faculty through a Partners in Science grant (1992–1994). Presented research findings at the annual meetings of Research Corporation in Tucson, Arizona, in 1993 and 1994.

SELECTED PROFESSIONAL ACTIVITIES

- Presenter, *From Policy to Practice—Using State Assessments to Inform Teaching and Learning*, California Educational Research Association Annual Conference (2018)
- Discussant, *NGSS Claim and Subclaim Models*, National Conference on Student Assessment (2018)
- Member, Smarter Balanced Executive Committee (2015–2017)
- Presenter, National Conference on Student Assessment (2015, 2016)
- Presenter, Washington Educational Research Association Winter Conference (2015)
- Member, CCSSO Science Assessment Item Collaborative (SAIC) (2015)
- Member, Science Instructional Materials Review Committee, OSPI (2009)
- Member, State Science Standards Revision Team, OSPI (2008)
- Reviewer, National Assessment of Educational Progress (NAEP) Content Review Committee for the 2009 NAEP Science Assessment (2007)
- Reviewer, National Assessment of Educational Progress (NAEP) Regional Framework Review (2006)
- Board member, Washington Science Teachers Association (2003–2004)
- Member, Science Assessment Leadership Team, OSPI (2001–2004)

PROFESSIONAL AFFILIATIONS

- Council of State Science Supervisors
- National Science Teachers Association
- Washington Science Teachers Association

Joanne L. Jensen

WestEd, 730 Harrison Street, Suite 500, San Francisco, CA 94107

SUMMARY OF RELATED EXPERIENCE

Joanne Jensen is the Director of Assessment Design and Development at WestEd. Dr. Jensen is responsible for developing strategic solutions to address state and district needs, and she serves as a senior technical advisor for WestEd's assessment development contracts. With more than 30 years of service at WestEd, Dr. Jensen has extensive experience supporting states in the development of standards-based assessments involving both paper-based and computer-administered assessments. In collaboration with state clients, she has led development activities that included performance-based items and tasks, technology-enhanced items, single-option and multiple-option selected-response items, and a range of constructed-response item types. She presently serves as the senior advisor for the development of Arizona's English Language Learner Assessment (AZELLA), Louisiana's summative assessments for social studies and science, Tennessee's formative assessments as part of their comprehensive assessment system, and the Indiana Student Performance Readiness and Observation of Understanding Tool (ISPROUT) for students ages 3–5.

She previously served as the senior technical advisor for Louisiana's Diagnostic Assessments for ELA and mathematics for grades 3–10 and Tennessee's ELA and mathematics assessments for grade 2. She also served as the senior technical and management advisor for a joint project with Johns Hopkins University to develop the Early Childhood Comprehensive Assessment System for Maryland and Ohio and its extension through an Enhanced Assessment Grant to an expanded consortium of states. For more than 15 years, she served as the Project Director for Nevada's Proficiency Examination Program, which included criterion-referenced assessments for grades 3 through high school. She also previously served as the Project Director at WestEd for Kentucky's Commonwealth Accountability Testing System (CATS) assessment development; West Virginia's WESTEST Statewide Assessment Program for English/language arts, mathematics, science, and social studies; the Massachusetts Comprehensive Assessment System science and history/social sciences assessments; the End-of-Semester Assessment Program for the Cincinnati Public Schools for grades 9, 10, 11, and 12 in the content areas of English, mathematics, science, and social studies; and the development of a Comprehensive Student Certification System for the National Academy Foundation combining career-technical competencies with 21st-century skills.

EDUCATION

1994 PhD, Educational Psychology, University of California, Berkeley

Areas: Research Methods, Educational Measurement, Learning Theory

1984 MA, Education, University of California, Berkeley

1980 BA (summa cum laude), Psychology, California State University, Fresno

PROFESSIONAL EXPERIENCE

2020–Present

Director, Assessment Design and Development
WestEd, San Francisco, CA

Responsibilities include program-wide management of strategic initiatives, innovations, and resource development. Serves as primary liaison to vendor partners.

2007–2020

Director of Assessment Client Relations
WestEd, San Francisco, CA

Responsibilities included senior-level, program-wide management of strategic initiatives, innovations, and resource development. Served as primary liaison to vendor partners.

2000–2007

Director of Test Development
WestEd, San Francisco, CA

Responsibilities included program management support and coordination of content support for assessment development contracts.

1991–2000

Research Associate, Far West Laboratory for Educational Research and Development
WestEd, San Francisco, CA

Responsibilities included development of standards and assessments for large-scale assessment contracts. Activities included item development and editing, item and bias facilitation, forms construction and review, scoring-related activities, and standard setting.

1986–1990

Supervisor/Trainer, “Learning from Text” Staff, School of Education
University of California, Berkeley, CA

Responsibilities included program management support and coordination of content support for assessment development contracts.

1980–1986

Research Assistant, Far West Laboratory for Educational Research and Development
WestEd, San Francisco, CA

Responsibilities included recruitment of research participants and supervision and training of research assistants responsible for observations and data collection. Activities included

development of surveys and observational protocols, conducting classroom observations and teacher interviews, and data analysis.

SELECTED PUBLICATIONS AND PRESENTATIONS

Jensen, J. (2018). *The development and implementation of an enhanced version 2.0 kindergarten readiness assessment (KRA) informed by four years of administration across Maryland and Ohio*. Symposium presentation at the National Conference on Student Assessment, San Diego.

Jensen, J. (2018). *Preparing for grade 3: Tennessee's innovative assessment for grade 2*. Paper presented to the National Conference on Student Assessment, San Diego.

Jensen, J. (2016). *Kentucky's experience with three-dimensional science assessment*. Symposium presentation at the National Conference on Student Assessment, Philadelphia.

Jensen, J. (2015). *Ready for kindergarten: Lessons from the field in the implementation of a kindergarten readiness assessment*. Symposium presentation at the National Conference on Student Assessment, San Diego, CA.

Jensen, J. (2015). *Evaluating student motivation in field testing: Concepts, implementation, analysis, and interpretation*. Paper presented to the National Conference on Student Assessment, San Diego, CA.

Jensen, J. (2014). *Teacher scoring as professional development*. Session moderator at the California Education Research Association Annual Meeting, San Diego, CA.

Jensen, J. (2009). *Alignment: Methods and implications*. Paper presented to the Council of Chief State School Officers National Conference on Student Assessment, Los Angeles, CA.

Jensen, J. (2008). *Assessment at the high school level: Oh the choices we have!* Paper presented to the Council of Chief State School Officers National Conference on Student Assessment, Orlando, FL.

Jensen, J. (2008). *The Webbs we weave*. Paper presented to the Council of Chief State School Officers National Conference on Student Assessment, Orlando, FL.

Jensen, J. (2006). *NAEP as a validity indicator*. Paper presented to the Council of Chief State School Officers Large-Scale Assessment Conference, San Francisco, CA.

Jensen, J. (2006). *UDA versus DOK: From the perspective of a test developer*. Paper presented to the Council of Chief State School Officers Large-Scale Assessment Conference, San Francisco, CA.

Jensen, J. (2005). *Assessment, accountability, and testing*. Invited address for visiting scholars, WestEd, San Francisco, CA.

Jensen, J. (2004). *How can data be used on the road to school improvement?* Keynote address for the Office of Assessment, Program Accountability, and Curriculum Dissemination Conference, Reno, NV.

Jensen, J. (2004). *The item development cycle for the Nevada Proficiency Examination Program.* Invited address at the Office of Assessment, Program Accountability, and Curriculum Dissemination Conference, Reno, NV.

Jensen, J. (2003). *Implications of No Child Left Behind (NCLB) for test development.* Paper presented to the Council of Chief State School Officers Large-Scale Assessment Conference, San Antonio, TX.

Jensen, J. (2002). *The effects of varied stakes on state science assessment content and performance standards.* Paper presented to the Council of Chief State School Officers Large-Scale Assessment Conference, Palm Desert, CA.

Jensen, J. (2001). *Resetting student performance standards for Kentucky's accountability assessment: Comparing information from multiple methods—implications for test development.* Paper presented at the Annual Conference of the American Educational Research Association, Seattle, WA.

Jensen, J., & Rabinowitz, S. (2001). *The clash of norm-referenced and criterion-referenced assessment.* Paper presented to the Council of Chief State School Officers Large-Scale Assessment Conference, Houston, TX.

Jensen, J., & Rims, R. L. (1998). *The development of the Commonwealth Accountability Testing System.* Invited address to the Kentucky Association of Assessment Coordinators, Louisville, KY.

Jensen, J. (1997). *Reflecting on assessment.* Invited address to the faculty of the School of Education, University of the Pacific, Stockton, CA.

Jensen, J. (1995). *Educational reform: A national perspective.* Invited address for the Women's Studies Conference, Bowling Green, KY.

Jensen, J., & Constantine, N. (1995). Review of the Murphy-Meisgeier Type Indicator for Children. In J. C. Conoley & J. C. Impara (Eds.), *The mental measurements yearbook*. The University of Nebraska Press.

Nafziger, D. H., & Jensen, J. (1995). Review of Australian Council for Educational Research Tests of Basic Skills. In J. C. Conoley & J. C. Impara (Eds.), *The mental measurements yearbook*. The University of Nebraska Press.

Nafziger, D. H., & Jensen, J. (1995). Review of School Assessment Survey. In J. C. Conoley & J. C. Impara (Eds.), *The mental measurements yearbook*. The University of Nebraska Press.

Jensen, J. (1994). *The effect of survey format on response rate and pattern of responding. Results based on a survey of women graduates from a school of education* (doctoral dissertation). University of California, Berkeley, CA.

Jensen, J. (1993). *A differentiation of common uses of standards to support educational reform*. Paper presented at the Annual Conference of the California Educational Research Association, Long Beach, CA.

Jensen, J. (1992). *A further examination of the effects of item order on response patterns and an investigation of the implications of item revision*. Paper presented at the Annual Conference of the American Educational Research Association, San Francisco, CA.

Jensen, J. (1992). *A new assessment system to support high school restructuring: The Career-Technical Assessment Project*. Paper presented at the Annual Conference of the California Association of Vocational Administrators, San Diego, CA.

Jensen, J. (1991). *Eenie, meenie, minee, moe—does it matter where they go?: An examination of the effects of item order based on a survey of women graduates from a school of education*. Paper presented at the Annual Conference of the American Educational Research Association, Chicago, IL.

Busk, P. L., & Jensen, J. (1991). *Women's graduate school experiences, professional career expectations, and their relationship*. Paper presented at the Annual Conference of the American Educational Research Association, Chicago, IL.

SELECTED PROFESSIONAL ACTIVITIES

- Officer and Referee, Large-Scale Assessment Special Interest Group (SIG), American Educational Research Association
- Referee, Association of Test Publishers
- Referee, American Educational Research Association Division H: School Evaluation and Program Development
- Referee, *Curriculum and Instruction*
- Referee, *Educational Researcher*

Quintin, Love

WestEd, 730 Harrison Street, Suite 500, San Francisco, CA 94107

SUMMARY OF RELATED EXPERIENCE

Quintin Love is a Senior Research Associate at WestEd. Dr. Love ensures that evaluation designs feature high standards of evidence, and oversees the implementation of randomized field trials in education settings on the Assessment Research and Innovation team. His areas of expertise include Study Design, Item Response Theory, and Factor Analysis. Dr. Love received a BS and MEd in Middle Grades Education from Albany State University, a PhD in Educational Psychology from the University of Minnesota, and a Graduate Certificate in Educational Leadership from Lamar University.

EDUCATION

- 2015 Graduate Certificate, Educational Leadership, Lamar University
- 2014 PhD, Educational Psychology, University of Minnesota
- 2007 MEd, Middle Grades Education, Albany State University
- 2005 BS, Middle Grades Education, Albany State University

PROFESSIONAL EXPERIENCE

2021–Present

Senior Research Associate, Assessment Research and Innovation
WestEd, San Francisco, CA

Serves as Data Analyst for a grant funded by the U.S. Department of Education's Institute of Education Sciences (IES) related to a goal 3 efficacy study on beginning reader interventions.

2020–2021

Senior Psychometrician, Research and Psychometrics
New Meridian, Austin, TX

Lead Psychometrician on Automated Test Assembly, Multi-Stage Testing, and Item Response Behavior research.

2016–2020

Psychometrician, Psychometric Services
Questar Assessment, Apple Valley, MN

Psychometrician on several large-scale summative assessment programs.

SELECTED PUBLICATIONS AND PRESENTATIONS

Deng, N., Love, Q., & Nolan, K. (2019, April). *Item- and Test-level Statistical Adjustment across Test Administration Modes*. Paper presentation to the Annual Meeting of the National Council on Measurement in Education, Toronto, Canada.

Davenport, E. C., Davison, M. L., Liou, P. Y., & Love, Q. U. (2015). Reliability, dimensionality, and internal consistency: Distinct albeit related concepts. *Educational Measurement: Issues and Practice*, 34(4), 4-9.

Love, Q. U., & Clarkson, L. C. (2013, April). *Toward a unified multidimensional parental involvement framework*. Presentation at the Annual Meeting of the American Educational Research Association, San Francisco.

SELECTED PROFESSIONAL ACTIVITIES

- Attendee, Annual Meeting of the National Council on Measurement in Education (2019-2021)
- Principal Researcher for Assessing the viability of a multi-stage testing solution for large-scale summative assessments using the New Meridian-managed item bank research project (2020)
- Principal Researcher for Investigating trends in item response times on large-scale English/Language Arts and Mathematics summative assessments research project (2020)

PROFESSIONAL AFFILIATIONS

- Member, National Council on Measurement in Education

Kathryn Rhoades

WestEd, 730 Harrison St, San Francisco, CA 94107

SUMMARY OF RELATED EXPERIENCE

Kathryn Rhoades is a Senior ELA Content Specialist at WestEd working on a variety of state assessment and shelf projects. Ms. Rhoades has over 20 years of experience in the design, development, alignment, and review of assessments and curriculum in ELA. Her areas of expertise include deep knowledge of standards-based education, integration and alignment to state and national standards, best practices in ELA, summative, diagnostic and formative assessment development, and experience working at a variety of K-12 grade levels. Prior to her work in educational publishing, Rhoades taught English at the high school level for 13 years. Rhoades received a BS in English Education from Illinois State University and an MA in English Literature from Northern Illinois University.

EDUCATION

1993 MA, English Literature, Northern University, DeKalb, IL

1987 BS, Education, English Education, Illinois State University, Normal, IL

PROFESSIONAL EXPERIENCE

2022–Present

**Senior ELA Content Specialist, Assessment Design and Development
WestEd, San Francisco, CA**

Currently serving as H.S. lead on Texas STARR Summative and Through Year projects and Transcend Shelf project.

2019–2022

**ELA Content Specialist,
Measurement Incorporated, Durham, NC**

Served as 4th and 5th grade lead for assessment development for the state of Colorado. Served as interim project lead for ELA development grades 3-5 Colorado during passage development phase. Served as 7th grade level lead for Kentucky state assessment development. Developed items for IDOE, grade 10 and ISEE, grades 5, 8 and 10.

2013–2019

**ELA Content Specialist, Standards Assessment and Accountability Services
WestEd, San Francisco, CA**

Served as content specialist for various ELA state projects, including Louisiana, Tennessee, Colorado, Minnesota, New York, and Pennsylvania. Served as upper grade-level lead for development of PARCC (Partnership for Assessment of Readiness for College and Careers) Diagnostic assessments. Lead or participated in alignment studies and gap analysis for eDynamics, Nevada, Indiana, Smarter Balanced, and Curriculum Associates. Worked with the Smarter Balanced Consortium to abridge technical documents to support a validity argument for teachers and administrators. Created and evaluated numerous complex narrative, analytical, expository, and persuasive writing prompts and their associated rubrics for high school and statewide assessments and for college entrance exams.

Served as an Editor for two Pennsylvania State Assessment System projects (Pennsylvania System of School Assessment and Keystone end-of-year assessments). Also served as an Editor and a Writer for the development of Phase II-VIII, grades 7&8 PARCC assessment development work being done with Pearson.

2016

**Editor
Glynlyon, Inc. Distance Learning Company, Scottsdale, AZ**

Created content, assessments, projects and media themed around the texts of *The Metamorphosis* and *Frankenstein* and aligned to the CCSS Served as contract Gapfill Project Reviewer; New York Regent's assessment alignment.

2015

**ELA Content Specialist III
ACT Inc., Iowa City, Iowa**

Responsible for the creation of CCSS-aligned quizzes designed to help prepare students for the Aspire Interim and Summative exams. Participated in individual and panel reviews of Aspire and ACT test items.

2011

**Test Development Specialist
Victory Productions, Worcester, MA**

Researched and developed passages and items for New York state assessment (grades 6– 8, and 9– 11).

2009-2015

**Instructional Design and Assessment Specialist
Glynlyon, Inc. Distance Learning Company, Scottsdale, AZ**

Responsibilities included:

Instructional Design: Designed instructional modules for English I, II, III, and IV to align to the CCSS. Served as lead ELA content specialist for course development. Reviewed instructional modules during course development for content integrity, objective coverage, and alignment to CCSS. Reviewed and edited all assessment items for integrity and alignment to content and standards.

Assessment Specialist: Correlated assessments to content for a variety of courses, including new CCSS-aligned courses. Created semester and final-exam items for all content in ELA courses (English II, III, and IV—a total of 1,360 items). Edited existing content for consistency and accuracy. Contributed to the successful release of Odysseyware Online 2009 web-based learning environment.

2009-2013

Senior Subject Matter Expert

Knowledge Learning Corporation Distance Learning (KCDL/K12), Herndon, VA

Wrote, edited, and aligned to the CCSS a variety of English courses for distance learners.

2009-2011

Test Development Editor

Inksplash, LLC, Bernardsville, NJ

Edited 250 items for a social studies assessment project for Georgia (grades 4–9). For CTB/McGraw-Hill, edited multiple-choice, constructed-response, and essay items for an ELA assessment project; edited foundational and advanced multiple-choice, constructed-response, and essay items and associated passages for an English as a Second Language (ESL) assessment project; and edited multiple-choice and constructed-response items for a reading assessment project (multiple grade levels).

2009

Item Developer

Educational Testing Services, Princeton, NJ

Developed items for the writing portion of the SAT assessment.

2008-2009

Test Development Item Writer

CTB/McGraw Hill Publishing Company, Monterey, CA

Wrote items for Georgia assessment project.

2008

Book Editor

Patrice Paul, Ph.D., Downers Grove, IL

Edited novel (*Cullen Arma, the Bully, and the Shaman's Coat*) and associated teacher's guide. Novel was chosen as a finalist for the 2008 Best Books Award sponsored by USA Book News.

2007

**Writer, Differentiated Instruction Curriculum
Achieve3000, Lakewood, NJ**

Leveled news articles to thirteen reading levels, and wrote items and activities related to leveled articles.

2007

**Writer, Teacher Wraparound Edition
General Learning Communications, Glenview, IL**

Wrote background information and teaching tips for Glencoe World Geography and Cultures Teacher Wraparound 2008 Edition.

2005

**Writer, ACT Tests
ACT, Highland Park, IL**

Wrote English and reading practice tests for the ACT assessment.

2003-2013

**Test Development Specialist/Senior Test Development Specialist; Item and Passage
Writer
Riverside Publishing Company, Itasca, IL**

Responsibilities included:

Test Development Specialist and Senior Test Development Specialist: Created and reviewed item development plans, assigned and reviewed passages and items, constructed vendor feedback, aligned passages and items to individual state standards and CCSS, and verified test keys for Assess2Know assessment (grades 3-5, 6-8, and 9-12). Reviewed items and passages for the Iowa Tests (grades 3-5, 6-8, and 9-11). Developed fixed forms and aligned items (grades 3-5, 6-8, and 9-11).

Item and Passage Writer: Wrote 10th grade writing prompts and 9th and 10th grade passages for Missouri assessment project. Wrote reading and ELA multiple-choice and constructed-response items and passages, for multiple states and at multiple grade levels, for Assess2Know assessment. Wrote items and verified test keys for Georgia assessment project. Wrote English and reading practice tests for the ACT assessment.

1988-2000

**English Teacher
St. Charles East High School, St. Charles, IL**

Taught Advanced Placement English (12th grade; honors), College Preparatory Composition (12th grade; all levels, including honors), British Literature (11th and 12th grades; level 2 and honors), American Literature (11th grade; level 2 and honors), English 1 and English 2 (9th and 10th grades; all levels), and Yearbook Production (all grades).

1987-1988

English Teacher

Larkin High School, Elgin, IL

Taught English 2 (10th grade, intermediate and advanced) and Newspaper Production (grades 9–12).

Jennifer (Jen) Pogue-Barrera

WestEd, 2470 Mariner Square Loop, 2nd Floor, Alameda, CA 94501

SUMMARY OF RELATED EXPERIENCE

Jen Pogue-Barrera is a Senior Mathematics Content Specialist at WestEd. Ms. Pogue-Barrera contributes to the delivery of high-quality products and services in student assessment, evaluation, and educational research. Her areas of expertise include K–12 mathematics assessment development, including editing items, reviewing items, creating ancillary materials, constructing test forms, and leading all aspects of the mathematics portion of item-development projects. Jen holds an MBA from the University of Phoenix, a Master of Education from Texas Wesleyan University, and a BS in interdisciplinary studies from Texas State University (formerly Southwest Texas State University).

EDUCATION

2008 MBA, University of Phoenix

1998 M.Ed., Texas Wesleyan University

1992 BS, Interdisciplinary Studies, Texas State University (formerly Southwest Texas State University)

PROFESSIONAL EXPERIENCE

2021–Present

Senior Mathematics Content Specialist
WestEd, Alameda, CA

Serves as lead mathematics content specialist on projects including Texas Through-Year and Maryland K – 3 Assessments.

2020–2021

Independent Contractor

Assisted the primary assessment development specialists in writing and reviewing mathematics assessments for all grade levels in multiple projects. Utilized curriculum guidelines, frameworks, and standards to create test items and ancillaries, Developed tests according to standard and psychometric requirements. Facilitated teacher content review meetings and item writer training meetings.

2002–2020

Assessment Specialist III – Mathematics
Educational Testing Service, Princeton, NJ

Oversaw the scheduling, monitoring, and delivering of content work. Communicated and collaborated with clients and functional groups to ensure quality and satisfaction. Facilitated meetings and training presentations. Wrote and reviewed mathematics assessments for all grade levels in multiple projects. Utilized curriculum guidelines, frameworks, and standards to create test items and ancillaries, Developed tests according to standard and psychometric requirements. Facilitated teacher content review meetings and item writer training meetings.

1997–2002

Teacher- Grade 4
San Antonio, TX

Taught general education for students in grade 4.

1994–1997

Mathematics Teacher- Grade 6
San Antonio, TX

Taught mathematics with a collaborative team in grade 6.

1993–1994

Mathematics Teacher- Grade 7
Pearsall, TX

Taught mathematics with a collaborative team in grade 7.

1992–1993

Mathematics Teacher- Grade 7
Pasadena, TX

Taught mathematics with a collaborative team in grade 7.

SELECTED CERTIFICATIONS

Texas General Elementary Education Certification, Grades 1 – 8

Texas General Mathematics Education Certification, Grades 1 – 8

Appendix C: Subcontractor Staff Résumés

Briljent, LLC

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Grace Chandler, PMP®

Summary of Qualifications

Grace Chandler is a certified Project Management Professional (PMP®) with strong managerial, communication, and program development skills, as well as extensive knowledge of both state and federal government programs. In 2019-2020, Ms. Chandler was the Briljent senior project manager (PM) for a state's Medicaid Information Technology Architecture (MITA) State Self-Assessment (SS-A) in which she lead the team to successful completion of that state's MITA SS-A. She served as the Briljent PM on a 10-year federal contract that provided support to State Medicaid Agencies (SMAs) and Health Information Technology (HIT) coordinators in implementing their Medicaid Electronic Health Records (EHR) Incentive Programs. Currently, Ms Chandler oversees and coordinates as PM for four state projects relating to learning and development. In 2018, Ms. Chandler served as the project director for a large state contract that provided training and technical assistance to healthcare provider practices, including overseeing a portal repository and managing an incentive payment distribution to provider practices regarding transformation into patient-centered medical homes (PCMH). Ms. Chandler also serves as a mentor and advisor to new PMs. On past projects, she supported the PM of the Centers for Medicare & Medicaid Services (CMS) Physician Quality Measures Management (PQMM) contract, as well as providing inquiry support to healthcare providers. She has also served as advisor to the PM for the Patient Protection and Affordable Care Act (PPACA) training initiative for the state of Indiana. She is highly effective in problem-solving, team-building, communication, marketing, and public speaking, with extensive knowledge of Medicare, Medicaid, prescription drug programs (PDPs), program evaluation, and project management.

Professional Experience

Briljent, LLC, Indianapolis, Indiana

July 2008 – Present

Senior Project Manager, State Contracts

August 2020 - Present

- PM for multiple projects; monitor quality; responsible for reports, meetings, and project management plans to manage deliverables of staff and subcontractors
- PM for two states' teacher assessment training for departments of education (2021 - present)
- PM for a state's mobile crisis for children training (2020 – present)
- PM for a state's business diversity study (2021 – present)

Senior Project Manager, MITA Contract

Alaska Department of Health and Social Services

July 2019 - December 2020

- Served as PM, coordinated staff and subcontractors to complete a comprehensive MITA SS-A

Project Director, PCMH Contract

Idaho Department of Health and Welfare

October 2015 - January 2019

- Served as project director, coordinating multiple project tasks and an \$867 million project
- Managed subcontractors on training and technical assistance tasks; development of a portal repository; and managing an incentive payment distribution to PCMH practices

Senior Project Manager, Medicaid EHR Incentive Program Contract - CMS and Urban Institute (UI)

November 2010 – December 2021

- Served as the Briljent lead over large-scale outreach events, Webinars, and Communities of Practice (CoPs) for the target audience; coordinated events and communication for the CMS Medicaid HITECH Act multi-regional meetings for all 50 U.S. states and 6 territories
- Managed staff on work for CMS Central Office (CO) and Regional Office (RO) and SMAs
- From 2012-2014:
 - Served as Briljent PM for complex project with 5 partnering companies and \$3 million project

Cindy Hopkins

Summary of Qualifications

Cindy Hopkins is skilled at project management, training, presentations, ensuring fidelity of program implementation, managing compliance requirements, product support, and customer service. As a project manager, Ms. Hopkins manages an array of projects, many with a focus on education where she also serves as a subject matter expert (SME). Ms. Hopkins has managed the Illinois State Board of Education SAT project for the College Board, as well as the Indiana Department of Education (IDOE) Formative Assessment project. She has also managed multiple projects to support education and workforce development in projects with Indiana University (IU) Institute on Disability and Community. Ms. Hopkins was also a key resource on the Pearson Indiana Statewide Testing for Educational Progress (ISTEP+) and Indiana Readiness Evaluation and Determination (IREAD-3) projects. She is currently on training teams with Johns Hopkins Center for Technology in Education for the Indiana Student Performance Readiness and Observation of Understanding Tool (ISPROUT), the Illinois State Board of Education Illinois Assessment of Readiness (IAR) state assessment and accountability measure, as well as the Illinois Learning Renewal Interim Assessments (LRIA).

Professional Experience

Briljent, LLC, Indianapolis, Indiana

2012 - Present

Project Manager

2015 - Present

- Provide project management services for projects
- Participate in best practice teams for the Project Management Organization (PMO)
- Conduct regular partner, client, and internal team meetings
- Manage risk, quality, resources, scope, and change
- Create and update comprehensive project plans
- Contribute to business development and create proposals, estimates, and plans for potential opportunities

Trainer / Facilitator

2012 - Present

- Lead or support trainer / facilitator for onsite live, online live and/or recorded sessions
- Willing and enthusiastic about learning new content
- Adept at developing training presentations and materials
- Able to adapt to various industries and audiences
- Collaborate to incorporate best teaching practices in various settings
- Organize, communicate, reflect and adjust effectively to accomplish training / facilitator project goals

McGraw-Hill Education Customer Relationship and Online Account Manager

2012 - 2015

- Managed 162 school corporation accounts for the IDOE statewide Acuity assessment program
- Oversaw corporation Acuity system implementation and compliance of state requirements
- Communicated program information, requirements, and processes
- Investigated/researched issues through the customer support center

- Met with school corporation administrators to review performance data and evaluate needs, challenges, and goals then recommended courses of action, best practices, and resources
- Supported the corporation's needs for performance data and its impact on instruction
- Attended weekly meetings to stay abreast of current and upcoming program developments
- Attended IDOE monthly meetings with the Senior Program Manager

Indiana Department of Education, Indianapolis, Indiana

2008 - 2012

Diagnostic Assessment Specialist

2008 - 2012

- Served as the Program Manager for Diagnostic Assessment Programs for eligible school corporations in Indiana
- Reported to the IDOE Director of Student Assessment
- Worked with assessment staff, curriculum specialists, and assessment contractors (Amplify and CTB/McGraw-Hill Education) to ensure fidelity of implementation of Diagnostic Assessment Tools (mCLASS and Acuity)
- Was responsible for annual grant application process
- Provided support for Grades K-8, Algebra I, and English 10
- Presented guidance to approximately 300 corporations and 1,500 school program participants supporting approximately half a million students
- Developed and monitored the tailored diagnostic process for corporations to align assessments to local curriculum
- Assisted with using diagnostic data to inform instruction and improve student learning
- Grew the program (53,000 students in 2007 to 565,000 students in 2012)

Science and Social Studies Assessment Specialist

2008 - 2010

- Reviewed and approved assessments for ISTEP+ summative assessment, all items and scoring, and all ancillary materials and score reports
- Stayed abreast of current policy
- Answered questions and assisted the public regarding different assessments required by the State of Indiana

Classroom Teacher

16 years experience

Education

Wayne State University, Detroit, Michigan

Ed. S. Educational Administration and Supervision

Western Michigan University, Kalamazoo, Michigan

M.A. Teaching in the Middle School

B.A. Education

Professional Associations

- Association for Supervision and Curriculum Development, member 1991 - Present

MARY POUCH

Indianapolis, IN – (317) 430-9696 – mary.pouch@gmail.com

PROFESSIONAL EXPERIENCE

Educational Consultant | Mary Pouch, Inc., Indianapolis, IN 12/2014 – Present

Johns Hopkins University Center for Technology in Education Master Trainer for the Indiana Student Performance Readiness and Observation of Understanding Tool (ISPROUT). Professional Development Instructor for Kuder Inc.'s Career Advisor Training courses. Previously the Indiana Field Trainer for Kuder's Indiana Career Explorer (INCE) system. Fleck Education (now Inspire Success) student work experience projects focused on liaising between business and industry and Indiana's Career and Technical Education (CTE) centers. Other projects included compiling best practices of Indiana's student internship programs, coordinating the Indiana Department of Education's summer internship program for CTE teachers and the Indiana Association of Career & Technical Education Districts (IAC TED) annual awards program. Content creation for Counselor1Stop.org. Event planning/coordination, conference exhibiting, presentations, publications, and social media outreach services vary by contract. Career Advising services provided to private clients.

Adjunct Professor | Indiana University Purdue University, Indianapolis, IN Summer 2015

Instructed graduate-level students in the School of Education, G542 school counseling course "Organization and Development of School Counseling Programs."

School Counselor | Irvington Community Middle School, Indianapolis, IN 07/2013 – 12/2014

District Level: Created corporation Anti-Bullying training with district counseling team. Led the district counseling team on drafting suicide risk procedures for K-12. Developed the district Crisis Intervention Plan and provided training to district staff. Developed and led an Indianapolis Area Charter School Counselor Network for crisis intervention response and professional development. Building Level: Management team member. Assisted students in the areas of academic, career, and social/emotional development. Created and led a year-long career and postsecondary student exploration program. Established a Robotics team. Offered CTE and Science Technology Engineering and Math (STEM) exposure activities. Co-planned annual Career Day. Coordinated a College & Post-Secondary Education Fair for 18+ institutions/programs.

School Counselor | San Mateo County Office of Education, Burlingame, CA 09/2009 – 06/2012

Ambassador for the San Mateo County Office of Education through the Regional Occupational Program (ROP). Liaised with K-12, postsecondary, and county agencies on school counseling,

CTE, and career development needs. County representative on the San Mateo Community College District Tech Prep Consortium and Jobs for Youth committees. Program development work in K-12 career development, college articulation, and standards-based school counseling. Developed county-wide middle school career exploration program. Event planning for county-wide professional development conferences for school counselors and administrators on topics such as CTE, college and career preparation, and standards-based school counseling. Provided academic, career and personal counseling to high school students and adults enrolled in the ROP. Presented job finding and career development workshops to all students.

**Director of Guidance | Hamilton Southeastern Junior High School, Fishers, IN
07/2006 – 04/2009**

Directed school counseling staff and interns. Received the Indiana Gold Star Guidance and American School Counseling Association RAMP awards for developing a standards-based school counseling program. Offered students individual, group, and school counseling lessons on academic, career and social/emotional development. Public agency representative for special education case conferences. Conference coordinator for 504 and GEI conferences. Developed 504 and GEI plans. Created master schedule and scheduled students. Managed student assistance, RTI, and grade level teams. Assisted in state assessment coordination. Liaison to community agencies. Provided professional development to staff and resources and referrals to students and families. Presented parent workshops.

**School Counselor | Clarence Farrington Middle School, Indianapolis, IN
01/2004 – 06/2006**

Provided counseling and guidance to students in the areas of academic, career, and social/emotional development. Led academic support groups for failing and retained students. Provided conflict resolution, study skills, anger management, and bullying prevention services. Coordinated Student Assistance Team. Supervised registration secretary and registration process. Created master schedule and oversaw scheduling. Assisted in the coordination and administration of state assessments. Parent, Community and Multicultural committee co-chair. Liaised with community agencies for student success. Provided resources and referrals to students and families.

EDUCATION

Specialist in Education | Indiana University Bloomington

Major in Counseling/Counselor Ed. Minor in Human Development.

Master of Science in Education | Indiana University Bloomington

Major in Counseling/Counselor Ed.

Bachelor of Arts | Wellesley College

Major in Psychology. Graduated cum laude.

LICENSES & CERTIFICATIONS

Student Services License – State of Indiana

Global Career Development Facilitator (GCDF) – Center for Credentialing & Education, Inc.

Certified Career Advisor (CA) – International Association of Career Advisors, LTD.

Career Pathways Leader Certification – National Career Pathways Network

Pupil Personnel Services License – State of California

Administrative Certificate of Eligibility – State of California



Kelly A. Ickes

Director, Content Development-Accessibility

Summary of Qualifications

Ms. Kelly Ickes applies her extensive special education knowledge to the overall management of numerous statewide large-scale alternate assessment programs. She provides technical expertise both internally within Cognia and externally with clients related to assessment and supervises a team of dedicated Assessment Accessibility Specialists. As a certified teacher she has a unique understanding of issues related to special education assessment and instruction drawing from her experience in special education classrooms working with students with significant cognitive disabilities, including English learners. Kelly has presented multiple times at the annual Council of Chief State School Officers National Conferences.

Professional Experience

2017–present Director Content Development-Accessibility, Cognia

Kelly provides technical expertise related to assessment administration, reliability and validity considerations, item development, and construction and production processes. Provides supervision of managerial staff and management of alternate assessments program tasks and deliverables. Evaluates existing test development production practices and recommends and implements production-process improvements that result in increased efficiency and departmental development capacity.

Participates and presents information during technical advisory committee meetings; facilitates educator review meetings; conducts trainings; provides oversight for alternate assessment scoring activities; consulting on accessibility considerations and processes on general education assessment programs; collaborating with directors both within the department and across functional groups on the management of personnel, organization initiatives and assessment program requirements.

2011–2017 Assistant Director Special Education, Measured Progress, Inc.

Supervised program management and assessment accessibility specialist staff on the management of alternate assessments ranging from the creation of assessment products and scheduling of assignments to the development, motivation, and evaluation of staff.

Managed quality, timelines, and assignments of departmental group managers and support staff; supervised the development and delivery of departmental products for both the state and local markets; ensured quality control of assessment production and workflow in collaboration with the special education director.

2003–2011 Special Education Specialist, Measured Progress

2001–2003 Special Education Teacher and Alternate Proficiency Assessment Coordinator, Cerebral Palsy of Monmouth and Ocean Counties

2000–2001 Adapted Physical Education Teacher Substitute, Cerebral Palsy of Monmouth and Ocean Counties

1999–2000 Substitute Special Education Teacher, Ocean Township

Education

M.S., Organizational Leadership, Southern New Hampshire University

M.A., Special Education, New Jersey City University

B.S., Exercise Science and Sports Medicine, Rutgers State University, Cook College

Certifications

Teacher of the Handicapped, New Jersey

Program Management Professional

Affiliations

2017-present: State Collaborative on Assessment, Standards, and Education for Students with Disabilities

2003-present: Council for Exceptional Children



Megan Bairstow

Special Education Test Development Manager, Content Development and Publishing

Summary of Qualifications

Ms. Megan Bairstow puts her expertise in Special Education to use overseeing and leading the test development process and protocol for various projects. She collaborates with managers across the organization to not only ensure high quality and on-time deliverables, but the highest quality for the clients, families, and students which she serves. Megan provides technical assistance across projects related to accessibility and accommodations and leads the development of a performance-based assessment program for students with significant cognitive disabilities. Megan forges respectful relationships with her clients and is adept at anticipating their needs. Previously, she was a Special Education Specialist where she collaborated with content specialists to develop and refine assessment items, created ancillary development documentation, lead passage, content and bias meetings, manual development, test administration trainings and scoring activities. She provided specific accessibility and appropriateness item-level feedback to content developers to ensure accessibility, uniformity, and consistency. Her skills in the field of assessment span a wide range of experience, including behavioral assessment and academic assessment, formative and summative in nature.

Education

M.Ed., Early Education
Childhood Special
Education, University of
New Hampshire

B.S., Special Education,
Radford University

Certifications

Teacher Certification, Early
Childhood Special
Education & Special
Education K-12

Professional Experience

2019–present

Special Education Test Development Manager, Content Development and Publishing, Cognia

Manages the design and development of test content including contract specific test designs, blueprint tables, item writing plans, and assigning items to the correct measurable and reportable standards. Provides technical support across functional group managers and subcontractors regarding program design, deliverables, scope, specifications, and schedule. Responsible for all test development-related activities and deliverables for multiple projects.

2014–2018

Graduate Level Adjunct Professor, Special Education, University of New Hampshire

Taught courses in behavior interventions and theories in child development.

2012–2019

Special Education Specialist, Client Services, Measured Progress, Inc. (now Cognia)

Provided consultation and leadership regarding design, planning and implementation of state level alternate assessments for students with significant cognitive disabilities. Conducted training, development activities, and review meetings with state educational professionals. Developed administration manuals, resource guides, training and scoring materials.

2004–2008

Inclusion Facilitator, Department Chair, Special Education, Windham School District

Case management for students grades 6-8 with significant cognitive and physical disabilities.

2003–2004

Special Educator, Applied Behavioral Analysis, Special Education, Birchtree Center for Children

Provided special education instruction for children with Autism Spectrum Disorder, 3-13 years of age.

Appendix D: Sample Project Schedule and Meeting Agenda

Sample Project Schedule

Assigned To	Responsible (WestEd)	Task Name	Duration	Start	Finish	Predecessors	% Comp
		IN I AM Alt Assessment Milestones	255d	11/01/22	10/31/23		
		Project Management	255d	11/01/22	10/31/23		
WestEd	Kevin King	Project Kickoff	1d	11/01/22	11/01/22		
WestEd	Kevin King	Weekly Project Meetings (Ongoing)	255d	11/01/22	10/31/23		
		Every Tuesday at 9:00 am PT	255d	11/01/22	10/31/23		
		Phase 1: Literature Review	79d	11/02/22	02/28/23		
WestEd	Nicholas Gage	State Policy Review	26d	11/02/22	12/09/22		
WestEd	Nicholas Gage	Literature Review	26d	11/02/22	12/09/22		
Brijlent	Cinda Parton Marianne Perie	Practitioner panel meeting on literature review and assessment needs (in-person)	1d	12/16/22	12/16/22		
WestEd	Joanne Jensen	Review of prioritized standards	28d	11/07/22	12/16/22		
WestEd	Kate Nagle Nicholas Gage	Draft teacher survey on content sequencing	11d	12/19/22	01/06/23		
WestEd	Jose Blackorby Marianne Perie	Present to existing Indiana TAC	1d	01/03/23	01/03/23		
Brijlent	Cinda Parton Nicholas Gage	Practitioner panel feedback on draft teacher survey (written, virtual)	6d	01/06/23	01/13/23		
Brijlent WestEd	Marianne Perie	Expert and panel meeting on findings from reviews and input on initial assessment design (in-person)	1d	01/07/23	01/07/23		
WestEd	Kate Nagle Nicholas Gage	Teacher survey administration completed	1d	02/03/23	02/03/23		
WestEd	Jose Blackorby Marianne Perie	Initial assessment design	38d	01/07/23	02/28/23		
		Phase 2: Design of Alternate Assessment	88d	03/01/23	06/30/23		
WestEd	Kate Nagle	Focus group feedback on initial assessment design	13d	03/01/23	03/17/23		
Brijlent WestEd	Jose Blackorby Marianne Perie	National expert panel feedback on initial design (virtual)	1d	04/01/23	04/01/23		
Brijlent WestEd	Cinda Parton Marianne Perie	Practitioner Panel feedback on initial design and details of exemplar forms (virtual)	1d	04/08/23	04/08/23		
Cognia WestEd	Joanne Jensen	Exemplar forms and administration procedures	30d	04/10/23	05/19/23		
Brijlent Cognia	Joanne Jensen	Content, bias, accessibility review meeting	10d	05/22/23	06/02/23		
Brijlent WestEd	Cinda Parton	Practitioner panel feedback on forms, administration process, sample (written, virtual)	6d	06/03/23	06/09/23		
Cognia WestEd	Joanne Jensen Marianne Perie	Final exemplar forms and data collection plan	1d	06/30/23	06/30/23		
		Data Collection	88d	07/01/23	10/31/23		
BCForward Cognia	Joanne Jensen	Exemplary form administration training materials	21d	07/01/23	07/28/23		
WestEd	Jose Blackorby Nicholas Gage	Cognitive lab design, procedures	21d	07/01/23	07/28/23		
BCForward	Marianne Perie Nicholas Gage	Data collection (cognitive labs), educator focus groups	30d	08/07/23	09/15/23		
Brijlent WestEd	Cinda Parton Marianne Perie	Expert panel meeting on findings from data collection to inform analysis (virtual)	1d	09/15/23	09/15/23		
WestEd	Quintin Love	Data analysis (cognitive lab and simulated data)	10d	09/18/23	09/29/23		
WestEd	Marianne Perie Quintin Love	Draft implementation report	6d	09/30/23	10/06/23		
Brijlent WestEd	Jose Blackorby Quintin Love	Expert and practitioner panel meetings on implementation report and recommended design (virtual)	1d	10/14/23	10/14/23		
WestEd	Jose Blackorby Quintin Love	Final implementation report and recommendations	1d	10/31/23	10/31/23		

Sample Meeting Agenda



Indiana I AM Alt Assessment: Project Kickoff Meeting		
Meeting Access: Link	Date: 1 November 2022	Time: 9:00 a.m. PT
Invitees/Participants: <ul style="list-style-type: none"> • IDOE: Stephanie Nelson • Brilient: Adam Gulla, Cindy Hopkins, Grace Chandler • BCforward: Mary Pouch, Todd Tolson • Cognia: Kelly Ickes, Megan Bairstow, Thomas Gillin • WestEd: Cinda Parton, Joanne Jensen, Jose Blackorby, Katherine Nagle, Kevin King, Marianne Perie, Nicholas Gage, Quintin Love 		

Key Information: WestEd and its subcontractors look forward to beginning the scope of the work put forth by the Indiana Department of Education.

Decisions: Develop overarching plan for Literature study and State Policy scan and finalize project schedule for approval.

Action Items	Responsible	Date Due
Establish weekly project meeting times and finalize project schedule for approval.	WestEd , Brilient , BCforward , and Cognia	11/1
Following finalized project schedule, WestEd to submit final project schedule to IDOE.	Kevin	11/15

Agenda Topics	Notes
Introductions	<ul style="list-style-type: none"> • Staff introductions and roles <ul style="list-style-type: none"> ◦ IDOE ◦ WestEd ◦ Brilient ◦ BCforward ◦ Cognia
Literature Study and State Policy Review Discussion	<ul style="list-style-type: none"> • Purpose: develop a concrete plan to study the literature on alternate assessment; develop a concrete plan to review state policies on alternate assessments <ul style="list-style-type: none"> ◦ Assign roles and determine timeline
Finalize Project Schedule	<ul style="list-style-type: none"> • Purpose: finalize plan for project schedule for submission to IDOE

Appendix E: TAC Résumés and Letters of Commitment

Ms. Jolly Piersall, IEP Resource Center Director, Indiana State University	113
Dr. Melissa Fincher, Managing Associate, EdCount	121
Dr. Sandra Warren, President, Warren and Associates	127
Dr. Karla Egan, Founder, Edmetric and current Indiana TAC member	139
Dr. Steve Ferrara, Senior Advisor, Cognia	146
Dr. Derek Briggs, Professor of Research and Methodology, University of Colorado	177
Dr. Cara Laitusis, Principal Research Scientist, Educational Testing Services	199

Jolly B. Piersall

393 Jefferson Valley Coatesville, IN 46121 · (812)243-0183 · E-mail:
Jolly.Piersall@indstate.edu

Education

Indiana University

Bloomington, IN

Degree: Administration and Supervision
Director of Special Education
May 2004

Licensure: Special Education Administration

Butler University

Indianapolis, IN

Degree: Masters of Science in Special Education – Emphasis in Mentally Retarded
May 1985

Licensure: K-6th Elementary Education
K-12 Special Education

Butler University

Indianapolis, IN

Dual Degree: Bachelors of Science in Elementary Education
Bachelors of Science in Special Education – Emphasis in Learning
Disabilities/Neurologically Impaired
May 1982

Licensure: K-6th Elementary Education
K-12 Special Education

Professional Experience

Indiana State University

Terre Haute, IN

Director, Indiana IEP Resource Center (IEPRC)

2010-Present

- Collaborate and develop statewide guidance with the Indiana Department of Education (IDOE)
- Collaborate with various stakeholders to develop, plan, and implement professional development and training opportunities for educators, administrators, related service personnel, and families
- Partner with statewide organizations to support local education agencies (LEAs) to promote student success
- Develop and procure resources and materials for statewide dissemination to varied stakeholders
- Co-construct training content on Multi-tiered System and Support (MTSS) in collaboration with the SWIFT Center and IEPRC Staff
- Develop training topics and content on special education law, the IEP process, special education programming, and inclusive practices
- Develop guidance and oversee technical assistance for Least Restrictive Environment (LRE) performance statewide as assigned by the IDOE
- Plan and oversee development of the tracking system for grant activities and deliverables
- Facilitate district leadership team meetings to promote systemic change based on implementation science
- Plan and provide professional learning opportunities and technical assistance to promote statewide inclusive practices supporting all learners
- Plan and oversee current trainings and conferences offered through the IEPRC
- Develop the IEPRC Budget and Project Narrative outlining project activities/deliverables for each grant cycle

MSD of Pike Township

Indianapolis, IN

Coordinator and Statewide Trainer, ICAN/ISTAR/ISTART7 Project

2003-2010

- Developed, planned, and implemented professional development and training opportunities for special educators, administrators, related services personnel, and families
- Developed resources and materials for statewide dissemination to varied stakeholders to improve the outcomes for students with disabilities
- Developed, planned, and implemented training on the ISTAR7 online IEP system used statewide

- Provided customized trainings as requested by local school districts on Indiana’s special education law – Article 7, the IEP Process, Goal Writing, and Progress Monitoring
- Developed, planned, and implemented training on the ISTAR alternate statewide assessment

Teaching Experience

MSD of Pike Township

Indianapolis, IN

Special Education Teacher, K-5th Grade

1982-2003

- Developed lessons based on Indiana Academic Standards and lead classroom instruction in Reading and Mathematics
- Differentiated lessons varying the content, process, product, and/or learning environment
- Co-taught and/or provided inclusion support in general education classes to enhance the learning of all students
- Led teachers, administrators, and parents through Case Conferences and developed Individualized

Education Plans for students

- Conducted Functional Behavior Assessments and used this knowledge to develop Behavior

Intervention Plans

- Utilized data to guide decision making, instruction, and developing goals for students
- Motivated students by providing opportunities for success and building on those successes in order to meet and celebrate individual educational goals
- Maintained student records and report progress quarterly
- Trained district special education teachers on the IEP system and to write clear, measurable goals

MSD of Pike Township

Indianapolis, IN

Director, ISTEP Remediation Summer School Summer

1995-1998

- Selected staff to teach the remediation classes
- Developed the budget and purchased materials for the programs
- Provided professional development for staff

Presentations

Council for Exceptional Children Convention

Orlando, FL

*Maximizing a State's Resources to Engage, Connect and Empower
our Newest Educators*

January 17, 2022

Council for Exceptional Children Convention

Portland, OR

Standards Aligned IEPs to Promote Equity and Access

February 5, 2020

MTSS Innovations Conference

Salt Lake City, UT

Standards Aligned IEPs to Promote Equity and Access

October 28, 2019

Association for Supervision and Curriculum Development Conference on Educational Leadership

Nashville, TN

*The Highly Engaged Inclusive Classroom: Practical Strategies to Boost
Achievement*

November 4, 2018

MTSS Professional Learning Institute

Sacramento, CA

We're Not Ready for MTSS... What About a Pathway?

June 25, 2018

Indiana IEP Resource Center Training

Indianapolis, IN

Addressing the Needs of All Learners Through MTSS

April 25, 2018

Council for Exceptional Children Convention

Tampa, FL

The Highly Engaged Inclusive Classroom

February 8, 2018

National CASE Conference

Reno, NV

We're Not Ready for MTSS...What About a Pathway?

November 3, 2017

Council for Exceptional Children Convention

Boston, MA

Experience Co-teaching in Action!

April 20, 2017

Indiana Charter School Training

Merrillville, IN

Multi-tiered System of Support

September 22, 2017

National CASE Conference

Atlanta, GA

Tools for Effective Implementation at the District Level

October 31, 2015

National NASP Conference

Orlando, FL

*IRIS Tool for Reviewing IEPs and Improving Outcomes for Students
with Disabilities*

February 25, 2015

Service

Council for Exceptional Children (CEC) Program Co-Chair

Orlando, FL

Co-Chair

2021-2022

- Consult with CEC Staff to develop programming for 2022 Convention and Expo in Orlando

Council for Exceptional Children (CEC) Program Co-Chair

Virtual

Co-Chair

2020-2021

- Consult with CEC Staff to develop programming for 2021 CEC LIVE!

Council for Exceptional Children (CEC) Program Co-Chair	Portland, OR
<i>Co-Chair</i>	<i>2019-2020</i>
<ul style="list-style-type: none"> • Consult with CEC Staff to develop programming for 2020 Convention and Expo in Portland 	
Council for Exceptional Children Convention Local Planning Committee	Indianapolis, IN
<i>Co-Chair Volunteers April</i>	<i>2018-Present</i>
ARC of Indiana Education Committee	Indianapolis, IN
<i>Member</i>	<i>2015-Present</i>
<ul style="list-style-type: none"> • Attend monthly meetings to discuss current and future needs of adults/students with disabilities • Volunteer and attend at fundraising events 	
IN*Source	South Bend, IN
<i>Board Member</i>	<i>2015-Present</i>
<ul style="list-style-type: none"> • Attend quarterly board meetings discussing the current and future needs of families • Promoting IN*Source to potential funders through presentations and events 	
Indiana Resource Network	Indianapolis, IN
<i>IDOE</i>	<i>2013 – Present</i>
<ul style="list-style-type: none"> • Collaborate with directors of other grant funded projects • Attend quarterly meetings discussing the current and future needs of students with disabilities 	
IIEP Stakeholders Group	Indianapolis, IN
<i>IDOE, PCG, and IEPRC</i>	<i>2010-Present</i>

- Attend monthly meetings to discuss current and future needs of the IIEP online system
- Collaborate with IDOE on new development and changes to the system
- Provide feedback from the users as to issues or changes needed

MTSS Core Team

Indianapolis, IN

IDOE

2017-Present

- Provide expertise to the team on MTSS implantation
- Develop guidance, print materials, videos, and training for the state

ESSA Core Team

Indianapolis, IN

IDOE

2016-Present

- Developed info-graphic, presentation and state guidance
- Promoting MTSS through presentations and training events



March 28, 2022

Marianne Perie
Area Director, Assessment Research and Innovation
WestEd

RE: Technical Advisory Committee for RFP 22-70622 I AM Alt Assessment Research

By signing my name below, I am certifying that I will commit to serve on the Technical Advisory Committee for the Indiana I AM Alt Assessment Research effort for WestEd upon award of the contract. I understand that this commitment involves attending at least two meetings with other technical experts over the course of a year but will not exceed 80 hours in the year. I believe I bring expertise of special education law, IEP development and implementation, programs and services for students with disabilities, and inclusive classroom practices to the panel and look forward to working with the Indiana Department of Education.

Name: Jolly Piersall
Signature: 
Title: Indiana IEP Resource Center Director
Company: Indiana State University
Date: March 29, 2022

Melissa Lane Fincher

404-213-5098 / mlfincher@gmail.com

EDUCATION

2013 Ph.D. Georgia State University

Educational Psychology

Dissertation Title: Investigating the Effects of a Read-aloud Alteration on the Third-grade Reading Criterion-referenced Competency Test (CRCT) for Students with Disabilities

1991 M.S. Georgia State University

Educational Research

Thesis Title: Assessment of the Predictive Validity of the Collegiate Placement Exam for Placement Purposes at Georgia State University

1986 B.A. University of Georgia

Psychology

PROFESSIONAL EXPERIENCE

2020 – present Managing Associate

2018 – 2020 edCount, LLC
Independent Educational Consultant

2014-2017 Fincher Educational Consulting, LLC
Deputy Superintendent for Assessment & Accountability

2009-2014 Georgia Department of Education
Associate Superintendent for Assessment & Accountability

2008-2009 Georgia Department of Education
Director of Assessment

2007-2008	Georgia Department of Education Director of Assessment Research and Development
2004-2007	Georgia Department of Education Assistant Director of Testing
2002-2004	Georgia Department of Education Research Associate
1997-2002	Atlanta Public Schools Educational Assessment Specialist
1993-1997	Georgia Department of Education Educational/Research Consultant
1987-1993	University of Tennessee Psychometrist
	Georgia State University

PUBLICATIONS AND SELECTED PRESENTATIONS

- Asp., E., Cole, S., Fincher, M., and Hansen, L. (June 2017). Coupling Peer Review Feedback with the CCSSO Criteria to Develop High-Quality Assessment Systems in Literacy and Mathematics. National Conference on Student Assessment, Dallas, TX.
- Towles, L., Forte, E., Deters, L., Nebelsick-Gullett, L., Fincher, M., and Christopherson, S. (April 2017). Development and Implementation of a Comprehensive Alignment Evaluation Framework. National Council on Measurement in Education Annual Conference, San Antonio, TX.
- Forte, E., Fincher, M., D'Brot, J., Perie, M., Rooney, P., and Dadley, N. (April 2017). Peer Review Under the Every Student Succeeds Act of 2015. National Council on Measurement in Education Annual Conference, San Antonio, TX. Martineau, J., Dadley, N., Fincher, M., Dugan, J., and Domaleski, C. (June 2016). Proactively Managing Interruption in Online Testing. National Conference on Student Assessment, Dallas, TX.
- Perie M., Fincher, M., and Swaffield, S. (2013). Understanding low-performing students with disabilities and their barriers to success on traditional Assessments: A southern tale. In Thurlow, M. L., Lazarus, S. S., & Bechard, S. (Eds.). *Lessons Learned in Federally Funded Projects that can Improve the Instruction and Assessment of Low Performing Students with Disabilities*. Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.

- Fincher, M. (February 2012). Detection and Analysis of Irregularities in Academic Testing. Testing Integrity Symposium: Issues and Recommendations for Best Practices, National Center for Educational Statistics, Washington, DC.
- Englehard, G., Fincher, M., & Domaleski, C.S. (2011). Mathematics performance of students with and without disabilities under accommodated conditions using resource guides and calculators on high stakes tests. *Applied Measurement in Education*, 24(1), 22 – 38.
- Roach, A., Fincher, M., Varjas, K., & Chilungu, N. (April 2011). Exploring the Thought Processes Underlying the Scoring of Georgia’s Alternate Assessment. National Council on Measurement in Education Annual Conference, New Orleans, LA.
- Fincher, M. & Flowers, C. (2009). Georgia alternate assessment: A portfolio approach. In W. D. Schafer and R. Lissitz (Ed.), *Technical Quality of Alternate Assessments based on Alternate Achievement Standards* (pp. 171-188). Baltimore: Brookes Publishing.
- Dunn, J. L., & Fincher, M. (March 2009). A Framework for Identifying and Evaluating Item Alterations Designed for Persistently Low Performing Students. Paper presented at the American Educational Research Association Annual Conference, San Diego, CA.
- Marion, S., & Fincher, M. (September 2008). Validating a State’s Alternate Assessment System. 2008 Reidy Interactive Lecture Series, Portsmouth, NH.
- Grimm, C., Fincher, M., Link, V., Noland, M., & Teppoeva, T. (March 2008). Portfolio Pattern Methodology: An Application for Alternate Assessment Standard Setting. Paper presented at the American Educational Research Association Annual Conference, New York, NY.
- Chartrand, A., Cook, M., Davis, C., & Fincher, M. (June 2008). 1%, 2%: Skim or Whole Assessments. 38th Annual National Conference on Student Assessment, Orlando, FL.
- Marion, S., Fincher, M., Stuck, J., Sims, R., Briggs, D., & Kearns, J. (June 2008). Putting the Pieces Together: Validity Evaluations of States’ Alternate Assessment Systems. 38th Annual National Conference on Student Assessment, Orlando, FL.
- McDivitt, P. J., Felix, A., Fincher, M., Davis, C., & Quenemoen, R. (June 2008). Redesign of Alternate Assessments for Students with Significant Cognitive Disabilities: National and State Perspectives. 38th Annual National Conference on Student Assessment, Orlando, FL.
- Moen, R., Abedi, J., O’Brien, D., & Fincher, M. (June 2008). Making Reading Tests Accessible by Affecting Student Test-taking Motivation. 38th Annual National Conference on Student Assessment, Orlando, FL.
- Quenemoen, R., Fincher, M., Ban, P., & Draut, K. (June 2008). Students Who are ‘Difficult’ to Assess: What Can We Do? How Will that Help?. 38th Annual National Conference on Student Assessment, Orlando, FL.

- Fincher, M. (January 2008). Understanding Who the Students Are: Using Data to Identify Eligible Students – State Perspective. US Department of Education Kick-Off for GSEG Projects: Alternate Assessments Based on Modified Academic Achievement Standards, Washington, DC.
- Fincher, M. (July 2007). Documentation of Technical Quality – State Perspective. US Department of Education Special Education Partnership Conference: Alternate Assessments Based on Alternate Academic Achievement Standards, Washington, DC.
- Fincher, M. (July 2007). Identification of the 2% Population: Special Education Students in the Gap and Their Learning Issues – State Perspective. US
- Department of Education Special Education Partnership Conference: Alternate Assessments Based on Modified Academic Achievement Standards, Washington, DC.
- Fincher, M. & Flowers, C. (October 2008). Georgia's Alternate Assessment. Paper presented at the Eighth Annual Maryland Assessment Conference, College Park, MD.
- Poggio, J., Foster, S., Fincher, M., Maxy, B., & Kingston, N. (June 2006). Lessons from the Field – Computer-Based State Testing: The Good, the Bad, and the Ugly. 36th Annual National Conference on Large-Scale Assessment, San Francisco, CA.
- Chartrand, A., Fincher, M., & Denbroeder, K. (June 2006). Altering Alternate Assessments. 36th Annual National Conference on Large-Scale Assessment, San Francisco, CA.
- Fincher, M., Ban, P., Rogers, P., & Quenemoen, R. (June 2007). Assessing (and Teaching) Students at Risk for Failure: A Partnership for Success. 37th Annual National Conference on Large-Scale Assessment, Nashville, TN.
- Kim, D.H., Fincher, M., Young, V., & Foster, C. (June 2007). Investigating the Validity of Test Administration Accommodations: Three State Studies. 37th Annual National Conference on Large-Scale Assessment, Nashville, TN.
- Thurlow, M., Abedi, J., Cahalan-Laitusis, C., & Fincher, M. (June 2007). Research Findings and Implications from the National Accessible Reading Assessment Projects. 37th Annual National Conference on Large-Scale Assessment, Nashville, TN.

PROFESSIONAL SOCIETIES AND ORGANIZATIONS

National Council on Measurement in Education

PROFESSIONAL SERVICE

Puerto Rico Technical Advisory Committee

National Center for Educational Outcomes (NCEO) Technical Work Group

National Center for Educational Statistics (NCES) State Advisory Task Force

Florida Technical Advisory Committee (2013-2017)



March 24, 2022

Marianne Perie
Area Director, Assessment Research and Innovation
WestEd

RE: Technical Advisory Committee for RFP 22-70622 I AM Alt Assessment Research

By signing my name below, I am certifying that I will commit to serve on the Technical Advisory Committee for the Indiana I AM Alt Assessment Research effort for WestEd upon award of the contract. I understand that this commitment involves attending at least two meetings with other technical experts over the course of a year but will not exceed 80 hours in the year.

I believe I bring deep expertise of leading multiple state testing programs, including alternate assessments based on alternate achievement standards, through complex curricular and policy changes while serving in multiple roles at the Georgia Department of Education. I have served as the Principal Investigator for several federally-funded grants and research projects, have presented at numerous professional conferences, and serve as a federal peer reviewer for statewide assessments. Throughout my 30+ year career I served on several national advisory committees and continue to serve on the Puerto Rico Technical Advisory Committee, the Technical Work Group and Stakeholder Advisory Committee for the National Center for Educational Outcomes.

I look forward to working with and supporting the Indiana Department of Education.

Sincerely,



Melissa Fincher
Managing Associate
edCount, LLC

1800 Diagonal Road, Suite 600 • Alexandria, VA 22314 • 202-895-1502
www.edCount.com

Sandra Hopfengardner Warren, Ph.D.

Email: sandra_h_warren@hotmail.com Phone: 252.258.9819

EDUCATIONAL BACKGROUND

1988 – 1993 Ph.D. University of Maryland – College Park

Special Education – Disability Policy

1978 – 1979 MPA The University of Dayton

1974 – 1978 BA College of Wooster

Public Administration

Teacher Licensure: K-12 Special Education (Cross Categorical)

PROFESSIONAL AND CONSULTING EXPERIENCE (selected)

Faculty, East Carolina University (Greenville, NC)

Professor (2016-present); Associate Professor (2007-2016); Assistant Professor (2003-2007)

Visiting Assistant Professor (2000-2003)

Graduate Studies Director (2016-present); Special Education Graduate Programs
Coordinator (2015-present); MAEd SPED Mentor (2013-2015)

Director, ECU Teacher Support Program and Co-Director, North Carolina Deafblind Grant
(2010-present)

Unit Assessment/Evaluation Coordinator for graduate special education certificates and
degrees (2013-present)

Evaluator, ECU Pathways Personal Preparation Grant funded by Office of Special
Education Programs, U.S. Department of Education (2011-2012)

Hiroshima University Global Partnership School Center, ECU Coordinator of GPSC
activities with Pitt County Schools and Hiroshima University (2010-present).

Interim Assistant Dean, College of Education (June 2007- 2010)

Interim Chair, Dept. of Curriculum and Instruction (Jan.–May 2007)

Consultant, ASES SCASS (Assessing Special Education Students - State Collaborative on Assessment and Student Standards) Council of Chief State School Officers (Washington, DC), 2001-present

Consultant, National Center on Educational Outcomes, University of Minnesota (Minneapolis, MC), 2019-present.

Facilitator, California State Department of Education (Sacramento, CA), 2008-2010

Consultant, Technical Assistance (TAC) & SPEDTAC (Special Education Technical Assistance to Charter Schools) project, National Association of State Directors of Special Education (Alexandria, VA), 2001-2007.

Consultant, Valdosta State University (Valdosta, GA), February 2005.

Member, National Expert Panel for the Baltimore City Public Schools, Urban Special Education Leadership Collaborative, Education Development Center (Newton, MA), 2005.

Consultant, Out-of-Level-Testing Research Study (2002-2004); provided technical assistance to states and local school districts in curriculum alignment and development of inclusive assessment and accountability systems (1998 - 2001) National Center on Educational Outcomes (Minneapolis, MN).

Director, Initiative to Link Research and Practice to Improve Results for Individuals with Disabilities (U.S. Department of Education) Task Order. Research Triangle Institute (Research Triangle Park, NC) 1999-2001.

Faculty Research Associate (1993-1999); Faculty Research Assistant (1990-1993). (University of Maryland, College Park, MD)

Facilitator, development and/or implementation of state-wide alternate assessment frameworks in Oklahoma (2000), Louisiana (1999 - 2000), North Carolina (1997 - 1998), & Maryland (1992 - 1996).

Research Collaborator (University of Kentucky, Lexington, KY), in 3-year multi-state OSEP funded research study on students with deaf-blindness in systems of accountability; responsible for Louisiana sub-study, 1999 – 2000.

Consultant, Queen Anne's County Board of Education (Centreville, MD) - developed and conducted a self-study on the overrepresentation of minority students in special education and the nature of their placements, 1999 – 2000.

Consultant, Pennsylvania Department of Education (Harrisburg, PA) - developed curriculum framework (aligned with general education standards) for students with disabilities, 1998 – 1999.

Researcher/Writer, Westat (Rockville, MD) - conducted research and prepared modules for the U.S. Department of Education's Annual Report to Congress (1998: accessing the general education curriculum; 1997: alternate assessments); collaborated in NIDRR study of Client Assistance Programs in selected states, 1998 – 1999.

Consultant, U. S. Federal Court (Philadelphia, PA) - conducted evaluation of community services for Pennhurst class members, 1998.

Consultant, U.S. Agency for International Development with Arab Republic of Egypt and Gallaudet University - developed and presented training modules on community-based rehabilitation systems, 1996.

Research/Writer, Kennedy Foundation (Washington, DC) - developed training monographs for employers and employees with mental retardation regarding reasonable accommodations, 1995.

Quality Assurance Coordinator, United Cerebral Palsy Associations, Washington, DC, 1989-1990

Court Monitor for Evans et. al v District of Columbia, U.S. District Court, Washington, DC, 1984-1988

Executive Director/Executive Program Director, United Cerebral Palsy of Washington DC, 1980-1984

TEACHING AND ADVISING

Teaching Honors

2020-2021: *"It Just Takes One"*. East Carolina University. Identified (by 5 ECU graduate students) as "the person at ECU who made the most significant positive contribution to his/her education."

2016-2017: *"It Just Takes One"*. East Carolina University. Identified (by 6 ECU graduate students) as "the person at ECU who made the most significant positive contribution to his/her education."

2015-2016: *"It Just Takes One"*. East Carolina University. Identified (by 5 ECU graduate students) as "the person at ECU who made the most significant positive contribution to his/her education."

2014-2015: *"It Just Takes One"*. East Carolina University. Identified (by 10 ECU graduate students) as "the person at ECU who made the most significant positive contribution to his/her education."

2013-2014: *"It Just Takes One"*. East Carolina University. Identified (by ECU students) as one of the "top 10" ECU faculty making an impact on student success.

GRANTS AND CONTRACTS AWARDED (select)

Warren, S. (2018 – 2023). ECU Teacher Support Project for Teachers of Students with Deafblindness. NC Department of Public Instruction. \$1,101,035.

Warren, S. & Snyder, D. (2018 – 2023). North Carolina State Deafblind Project. U.S. Department of Education. (Office of Special Education Programs). \$1,568,145.

Warren, S., Walcott, C., & Walker, M. (2017-2022). Collaborating to Overcome Needs by improving the Voice of Exceptional Youth (CONVEY). U.S. Department of Education (Office of Special Education Programs). \$1,249,999.

Warren, S. (2013 – 2018). ECU Teacher Support Project for Teachers of Students with Deafblindness. NC Department of Public Instruction. \$1,101,035. (\$52,000 Supplement awarded fall 2014)

Warren, S. & Snyder, D. (2013 – 2018). North Carolina State Deafblind Project. U.S. Department of Education. (Office of Special Education Programs). \$1,568,145.

Warren, S. (2011-2012). ECU Teacher Support Program for Teachers of Students with Deaf-Blindness. NC Department of Public Instruction. \$182,000.

Patriarca, L, Warren, S. et al. (2009-2015). Teacher Quality and Student Achievement: A Comprehensive Data-Driven School-University Approach to P-16 Reform. U.S. Department of Education (Office of Innovation and Improvement). \$8,800,000.

Warren, S. (2007-2012). ECU Special Education Training Improvement Project. U.S. Department of Education (Office of Special Education Programs). \$500,000.

Warren, S., Williams, J., Boudah, D., & Kilburn, R. (2006-2011). ECU Special Education Transition 2 Teaching. U.S. Department of Education (Office of Innovation). \$1,750,000.

Warren, S. & Zambone, A. (2006 - 2007) ECU Teacher Support Program for Teachers of Students with deafblindness. NC State Board of Education. \$63,000.

Zambone, A & Warren, S. (2006-2007). ECU Deafblind Professional Development Model. NC Department of Health and Human Services. \$65,000.

Warren, S. & Zambone, A. (2005) Teacher Support Program for Students with Deaf-Blindness. Western Carolina University and North Carolina Department of Public Instruction. \$14,804.

Warren, S. & Williams, J., & Kilburn, R. (2005-2009) ECU Highly Qualified Special Educators. U.S. Department of Education. \$800,000.

- Warren, S. (2004-2005) Collaborative State Personnel Preparation Program in Low-Incidence Disabilities. University of North Carolina Charlotte. \$9,288.
- Warren, S. & Kilburn, R. (2003-2008) ECU Gateways. U.S. Department of Education. \$1,249,997.
- Warren, S & Kilburn, R. (2003-2007) ECU Partnership East – Special Education. U.S. Department of Education. \$800,000.
- Warren, S, McFadden, C., Kilburn, R., & Sugar, W. (2003-2004) Principals’ Leadership Center. North Carolina Council on Developmental Disabilities. \$50,000.
- Warren, S & Brown, M (2002 – 2006). Project GOALS AT ECU (Guaranteeing Opportunities for All Learners through Assistive Technology at East Carolina University). U.S. Department of Education. \$800,000.

PUBLICATIONS (selected since 2012)

Refereed articles

- Jimenez, B., & Warren, S. H. (approved for publication March 2023). Building Self-determination via Student Engaged Formative Assessment for Students with Extensive Support Needs. *Education and Training in Autism and Developmental Disabilities*.
- Voytecki, K. S., Tripp, M. C., Wilhite, K., & Warren, S. H. (2020). Video Grand Rounds in Rural Teacher Preparation. *Theory and Practice in Rural Education*, 10(1), 119-140.
- Robacker, C., Rivera, C., & Warren, S. (2015). A Token Economy Made Easy through ClassDojo. *Intervention in School & Clinic*.

Monographs

- Airhart, K., Strunk, K., Warren, S. H., Lazarus, S., & Hinkle, A. (2021). *Education for Each and Every Student: Perspectives on Universal Design in 2021*. National Center on Educational Outcomes.
- Hinkle, A., Lazarus, S., Warren, S. H., Thurlow, M., & Liu, K. (2021). *Supporting the Inclusion of Students with Disabilities in Assessments* (School Leaders Series #1). Council of Chief State School Officers & National Center on Educational Outcomes.
- Hinkle, A., Lazarus, S., Warren, S. H., Thurlow, M., & Liu, K. (2021). *Understanding the Consequences of Assessment Participation Decisions for Students with Disabilities* (School Leaders Series #2). Council of Chief State School Officers & National Center on Educational Outcomes.

- Hinkle, A., Lazarus, S., Warren, S. H., Thurlow, M., & Liu, K. (2021). *Working with IEP Teams to Make State Assessment Participation and Accessibility and Accommodations Decisions* (School Leaders Series #3). Council of Chief State School Officers & National Center on Educational Outcomes.
- Hinkle, A., Lazarus, S., Warren, S. H., Thurlow, M., & Liu, K. (2021). *What School Leaders Need to do Before, During, and After the Assessment Window* (School Leaders Series #4). Council of Chief State School Officers & National Center on Educational Outcomes.
- Lazarus, S., Wheeler, T., Paul, J., & Warren, S. H. (2021). *Accessibility Manual: How to Select, Administer, and Evaluate Use of Accessibility Supports for Instruction and Assessment of All Students*. Council of Chief State School Officers & National Center on Educational Outcomes.
- Lazarus, S., Warren, S. H., & Thurlow, M. (2021). *Restart and Recovery: Meeting the Assessment Needs of Students with Disabilities During Times of Interrupted Schooling*. National Center on Educational Outcomes.
- Warren, S. H., Strunk, K., Lazarus, S., & Thurlow, M. (2019). *States and districts working together on the 1.0% threshold*. National Center on Educational Outcomes.
- Thurlow, M., Warren, S. H., & Chia, M. (2019). *Guidebook to including students with disabilities and English learners in assessments*. National Center on Educational Outcomes.
- Warren, S. H., Lazarus, S. S., Strunk, K., & Thurlow, M. L. (2017). *Forum on text readers for everyone on all tests: Getting a handle on what this means*. Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.
- Warren, S., Thurlow, M., Christensen, L., Shyyan, V., Lazarus, S., A. Chartrand (2016). *Forum on common language for states and assessment vendors*. Minneapolis, MN: National Center on Educational Outcomes.
- Warren, S., Christensen, L., Chartrand, A., Shyyan, V., Lazarus, S., & Thurlow, M. (2015). *Forum on implementing accessibility frameworks for ALL students*. Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.
- Warren, S.H., Christensen, L., Shyyan, V., & Thurlow, M. (2013). *Forum on addressing performance gaps of low-performing students: Implications for assessment and instruction*. Minneapolis, MN and Washington, DC: University of Minnesota, National Center on Educational Outcomes and Council of Chief State School Officers, Assessing Special Education Students State Collaborative on Assessment and Student Standards.
- Almond, P., Kingston, N., Michaels, H., Roeber, E., Warren, S., Winter, P., & Mark, C., (2012). *Technical considerations for developing assessments that include special populations and are based on organized learning models*. Symposium 2011 Topic 3 White Paper. Menlo Park, CA, and Lawrence, KS: SRI International and Center for Educational Testing and Evaluation (CETE).

Warren, S., Thurlow, M., Christensen, L., Chartrand, A., & Rieke, R. (2012). *Forum on evaluating educator effectiveness: Critical considerations for including students with disabilities*. University of Minnesota: National Center on Educational Outcomes.

Holdheide, L., Browder, D., Warren, S. H., Buzick, H., & Jones, N. (2012). *Using student growth to evaluate educators of students with disabilities: Issues, challenges, and next steps*. National Comprehensive Center for Teacher Quality Center, Vanderbilt University, Nashville, TN.

Book Chapters

Hudson, M. E., Darden-Perry, R., & Warren, S. H. (2021). People with sensory impairments and multiple disabilities. In *People with disabilities: Face to face (2nd ed.)*. San Diego: Cognella.

Boudah, D., Hudson, M.E., & Warren, S. (2017). Independent living and employment for people with disabilities. In D. Boudah (Ed.), *Individuals with Disabilities: Face to Face*. San Diego, Cognella Academic Publishing.

Hudson, M.E. & Warren, S. (2017). People with low incidence disabilities. In D. Boudah (Ed.), *Individuals with Disabilities: Face to Face*. San Diego, Cognella Academic

Creative Activities - Virtual

Hudson, M. E., Warren, S. H., Blackwood, A., & Brickhouse, J. (2015). *Teaching Mathematics to Elementary Students with Deafblindness and Intellectual Disabilities*. Modules Addressing Special Education and Teacher Education (MAST). Greenville, NC: East Carolina University. Available <http://mast.ecu.edu/modules/tmes/>

Hudson, M. E., Warren, S. H., Blackwood, A., & Brickhouse, J. (2015). *Teaching Mathematics to Secondary Students with Deafblindness and Intellectual Disabilities*. Modules Addressing Special Education and Teacher Education (MAST). Greenville, NC: East Carolina University. Available <http://mast.ecu.edu/modules/tmss/>

Hudson, M. E., Warren, S. H., Blackwood, A., & Brickhouse, J. (2015). *Teaching Science to Elementary and Secondary Students with Deafblindness and Intellectual Disabilities*. Modules Addressing Special Education and Teacher Education (MAST). Greenville, NC: East Carolina University. Available <http://mast.ecu.edu/modules/tsess/>

Hudson, M. E., Warren, S. H., Brickhouse, J., & Blackwood, A. (2015). *Embedding Learning Opportunities for Literacy, Mathematics, Science, and Communication into Daily Routines for Students with Deafblindness and Intellectual Disabilities*. Modules Addressing Special

Education and Teacher Education (MAST). Greenville, NC: East Carolina University.
Available <http://mast.ecu.edu/modules/elo/>

Warren, S. (2014) *Modules Addressing Special Education and Teacher Education* (“MAST Modules”). (URL: <http://mast.ecu.edu>) Greenville, NC: East Carolina University. 38 one-hour online, freely accessible modules addressing critical issues and evidence-based strategies relative to students with a wide range of disabilities (participating in the general or adapted curricula).

Warren, S. (2014) *Special Education Video Grand Rounds*. (URL: http://winmedia.ecu.edu/coe/2013/serf/sped_video_grand_rounds/index.html) Greenville, NC: East Carolina University. Contact Dr. Warren for password to log in to collection.) Library of 6 video collections across elementary, middle, and secondary grades (in the general and adapted curriculum) including evidence-based practices and closing video with teacher demonstrating the 5-step reflective cycle.

Invited Articles

Castellon, M., & Warren, S. (2013) Accommodations considerations for English Language Learners with Disabilities. *Impact*. 26(1) 10-11, 34.

Presentation of Refereed Papers (select since 2012)

International

Walker, M. M., Warren, S. H., Walcott, C. M., & Hudson, M. E. (2019, April). *Interprofessional University Training Model for future Speech Language Pathologists, Special Educators, and School Psychologists (CONVEY)*. American Speech Language Hearing Association Convention. Orlando, Florida.

Jimenez, B., & Warren, S. H. (2018, January). *Student Empowered Formative Assessment for Students with Intellectual Disability*. Division on Autism and Developmental Disabilities. Clearwater, FL.

Heritage, M., Warren, S. H., & Lazarus, S. (2018, February). *Formative Assessment in Action: Improving the Learning of All Students*. Council for Exceptional Children - Workshop. Tampa, FL.

Lazarus, S., Warren, S. H., & Heritage, M. (2018, February). *Formative Assessment in Action: Improving Student Learning....including Students with Significant Support Needs*. Council for Exceptional Children. Tampa, FL.

Warren, S. H., & Blackwood, A. M. (2018, April). *Person Centered Planning: Opening Windows for New Opportunities for Children and Adults with Deaf-blindness*. Deafblind International Network of the Americas. Cape Cod, MA.

National

- Warren, S. H. (2022). *Growth Models and the AA-AAAS: Considerations for State Education Agencies*. CCSSO State Collaborative Winter Meeting.
- Warren, S. H., & Lazarus, S. (2022). *Balanced Assessment Systems for Students with Disabilities*. CCSSO State Collaborative Winter Meeting.
- Warren, S. H., Karvonen, M., Winter, P., & D'Brot, J. (2021). *Growth Models and the AA-AAAS: Considerations for State Education Agencies*. Council of Chief State School Officers - Accountability & Systems Reporting State Collaborative - Fall Meeting.
- Warren, S. H., Karvonen, M., D'Brot, J., & Winter, P. (2021, June). *Including Students with Significant Cognitive Disabilities in Alternate Assessment Growth Models: Exploring Considerations for State Frameworks*. National Conference on Student Assessment.
- Warren, S. H., Karvonen, M., & Winter, P. (2021). *Growth Models and the AA-AAAS: Considerations for State Education Agencies*. Council of Chief State School Officers Students with Disabilities Assessment Advisory Taskforce.
- Warren, S. H., & Lazarus, S. (2021). *Meeting the Assessment Needs of English Learners with Disabilities during Times of Interrupted Schooling*. Council of Chief State School Officers English Learners Assessment Advisory Taskforce.
- Warren, S. H., & Lazarus, S. (2021). *Meeting the Assessment Needs of Students with Disabilities during Times of Interrupted Schooling*. Council of Chief State School Officers Students with Disabilities Assessment Advisory Taskforce.
- Warren, S. H., Hinkle, A., Peasley, D., & Lazarus, S. (2019, June). *Monitoring Accessibility and Accommodations Across the Comprehensive Assessment System: Lessons Learned from Peer Reviews*. National Conference on Student Assessment. Orlando, FL
- Warren, S. H., & Thurlow, M. (2019, June). *States and districts working together on the 1.0% threshold*. National Conference on Student Assessment. Orlando, FL
- Warren, S. H., Thurlow, M., Wheeler, T., & Hinkle, A. (2018, June). *Speech to Text and Scribing - Getting a Handle on What This Means*. National Conference on Student Assessment. San Diego, CA.
- Warren, S. H., Heritage, M., Roeber, E., & Lazarus, S. (2018, June). *Formative Assessment in Action: Highlighting Best Practices Including Students with Disabilities and those with Significant Support Needs*. National Conference on Student Assessment. San Diego, CA.
- Warren, S. H., Hinkle, A., Peasley, D., & Lazarus, S. (2018, June). *Monitoring Accessibility and Accommodations Across the Comprehensive Assessment System: Lessons Learned from Peer Reviews*. National Conference on Student Assessment. San Diego, CA.
- Warren, S. H., Sato, E., Huff, L., & Ahumada, A. (2018, June). *English Language Proficiency Standards for English Learners with Significant Cognitive Disabilities: A Process, Outcomes, and Assessment Implications*. National Conference on Student Assessment. San Diego, CA.
- Warren, S., Thurlow, M., & Lazarus, S. (2017). *Test Readers for Everyone on All Tests: Getting a Handle on What This Means*. National Conference on Student Assessment, Austin, Texas.
- Lazarus, S., Hinkle, A., & Warren, S. (2017). *Monitoring Accessibility and Accommodations Across the Comprehensive Assessment System*. National Conference on Student Assessment, Austin, Texas.

- Warren, S., Brookhart, S., Lazarus, S., & Heritage, M. (2017). *What Does Formative Assessment Look like in Action with Students with Disabilities? Using Formative Assessment Practices with Students with Disabilities*. National Conference on Student Assessment, Philadelphia, Pennsylvania.
- Warren, S. H., Blank, R., & Stoica, W. (2013). *Closing the Opportunity Gap for Students with Disabilities*. National Conference on Student Assessment, National Harbor, Maryland.
- Warren, S. H., Sato, E., Heritage, M., & Bechard, S. (2013). *Special Populations, Comprehensive Next Generation Assessment Systems, and Learning Models; Transition to Assessment for Learning*. National Conference on Student Assessment, National Harbor, Maryland.
- Warren, S. H. (2012). *MAST Modules: Online Professional Development Resources*. U.S. Department of Education - Office of Special Education Programs - Project Directors' Conference, Washington, District of Columbia.
- Warren, S. H., Jimenez, B., & Metcalf, D. (2012). *MAST Modules: Online Professional Development Resources*. Council for Exceptional Children 2012 International Conference & Expo, Denver, Colorado.

Presentation of Invited or Non-Refereed Papers (selected since 2012)

International

- Warren, S. H. (2018, November). *A Model for 21st Century Global Educators and Learners*. Hiroshima University - Global Partnership School Center International Conference. Hiroshima Japan.
- Brookhart, A., Lazarus, S., Warren, S., & Heritage, M. (2016). *Learning to Use Formative Assessment Practices with Students with Disabilities*. Council for Exception Children, St. Louis, Missouri.
- Warren, S. (2016). *Strategies for Implementing Global Education in the Classroom*. Hiroshima University Global Partnership School Center International School Exchange Forum, Hiroshima, Japan.
- Warren, S. (2016). *Globally-minded Teacher Education*. Hiroshima University Global Partnership School Center International School Exchange Forum, Hiroshima, Japan.
- Warren, S. (2016) *21st Century Educators; Implications for Teacher Preparation Programs*. Hiroshima University Global Partnership School Center International School Exchange Forum, Hiroshima, Japan.
- Warren, S. & Stonemeier, J. (2014). *Creating Equity and Excellence for ALL Learners: Examining the Impact of Policy*. TASH International Conference, Washington, District of Columbia.

Warren, S. H. (2013). *Action Research and Teachers*. Hiroshima University Global Partnership School Center International School Exchange Forum, Hiroshima, Japan.

Warren, S. H. (2012). *Preparing ALL Teachers to work with Students with Disabilities*. Hiroshima University Global Partnership School Center International School Exchange Forum, Hiroshima, Japan.

National

Warren, S. (2016). *Formative Assessment and Students with Disabilities - Plenary Speaker*. Council of Chief State School Officers Fall Meeting, Minneapolis, Minnesota.

Warren, S. H. & Holdheide, L. (2013). *Moving our Educator Evaluation Systems Forward: Considerations for Educators Working with Students with Significant Disabilities*. SCEE Annual Meeting, Raleigh, North Carolina.

Warren, S. H., Thurlow, M., & Holdheide, L. (2012). *Forum on evaluating educator effectiveness: Critical considerations for including students with disabilities*. National Conference on Student Assessment, Minneapolis, Minnesota.

Warren, S. H., Blank, R., Stoica, W., & Chartrand, A. (2012). *Closing the Opportunity Gap for Students with Disabilities*. U.S. Department of Education - Office of Special Education Programs - Leadership Conference, Washington, District of Columbia.

Warren, S. H., Millar, M., Bowman, T., Paliokas, K., & Cashman, J. (2012). *Now and Then: The Current and Future Impact of Common Core Standards*. U.S. Department of Education - Office of Special Education Programs - Project Directors' Conference, Washington, District of Columbia.

Warren, S. H. (2012). *Transitioning to the Common Core: Considerations for Students with Disabilities*. Summit on College and Career Readiness, Albuquerque, New Mexico.

Warren, S. H. (2012). *Common Core State College and Career Readiness Standards: Critical Issues for Students with Disabilities*. IDEA Partnership Annual Meeting, Arlington, VA

Honors

2007-2022: Servire Society of East Carolina University (community service in excess of 100 hours per year)


Warren & Associates
Sandra Hopfengardner Warren, PhD

March 10, 2022

Marianne Perle
Area Director, Assessment Research and Innovation
WestEd

RE: Technical Advisory Committee for RFP 22-70622 I AM Alt Assessment Research

By signing my name below, I am certifying that I will commit to serve on the Technical Advisory Committee for the Indiana I AM Alt Assessment Research effort for WestEd upon award of the contract. I understand this commitment involves attending at least two meetings with other technical experts over the course of a year but will not exceed 80 hours in the year. I believe I bring expertise of refinement of state alternate assessments and participation of students with the most significant cognitive disabilities to the panel and look forward to working with the Indiana Department of Education.

Name: Sandra Hopfengardner Warren, PhD
Signature: 
Title: President
Company: Warren and Associates
Date: 10 March 2022

KARLA L. EGAN

EdMetric LLC, Principal and Founder

20053 Duck Drive, Malta Bend, MO 65339

660-631-0843

karla.egan@edmetric.com

Education Ph.D., Sociology, University of Massachusetts, Amherst
 M.A., Sociology, University of Massachusetts, Amherst
 B.A., Sociology, Truman State University, Kirksville, MO

Specialized Qualifications

- Nationally and internationally recognized for work in standard setting and achievement-level descriptor development
- Skilled in group facilitation
- Experience in item and data analysis using both Classical Test Theory and Item Response Theory
- Experience in equating, scaling, and analysis of K-12 assessments, including both fixed form and computer adaptive assessments
- Ability to communicate effectively orally and in writing with a wide variety of stakeholders
- Knowledge of Every Student Succeeds Act, in particular as applied to United States Department of Education Peer Review requirements
- Experience working with large-scale assessments at state, national, and international levels

Professional Experience

EdMetric LLC
MO

Malta Bend,

Principal September

2015–Present

Consult with state and local education agencies, assessment consortia, and assessment vendors to provide high-quality, broad psychometric support for largescale assessment programs. Design and facilitate standard-setting and achievement-level descriptor development workshops using

well-known methodologies (Bookmark, Angoff with and without modification, ID Matching, etc.). Design and implement achievement-level descriptor development processes tailored to specific program structure and purpose. Design and implement alignment studies and workshops using technically sound methodologies tailored to program design and needs. Complete quality assurance audits for large-scale assessment programs. Contribute to Technical Advisory Committees, both as a member and as chairperson, for multiple state assessment programs and consortia. Contribute to professional body of knowledge in the field via publications and presentations.

National Center for the Improvement of Educational Assessment

Dover, NH

*Associate
2015*

June 2013–August

Provided technical support to state and local education agencies on issues related to the design, development, implementation, and documentation of assessments and accountability systems. Developed Requests for Proposals for a wide range of psychometric and policy-related issues, including test development, psychometric analyses, score reporting, and technical manual development. Coordinated and facilitated Technical Advisory Committee meetings. Audited standard setting, providing expert feedback to states and vendors.

CTB/McGraw-Hill

Monterey, CA

*Research Manager, Research Scientist
May 2013*

Sept. 1999–

Managed team of Research Scientists and Research Associates. Ensured team deliverables and budgets were met. Provided guidance to team members on psychometric issues, including test scale maintenance, problematic anchor items, test form equivalency, and vertical articulation of cut scores. Managed psychometric portion of large-scale custom contracts. Communicated psychometric issues to internal and external customers. Created nationally recognized framework to develop achievement-level descriptors (Egan, Schneider, & Ferrara, 2012) and implemented the framework for the Smarter Balanced Assessment Consortium.

Publications & Presentations

Egan, K.L. (2019, April). Enhancing panelist understanding: Visualizations and standard setting. Paper presented at the meeting of the National Council on Measurement in Education, Toronto, Canada.

Barton, K., Choi, Egan, K.L., & Davidson, A.H. (2019, April). Setting instructionally informative cut scores in a formative system. Paper presented at the meeting of the National Council on Measurement in Education, Toronto, Canada.

Egan, K.L., (2017, April). Developing grade-level ALDs for grade-band ELPA21 assessments. Paper presented at the meeting of the National Council on Measurement in Education, Washington, DC.

- Bishop, N.S. & Egan, K.L. (2016) Detecting erasures and unusual gain scores: Understanding the status quo. In G.J. Cizek & J.A. Wollack (Eds.), *Quantitative Methods for Identifying Cheating on Tests* (p. 193-213). New York, Routledge.
- Skorupski, W., Fitzpatrick, J. & Egan, K. L. (2016). A Bayesian hierarchical model for detecting aberrant growth at the group level. In G. J. Cizek & J. A. Wollack (Eds.), *Quantitative Methods for Identifying Cheating on Tests* (pp. 232-244). New York: Routledge.
- Egan, K.L. (2016, April). Evaluating Standard Setting: A Call for Codifying Best Practices. Paper presented at the meeting of the National Council on Measurement in Education, Washington, DC.
- Egan, K. L. (2015, June). Relationship between EOC assessments and ACT subject tests. Paper presented at the CCSSO National Conference on Student Assessment, San Diego, CA.
- Egan, K. L. (2015, June). Building a validity argument for the NCSC assessment. Paper presented at the CCSSO National Conference on Student Assessment, San Diego, CA.
- Skorupski, W. & Egan, K. L. (2014). A Bayesian hierarchical linear modeling approach for detecting cheating and aberrance. In N. M. Kingston & A. K. Clark (Eds.), *Test fraud: Statistical detection and methodology* (pp. 121-136). New York: Routledge.
- Egan, K. L. & Smith, J. (2014). Using multiple methods to detect potential aberrant data. In N. M. Kingston & A. K. Clark (Eds.), *Test fraud: Statistical detection and methodology* (pp. 220-229). New York: Routledge.
- Egan, K. L. (2014, June). Using performance standards in next generation alternate assessments: Connecting instruction and assessment. Discussant for session at CCSSO National Conference on Student Assessment, New Orleans, LA.
- Schneider, M. C., Egan, K. L., & Julian, M. W. (2012). Classroom assessment in the context of high stakes assessment. In J. McMillian (Ed.), *Handbook of research in classroom assessment* (pp. 55-70). Thousand Oaks, CA: Sage Publications, Inc.
- Egan, K.L., Schneider, M.C., & Ferrara, S. (2012). Performance level descriptors: History, practice, and a proposed framework. In G.J. Cizek (Ed.), *Setting performance standards: Foundations, methods, and innovations* (pp. 79-106). New York: Routledge.
- Skorupski, W. & Egan, K. L. (2012, May). A hierarchical linear modeling approach for detecting cheating and aberrance. Paper presented at the Test Fraud Conference, Lawrence, KS.
- Egan, K. L. & Smith, J. (2012, May). Using multiple data forensic methods to detect potential testing improprieties. Paper presented at the Test Fraud Conference, Lawrence, KS.
- Schneider, M. C., Egan, K. L., & Julian, M. W. (2012, April). Classroom assessment in the context of high stakes assessment. Paper presented at the meeting of the American Educational Research Association, Vancouver, British Columbia, Canada.

- Bishop, N. S., Egan, K. L., & Clauser, J. C. (2011). Recommendations for conducting erasure analyses. *NCME Newsletter*, 19(3), 5-8.
- Egan, K. L., Schneider, M. C., & Ferrara, S. (2011). The 6D framework: A validity framework for defining proficient performance and setting cut scores for accessible tests. In S. Elliott, R. Kettler, P. Beddow, & A. Kurz (Eds.), *Accessible tests of student achievement: Issues, innovations, and applications* (pp. 275-294). New York: Springer.
- Egan, K. L., Smith, J., Kim, J., & Fatica, K. (2011, April). Using erasure analyses to predict potential cheating. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.
- Skorupski, W. & Egan, K. L., (2011, April). Detection of cheating through hierarchical growth models. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.
- Schneider, M. C., Egan, K. L., Huff, K., Tully, M. (2011, April). Developing and validating range ALDs for item development: A prediction study. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.
- Ferrara, S., Lewis, D., Mercado, R. L., D'Brot, J., Barth, J., & Egan, K. L. (2011, April). A method for setting benchmarked performance standards: Workshop procedures, panelist judgments, and empirical results. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.
- Egan, K. L. & Skorupski, W. (2011, February). The detection of breaches through hierarchical growth models. Paper presented at the annual meeting of the Association of Test Publishers, Phoenix, AZ.
- Egan, K. L., Marr, D., Barrett, M., Barton, K. E., & Schneider, M. C. (2010, May). Exploring the equivalence of the test construct for various subgroups using residuals analysis. Paper presented at the annual meeting of the National Council on Measurement in Education, Denver, CO.
- Keller, L., Egan, K. L., & Schneider, M. C. (2010, May). Item parameter drift in anchor items—detection and consequences: An analysis of simulated and operational test data. Paper presented at the annual meeting of the National Council on Measurement in Education, Denver, CO.
- Egan, K. L., Schneider, M.C., & Muenks, M. (2010, May). Exploring test construct equivalence for English language learners on a statewide testing program. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.
- Schneider, M. C., Huff, K. L., Egan, K. L., Tully, M., & Ferrara, S. (2010, May). Aligning achievement level descriptors to mapped item demands to enhance valid interpretations of scale scores and inform item development. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

- Egan, K. L., Ferrara, S., Schneider, M. C., & Barton, K. E. (2009). Writing performance level descriptors and setting performance standards for assessments of modified achievement standards: The role of innovation and importance of following conventional practice. *Peabody Journal of Education*, 84(1), 552-557.
- Schneider, M. C., Egan, K. L., Siskind, T., Brailsford, A., & Jones, E. (2009, April). Concurrence of target student descriptors and mapped item demands in achievement levels across time. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.
- Schneider, M. C., Egan, K. L., Kim, D., & Brandstrom, A. (2008, March). Stability of achievement level descriptors across time and equating methods. Paper presented at the annual meeting of the National Council on Measurement in Education, New York, NY.
- Mueller, C., Schneider, M. C., & Egan, K. L. (2008, March). Response probability criterion and subgroup performance. Paper presented at the annual meeting of the National Council on Measurement in Education, New York, NY.
- Egan, K. L., Schneider, M. C., & Keller, L. (2008, March). The influence of item type on cut scores in the Bookmark standard setting procedure. Paper presented at the annual meeting of the National Council on Measurement in Education, New York, NY.
- Egan, K. L., & Michaels, H. R. (2006, June). The intersection of NAEP and state performance standards. Paper presented at the CCSSO National Conference on Large-Scale Assessment, San Francisco, CA.
- Mercado, R. L., & Egan, K. L. (2005, April). Performance level descriptors. Paper presented at the National Council on Measurement in Education, Montréal, Quebec.
- Egan, K. L., Green, D. R., & Mercado, R. L. (2003, April). Influences on judges decisions. Paper presented at the National Council on Measurement in Education, Chicago, Illinois.
- Egan, K. L., & Mercado, R. L. (2002, June). Standard setting in the real world. Paper presented at the CCSSO National Conference on Large-Scale Assessment, Palm Springs, CA.
- Egan, K. L. (2001, June). Validity and defensibility of cut scores established by the Bookmark standard setting method. Paper presented at the CCSSO National Conference on Large-Scale Assessment, Houston, TX.
- Egan, K. L., Rogers, H. J. & Swaminathan, H. (1999, April). Identification of factors that contribute to differential performance among NAEP test taking populations. Paper presented at the National Council of Measurement in Education, Montreal, Quebec, Canada.
- Egan, K. L., Anderton, D. L., & Weber, E. (1998). Relative spatial concentration among minorities: Addressing errors in measurement. *Social Forces*, 76, 1115-1122.

Professional Activities

- Member: American Educational Research Association
- Member: National Council on Measurement in Education
- Member/Chair: Indiana Technical Advisory Committee, 2016–present
- Member: Dynamic Learning Maps Technical Advisory Committee, 2015–present
- Member: Missouri Technical Advisory Committee, 2015–present
- National Academy of Sciences, Committee on the Evaluation of NAEP Achievement Levels, 2015
- NCME Annual Award Committee, 2014–present
- Member: North Dakota Technical Advisory Committee, 2013–present
- Member: College Board AP Computer Science Principles Technical Advisory Committee, 2013-2015

Honors & Recognitions

- CTB/McGraw-Hill Research and Development Grant – “The Detection of Cheating through Hierarchical Growth Models” (2010), Co-investigator
- CTB/McGraw-Hill Research and Development Grant – “Aligning Achievement Level Descriptors to Mapped Item Demands across Achievement Levels to Enhance Valid Interpretation of Scale Scores and Inform Item Development” (2010), Co-investigator
- CTB/McGraw-Hill Research and Development Grant – “Detecting and Deleting Anchor Set Items: Guidelines and Consequences” (2008), Principal Investigator
- CTB/McGraw-Hill Employee of the Month (September 2000, January 2005)



March 9, 2022

WestEd
Attn: Marianne Perie
Area Director, Assessment Research and Innovation
730 Harrison Street
San Francisco, California 94107

RE: Technical Advisory Committee for RFP 22-70622 I AM Alt Assessment Research

Dear Ms. Perie,

By signing my name below, I am certifying that I will commit to serve on the Technical Advisory Committee for the Indiana I AM Alt Assessment Research effort for WestEd upon award of the contract. I understand that this commitment involves attending at least two meetings with other technical experts over the course of a year but will not exceed 80 hours in the year. I bring over twenty years of experience and expertise in psychometrics and large-scale assessments to the panel. I look forward to working with the Indiana Department of Education.

Sincerely,



Karla Egan, Ph.D.
EdMetric LLC, Principal
karla.egan@edmetric.com

STEVE FERRARA

Education

- Ph. D. 1989, Stanford University, Educational Psychology (and Measurement)
- Ed. S. 1984, Stanford University, Program Evaluation
- M. Ed. 1978, Boston State College, Special Education
- B. A. 1973, University of Massachusetts, Amherst, English (and Journalism)

Professional Positions

Measurement Solutions Architect—Cognia (formerly Measured Progress), August 2016-present

Vice President, Performance Assessment, and Head, Center for Next Generation Learning and Assessment, Pearson's Research and Innovation Network, 2012-2016

Principal Research Scientist, CTB/McGraw-Hill, 2008-2011

Managing Research Director, Assessment Program, American Institutes for Research (AIR), 1997-2008. Was responsible for conceptualizing, designing, managing, and providing quality assurance for educational assessment development and measurement research projects and providing support and professional development for staff. Directed assessment design, development, psychometrics design and analysis, and validation projects, proposal development, and research activities.

State Director of Student Assessment and Section Chief for Measurement, Statistics, and Evaluation, Maryland State Department of Education, 1985-1997 Directed and conducted psychometric design and analysis, assessment design and development, standard setting, policy development and implementation, and budgeting and directed staffs of 15-30 professionals.

Professional Experience

Measurement Solutions Architect—Assessment Division, Cognia. Goals are to guide and support principled design, development, and implementation of an interim formative assessment, *eMPower*, related formative assessment products and services, and for state summative assessment programs; design, evaluate, and refine score reporting and supporting formative information; provide technical support to formative assessment products and services and state summative assessment development, operations, and validation; mentor psychometricians and test developers; pursue a measurement and efficacy research agenda; develop business opportunities and new products and services; improve technical documentation through validity argument technical reports; support clients in developing peer review submissions; and improve assessment processes through Cognia’s *Principled Assessment Design, Development, and Implementation* (PADDI) approach.

Have supported business development activities, standards validation activities, and measurement research on item response demands and alignment with achievement levels descriptors. Have designed and am embedding Cognia’s Principled Assessment Design, Development, and Implementation (PADDI) into thinking and practice; designed and led Cognia’s validity argumentation approach to technical documentation; support Cognia clients in developing peer review submissions; lead standard setting design, implementation, and facilitation.

Senior Advisor for Measurement Solutions—Assessment Products at Cognia. Led and provided guidance on content development and psychometric designs for the interim assessment, *eMPower*. Guided and led parallel forms assembly; design options, evaluation, and selection of a vertical scale for within and across grade score reporting; linking to the PSAT 8/9 scale and grade 9 College and Career Readiness Benchmarks; benchmarked standard setting using Item-Descriptor (ID) Matching; and designed and developed visual, tabular, and textual elements for score reporting for online, dynamic report construction and static reports and measures for reporting growth and establishing achievable growth targets.

Goals were to guide and support the design, development, and implementation of an interim formative assessment, *eMPower*, and related formative assessment products and services; design, evaluate, and refine score reporting and supporting formative information; provide technical support to formative assessment product and services development, operations, and validation; mentor psychometricians and test developers; pursue a measurement and efficacy research agenda; develop business opportunities and new products and services; and improve assessment design, development, and psychometric processes.

Pearson’s Vice President for Performance Assessment and Head, Center for Next Generation Learning and Assessment. The Center’s mission was to advance research and practice and promote innovation in formative and summative assessment systems for learning, worldwide. The center’s researchers and assessment designers focused on principled design and development of performance assessment for summative and formative uses; professional, teacher, and automated scoring; innovative learning and assessment technology tools; and

diverse learners. Center staff collaborated with Pearson business units and customers to design, develop, and validate performance assessments for accountability and classroom formative assessment purposes and to implement a research agenda on performance assessment to advance industry practice. Led a team of researchers, assessment designers, content developers, automated scoring developers, and technology applications developers to design and implement performance assessments for a range of assessment purposes and contexts; conducted research on performance assessment design, development, scoring, implementation, interpretation and use, accessibility for diverse learners, and impacts on the teaching-learning process.

Led a project to develop speaking and listening learning, assessment, and feedback modules for English language learners (2015-2016); led a multi-organizational team to develop and validate indicators of test item content, cognitive, and linguistic response demands and cognitive complexity (2012-2015); conducted research on comparative judgments to score essays and estimate item difficulties; led a Body of Work standard setting for the Virginia Alternate Assessment Program (2013) and a Bookmark standard setting for the College Board Accuplacer test for the North Carolina community college system; led development of formative performance tasks for classroom use for the Gwinnett County Public Schools (2012-2013).

Member of a national panel on performance assessment (2014) sponsored by the Center for K-12 Assessment and Performance Management at ETS. As a panel member authored the chapter on definitions and examples of performance assessment for the report, *Psychometric Considerations for the Next Generation of Performance Assessment* (see http://www.ets.org/research/policy_research_reports/publications/report/2015/jubf).

CTB's Lead Research Scientist for the DC CAS assessment programs (2008-2011). Was responsible for developing psychometric and research specifications; conducting, interpreting, and documenting psychometric analyses; and providing quality assurance. Provided methodological leadership for assessment design and development, psychometric design and analysis, and standard setting; and leadership and consultation to other Research Scientists and test development staff. Chaired an internal intelligence and pursuit team on Common Core State Standards, assessment consortia, Race to the Top, and ESEA reauthorization. As Lead Research Scientist for Washington, DC's state assessment program, *DC CAS*, designed and conducted all psychometric work and provided quality assurance; conducted cheating detection analyses; advised on transition to the Common Core State Standards.

CTB's Lead Research Scientist for standard setting (2008-2011). Designed and implemented *Benchmarked Standard Setting* procedures to establish performance standards for West Virginia's high school chemistry test (December 2011), the District of Columbia Public Schools grade 9 reading test (August 2011), and West Virginia's high school biology test (December 2010). Conducted a Bookmark standard setting for the Indiana Modified Achievement Standards Test (IMAST) for students with learning disabilities (July 2010). Designed and implemented a *Benchmarked Standard Setting* procedure to link performance standards for West Virginia's grades 3-11 assessments in reading/language arts, mathematics,

science, and social studies (WESTEST2) to NAEP performance standards (February 2010). Designed and led an Item-Descriptor (ID) Matching standard setting for CTB's English Online System (EOS) language proficiency assessments (February 2010). Designed and Bookmark standard setting and cross-grade articulation procedures for West Virginia's WESTEST2 in language arts, mathematics, science, social studies, and college readiness (February 2009) and Colorado's English language proficiency assessment, CELApro (October 2008). Designed and conducted a Reasoned Judgment standard setting for the DC CAS Composition assessment (August 2008). Designed and led training for a Bookmark standard setting workshop for Arizona's AIMS science assessments (July 2008).

Co-Principal Investigator, CTB Research and Development grant to develop online, innovative, technology enhanced and performance tasks to target Common Core State Standards (2009-2011). As co-Principal Investigator, led project design, planning, and execution meetings; selected language skills to target; co-designed performance tasks that targeted intended knowledge and skills; and conducted psychometric feasibility analyses for each item and task.

Principal Investigator, CTB Research and Development grant to develop a prototype interactive, adaptive, Online English Conversational Proficiency Assessment (OCPA; 2009-2011). As Principal Investigator, designed assessment tasks and a scoring and adaptive branching system for conversational assessment tasks in job-related areas; directed a team of applied linguists and language testing experts in developing assessment tasks; designed and conducted pilot tests and analyzed pilot test results; revised tasks; and worked with a software provider to incorporate assessment tasks and automated scoring criteria and branching procedures into a conversational simulation.

Other experience at CTB. Led and participated on two internal standing teams with responsibility to prepare CTB for next generation of state assessment programs, to target the Common Core State Standards and the Smarter Balanced and PARCC assessment consortia. Developed technical documentation and validity arguments in support of approval for the use of the Tests of Adult Basic Education (TABE) and Comprehensive Language Assessment System in English (CLAS-E) for use in the U.S. Department of Education's adult education National Reporting System (2008). Participated in proposal development.

Principal Investigator and senior test designer for a multistate consortium to develop assessments of modified achievement standards (2007). In this project, funded by the U.S. Department of Education's Office of Special Education Programs (OSEP), designed the studies, wrote the proposal, chaired the Working Group, and facilitated the Steering Committee to develop assessments of modified achievement standards, define the target student population, and design professional development materials for statewide assessment programs in Minnesota, Ohio, and Oregon.

Project Director for development of mathematics and science assessments for the High School Longitudinal Study of 2009 (HSL:09; 2007). As project director, led the design of these two-stage assessments that are part of the latest in a series of longitudinal studies of student

course-taking, achievement, undergraduate majors, and other focuses that began in 1972; designed two-stage assessments and psychometric analyses and coordinated the mathematics and science development teams.

Test designer and technical lead for development and implementation of the New Mexico alternate assessment, NMAPA (2006-2007). Managed and provided senior technical advice during design, development, field testing, analysis and scaling, standard setting, and implementation of New Mexico's new alternate assessment program. Created this innovative design that includes tailored testing, assessment tasks, and vertical scales in English language arts, mathematics, and science.

Test designer and technical lead for development and implementation of South Carolina's alternate assessment, SC-Alt (2004-2007). Managed design, development, field testing, analysis and scaling, and standard setting for these innovative assessment tasks and scales in English language arts, mathematics, science, and social studies; managed the previous PACT-Alt and HSAP-Alt programs during 2004-2006. SC-Alt became operational in 2006 and has continued through 2021.

AIR's director of standard setting for educational assessment projects (1999-2008). Planned, designed, and led standard setting workshops for four Chicago high school end-of-course examinations using Item-Descriptor (ID) Matching (July 2007); the South Carolina and New Mexico alternate assessments using ID Matching (June and July 2007); Hawaii grades 6-10 reading assessment using the Bookmark method and cross-grade articulation (February 2007); Ohio grades 5 and 8 science and social studies assessments using the Bookmark method and cross-grade and content area articulation (August 2006); Ohio grades 6-8 reading assessments using the Bookmark method and cross-grade and content area articulation (May 2005); the Ohio grade 3 reading assessment using the Bookmark method (September 2003); South Carolina English and mathematics high school exit examinations using ID Matching (July 2003); Ohio K-2 reading and K-3 writing assessments using the Bookmark method (June 2003); and the School District of Philadelphia grade 3 reading assessments (spring 2000) and Grade 4 Second Chance Tests (2002) using the modified Angoff method; and the School District of Philadelphia Algebra I and English I end-of-course exams using ID Matching (spring 1999). Designed and led standard setting for the Ohio alternate assessment portfolio system using the Body of Work method (February 2005, February 2007). Trained and monitored testing program staffs in the state of Bahia, Brazil to conduct standard settings using modified Angoff and ID Matching procedures (2001, 2002).

Member and co-author, national Technical Work Group on options for students with disabilities to participate in statewide assessment programs (May-July 2005). Work group was empanelled by the USDE Office of Special Education Programs (OSEP) to write a white paper to support the department in developing guidance to state assessment programs. The resulting toolkit, *Models for Large-Scale Assessment for Students with Disabilities*, is available at <http://www.osepideasthatwork.org/toolkit/models.asp>.

Principal Investigator, National Science Foundation grant, Improving Item Construct Validity by Illuminating Student Cognitive Processing (October 2001-December 2005).

Conceptualized, designed, conducted, and reported on all phases of the study. The study, funded by the National Science Foundation (Award #0126088; \$752,177.00), included a review of literature on examinee response strategies on tests in science and other content areas, item demands analyses that indicated cognitive requirements (i.e., knowledge and skills needed) of test items, cognitive laboratory studies that illuminated examinee strategies for responding to science test items, and analyses of the relationship between intended cognitive demands in science test items and actual examinee response strategies to determine features of highly construct valid test items.

Project Director for design, development, and implementation of the English Language Development Assessment (ELDA) program for the CCSSO state collaborative on English language learners (November 2004-November 2005); Senior Technical Advisor and Task Leader (December 2002-September 2004). Managed project planning, staff, and completion and quality of test development, field testing, and psychometric analyses; designed assessments, data collection, and psychometric procedures; led design, development, and validation of the speaking proficiency assessment component for grades K-12.

Project Director, Development and Field Test of the NAEP Foreign Language Assessment in Grade 12 Spanish (August 2000-June 2004). Managed design, development, and field testing of assessment exercises in reading proficiency; school background questionnaires; a student Language Survey/Background Questionnaire which includes language proficiency screening measures to place examinees in appropriate levels for language proficiency assessment; designed, developed, and field tested interpersonal speaking/listening tasks to assess conversational proficiency in Spanish; and designed and managed a comparative study of a Language Survey/Background Questionnaire in internet-delivered and Personal Digital Assistant versions.

Chair, Technical Advisory Panel, Development of Assessment Framework and Specifications for the 2007 NAEP Reading Assessments (2003-2004). Organized and chaired a panel of national experts in psychometrics and design of large-scale assessments in reading. Identified technical issues that arose in discussions and plans by the design committees (comprised of experts in reading theory, curriculum, instruction and learning, and assessment). Provided technical advice on the design of the NAEP reading assessments and development of the assessment specifications document.

Senior Technical Advisor, Bahia (Brazil) school principals certification testing program and student assessment program (January 2001-March 2002). AIR senior advisor on technical design and psychometrics for the Bahia (Brazil) principals certification testing program and Bahia statewide student assessment program. Trained and advised program staff on test design, student sampling, constructed response item scoring, IRT and classical scaling and equating, and standard setting.

AIR's Director of Research and Psychometrics, School District of Philadelphia assessment program (December 1999-July 2002). Directed psychometrics and research for AIR's project to develop and validate the School District of Philadelphia's grades 4 and 8 student assessment programs and high school end of course examinations. Designed and implemented analysis, scaling and equating, and score reporting procedures and methods; standard setting; and validity research studies.

Chair, Technical Advisory Panel, Development of Assessment Framework and Specifications for the NAEP Foreign Language Assessment (1999-2000). Organized and chaired a panel of national experts in psychometrics and design of assessments of foreign languages. Identified technical issues that arose in discussions and plans by the design committees (comprised of foreign language instruction experts). Provided technical advice on the design of the NAEP Foreign Language assessment and development of the assessment specifications document.

Project Director, Development and Pilot Testing of the Voluntary National Tests (October 1998–September 2001) and Director of Research and Psychometrics (August 1997–October 1998). The Voluntary National Tests in grade 4 reading and grade 8 mathematics, proposed by President Clinton in January 1997 and under direction of the National Assessment Governing Board, were highly visible tests that were closely scrutinized by the National Academy of Sciences, numerous national education policy and constituent group organizations, and psychometric and education policy research scholars. Managed all work, staff, and budgets related to developing and validating test items and test forms; developing test, analysis, scaling, and equating specifications; designing national pilot and field tests; creating score reporting plans; developing and implementing a validity research agenda; and conducting research studies related to accommodations for students with disabilities and LEP students. As the Director of Research and Psychometrics, designed pilot test and field test data collection methods and subsequent psychometric analysis procedures; coordinated psychometric plans and procedures with test development activities and score reporting plans developed and implemented a validity research agenda; supervised the development of software, analytic procedures, and decision criteria for item and test development, analysis, scaling, and equating. Worked directly with a team of 10 test development and educational measurement professionals at AIR, psychometric staff of five test development companies involved in the VNT contract, and with internationally renowned educational measurement technical advisors.

Project Director, Maryland Assessment Systems Project, USDE grant No. R279A50003, Maryland State Department of Education (December 1995–August 1997). Led design and implementation of four sets of validity studies: predictive validity, consequential validity, and validity of test administration accommodations in the Maryland School Performance Assessment Program; and comparisons of design options for the High School Assessment Program.

Assessment Design Experience

Developer of Cognia's PADDI process (Principled Assessment Design, Development, and Implementation), which integrates principles and tools from ECD, Assessment Engineering, and other principled approaches into operational testing program principles, tools, practices, and infrastructure.

Co-director and co-designer of Cognia's Formative Performance Assessment offerings: project-based assessment tasks, performance tasks for students with significant cognitive disabilities, and assessment portfolios (2021-present).

Co-designer for New Mexico's writing assessment for the grades 3-8 Measures of Student Success and Achievement (NM-MSSA; 2020).

Maryland's *Next Generation Science Assessment* for grades 5 and 8, 2015; led design of the online, technology enhanced performance tasks and overall test design, with common and matrix sampled sections.

Common Core Speaking and Listening (CCSL) formative assessment, 2013-2014; led design and prototype development for an automated formative assessment of the Common Core speaking and listening State Standards with AI based, personalized feedback; led integration of the CCSL design into the Pearson learning product, *SuccessMaker*.

Online Conversational Proficiency Assessment (OCPA), 2009-2011; led design, development, and pilot testing of a prototype for an automated assessment of conversational proficiency.

High School Longitudinal Study of 2009 (HSLs:09) of the US Department of Education's National Center for Educational Statistics, 2007; led design of the two-stage mathematics and science assessments and psychometric plans; see <https://nces.ed.gov/surveys/hsls09/>.

Senior Test Designer for a Multi-State Consortium to Develop Assessments of Modified Achievement Standards, 2007; led test design studies and chaired steering and working groups to design and develop assessments of modified achievement standards for statewide assessment programs in Minnesota, Ohio, and Oregon.

Designer of New Mexico Alternate Performance Assessment, *NMAPA*, an alternate assessment for students with significant cognitive disabilities, 2006-2007; led design, development, scaling, and implementation.

Designer of South Carolina's *SC-Alt*, an alternate assessment for students with significant cognitive disabilities, 2004-2007; led design, development, scaling, and implementation.

Designer of the speaking component of *English Language Development Assessment* (ELDA), 2002-2005, a multistate consortium; led design, development, scaling, and validation of the speaking component; co-led design of the reading, writing, and listening comprehension components.

NAEP Foreign Language Assessment, 2000; co-designed the conversational proficiency component and the Language Survey/Background Questionnaire (LSBQ) screening assessments; led national field testing.

School District of Philadelphia high school end of course testing program, 1999-2002; co-led test design and led psychometrics design and implementation.

Voluntary National Tests (VNT) in reading and mathematics, 1997; led the Technical Advisory Team and advised the test design Specifications Committee; led the development project 1997-2000.

Maryland High School Assessment (HSA) program, 1997; co-designed the test blueprints and developed the scaling and equating plans.

Maryland School Performance Assessment Program (MSPAP), 1990-1991; co-designed performance tasks, overall test design, matrix sampling design, and forms equating design; led development of performance tasks, assembly of grade level test forms, and validity research agenda. Led the program from 1993 to 1997; the program operated through 2001.

Standard Setting Experience

Designed standard setting workshops, coordinated simultaneous standard setting workshops, and led standard setting panels using a variety of methods; designed and led vertical articulation activities for some standard setting workshops; designed and led standards validation workshops.

Angoff method variations: Maryland Integrated Science Assessments, Yes/No and Extended methods, 2019; National Assessment and Accreditation System NAAS) for social workers, Department for Education, England, 2018; School District of Philadelphia grade 3 second-chance tests, 2002; Bahia, Brazil, principals' certification test, 2001; School District of Philadelphia grade 3 reading, 2000.

Body of Work method: Designed the Gwinnett County (GA) Public Schools Gateway Writing Assessment in US History, 2019 and Writing Assessment in Science, 2020; Virginia Alternate Assessment Program, 2013; Ohio alternate assessment portfolio system, 2007, 2005.

Bookmark method: College Board Accuplacer test for the North Carolina Community College System, 2013; Indiana modified assessments (IMAST), 2010; West Virginia grades 3-11 reading language arts, mathematics, science, social studies, and college readiness assessments, 2009; Arizona science, 2008; Hawaii grades 6-10 reading, 2007; Ohio grades 5 and 8 science and social studies, 2006; Ohio grades 6-8 reading, 2005; Ohio grade 3 reading, 2003; Ohio grades K-2 reading and K-3 writing, 2003.

Dominant Profile method variations: National Assessment and Accreditation System (NAAS) for social workers, Department for Education, England, 2018; District of Columbia state assessments in writing, 2008 (Reasoned Judgment).

Item-Descriptor (ID) Matching method: Cognia's eMPower interim assessments in grades 3-8 Reading, Writing & Language, and Mathematics interim assessments, 2017; New York State English as a Second Language Achievement Test (NYSESLAT), 2016; American Job Centers accessibility for persons with disabilities (as a panelist) 2016; CTB's English Online System (EOS) for English language proficiency, 2010; Chicago Public Schools English, mathematics, science, and social studies end of course tests, 2007; South Carolina alternate assessments (SC-Alt), 2007; New Mexico alternate assessments (NMAPA), 2007; South Carolina English and mathematics high school end of course tests, 2003; Bahia, Brazil principals certification test and statewide student tests in Portuguese and mathematics, 2002; School District of Philadelphia English and Algebra I end of course tests, 1999; Maryland School Performance Assessment Program (MSPAP) performance assessments in reading, writing, language usage, mathematics, science, and social studies, 1992.

Benchmarked standard setting procedures: Gwinnett County (GA) Public Schools Gateway US History Assessment, 2019 and Science, 2020; Maryland Integrated Science Assessments, 2019; eMPower grades 3-8 Reading, Writing & Language, and Mathematics interim assessments, 2017; West Virginia high school chemistry end of course test, 2011; District of Columbia state grade 9 reading assessment, 2011; West Virginia high school biology end of course test, 2010; West Virginia grades 3-11, reading language arts, mathematics, science, and social studies assessments, 2010.

Standards validations/cut score reviews: Multi-state Alternate Assessment (MSAA) grades 3-8 and 11 ELA scales, with direct writing assessments linked to the ELA scales, July 2018; eMPowerME grades 3-8 ELA scales, which include Reading, Writing & Language, and direct writing assessments, June 2018.

Employment History

August 2016-present	Measurement Solutions Architect, Cognia (formerly Measured Progress), Alpharetta, GA (working remotely)
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January 2012- April 2016	Vice President, Performance Assessment, and Head, Center for Next Generation Learning and Assessment, Research and Innovation Network, Pearson School (working remotely)
January 2008- December 2011	Principal Research Scientist, CTB/McGraw-Hill, Monterey, California (working remotely and in the Washington, DC office)
September 1997- January 2008	Managing Research Director, American Institutes for Research, Washington, DC
October 1991- August 1997	State Director of Student Assessment, Maryland State Department of Education, Baltimore, Maryland
June 1985- September 1991	Section Chief for Measurement, Statistics, and Evaluation, Maryland State Department of Education, Baltimore, Maryland
September 1975- August 1980	High school special education teacher, Massachusetts
September 1978- May 1980	Instructor, General Educational Diploma (GED) preparation program, Cape Cod Community College, Barnstable, MA
September 1974- June 1975	Head Start teacher Quincy, MA
October 1973- June 1974	Feature writer and news reporter, <i>Quincy Sun</i> weekly newspaper, Quincy, MA

Professional Affiliations, Service, and Acknowledgments

Member, UNESCO Sustainable Development Goal 4.1.1, Quality Assurance Board (March 2021-present)

Member, Board of Directors, Consortium for Assessment Research + Teaching Effectiveness (CREATE; <https://createconference.org/>) (2021-2023)

Co-inventor, *Item Difficulty Modeling Suite of Services*, patent number 10,796,230 awarded October 6, 2020, officially titled *Content Based Remote Data Packet Intervention*

Co-recipient, AERA Cognition and Assessment Special Interest Group 2014 award for *Outstanding Contribution to Practice in Cognition and Assessment* for PARCC Text and Cognitive Complexity Measure

Co-recipient, AERA Division D 2006 award for *Significant Contributions to Educational Measurement and Research Methodology* for the special issue of *Applied Measurement in Education* on vertically moderated standard setting (2005)

Member, Editorial Advisory Board, *Educational Measurement* (5th ed.), planned for publication in 2023 (2019-2023)

Board of Directors, Institute for Exam Security (i4ES; 2018-2020)

Liaison to the *Committee to Revise the Standards for Educational and Psychological Testing*, representing the National Council on Measurement in Education (2009-2013)

Editor, *Educational Measurement: Issues and Practice* (2004–2006, volumes 23-25)

Editorial Advisory Board, *Educational Measurement: Issues and Practice* (1994–1996; 2007–2009; 2010-2012)

Board of Editors, *Applied Measurement in Education* (1995–present)

Editorial Advisory Board, *Educational Assessment* (2011–present)

Member, Committee to Evaluate the U.S. Naturalization Test Redesign, National Research Council, Board on Testing and Assessment (2004–2005)

Board of Directors, National Council on Measurement in Education (1995–1998)

Member, American Educational Research Association, National Council on Measurement in Education since 1982

Member, assessment program technical advisory panels: Member, UNESCO Sustainable Development Goal 4.1.1, Quality Assurance Board (March 2021-present); advisory panel member on National Assessment Governing Board response to the National Academies of Sciences evaluation of NAEP Achievement Level Setting, January 2018; advisor on standard setting to the National Assessment and Accreditation System for social workers, Department for Education, United Kingdom (2017-2018); Technical Advisory Committee for Achievement Level Setting, NAEP 2017 Grade 4 Writing Assessment (2016-2018); Standards and Testing Agency, Department for Education, United Kingdom (2014–present); Stanford University Next Generation Science Assessment project (2015); MetaMetrics (2011–present); Collegiate Learning Assessment (2012–2014); CCSSO EdSteps skills scales development (2009–2012); Longitudinal Examination of Alternate Assessment Progressions (LEAAP) project (2011–2012); Mississippi state assessment programs (chair; 2005–2011); George Washington University Center for Educational Equity and Excellence, SEA Accommodations Monitoring project (2008–2009); District of Columbia state assessment programs (2003–2008); North Carolina state assessment programs (2002–2008); Maryland High School Assessment program (2004–2006)

Professional Publications

Davey, T., Ferrara, S., Shavelson, R., Holland, P., Webb, N., & Wise, L. (2015). *Psychometric considerations for the next generation of performance assessment*. Princeton, NJ: Educational Testing Service. (Available from http://k12center.org/rsc/pdf/psychometric_considerations_white_paper.pdf)

- DiCerbo, K., Ferrara, S., & Lai, E. (2017). Principled design and development for embedding assessment for learning in games and simulations. In R. W. Lissitz & H. Jiao (Eds.). *Technology enhanced innovative assessment: Development, modeling, and scoring from an interdisciplinary perspective* (pp. 165-198). Charlotte, NC: Information Age Publishing.
- Egan, K. L., Ferrara, S., Schneider, M. C., & Barton, K. E. (2009). Writing performance level descriptors and setting performance standards for assessments of modified achievement standards: The role of innovation and importance of following conventional practice. *Peabody Journal of Education*, 84 (4), 552-577.
- Egan, K. L., Schneider, M. C., & Ferrara, S. (2011). The 6D Framework: A validity framework for defining proficient performance and setting cut scores for accessible tests. In S. N. Elliott, R. J. Kettler, P. A. Beddow, & A. Kurz (Eds.), *Handbook of accessible achievement tests for all students: Bridging the gaps between research, practice, and policy* (pp. 275-292). New York: Springer.
- Egan, K. L., Schneider, M. C., & Ferrara, S. (2012). Performance level descriptors: History, practice, and a proposed framework. In G. J. Cizek (Ed.), *Setting performance standards: Foundations, methods, and innovations* (2nd ed., pp. 79-106). New York: Routledge.
- El Masri, Y. H., Ferrara, S., Foltz, P. W., & Baird, J-A. (2016). Predicting item difficulty of science national curriculum Tests: The case of Key Stage 2 assessments. *The Curriculum Journal*, 28(1), 59-82.
<http://www.tandfonline.com/action/showCitFormats?doi=10.1080/09585176.2016.1232201>.
- Ferrara, S. (2006). Toward a psychology of large-scale educational achievement testing: Some features and capabilities (Editorial). *Educational Measurement: Issues and Practice*, 25 (4), 2-5.
- Ferrara, S. (2007). Our field needs a framework to guide development of validity research agendas and identification of validity research questions and threats to validity. Invited commentary in *Measurement: Interdisciplinary Research and Perspectives*, 5 (2-3), 156-164.
- Ferrara, S. (2008). Design and psychometric considerations for assessments of speaking proficiency: the English Development Language Assessment (ELDA) as illustration. *Educational Assessment*, 13 (2-3), 132-169.
- Ferrara, S. (2009). Psychometric rigor for alternate assessments—for the sake of interpretation, not rigor. In W. D. Schafer & R. W. Lissitz (Eds.), *Alternate Assessments Based on Alternate Achievement Standards: Policy, Practice, and Potential* (pp. 341-346). Baltimore: Paul Brookes Publishing.

- Ferrara, S. (2010). The Maryland School Performance Assessment Program (MSPAP) 1991-2002: Political considerations. Commissioned paper in the National Research Council workshop *Best Practices for State Assessment Systems: Improving Assessment While Revising Standards*, Washington, DC. [See http://www.nap.edu/catalog.php?record_id=13013 at www.nrc.org]
- Ferrara, S. (2014). Formative assessment and test security: The revised Standards are mostly fine; our practices are not (invited commentary). *Educational Measurement: Issues and Practice*, 33(4), 25-28.
- Ferrara, S. (2015). II. Definition of performance assessment. In Davey, T., Ferrara, S., Shavelson, R., Holland, P., Webb, N., & Wise, L., *Psychometric considerations for the next generation of performance assessment*. Princeton, NJ: Educational Testing Service. Available from http://k12center.org/rsc/pdf/psychometric_considerations_white_paper.pdf
- Ferrara, S. (2017). A comprehensive framework for policies and practices to improve test security programs: Prevention, detection, investigation, and resolution (PDIR). *Educational Measurement: Issues and Practice*, 36(3), 5-23.
- Ferrara, S. (2018). The role of classroom discussion in developing language proficiency—and academic knowledge and skills. In T. Aksit, H. I. Mengü, & R. Turner (Eds.), *Bridging teaching, learning and assessment in the English language classroom*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Ferrara, S., Davis-Becker, S., Kannan, P., & Reynolds, K. (Expected 2023.) Standard setting: A taxonomy of cognitive-judgmental tasks and implications for research and practice. In L. Cook & M. Pitoniak (Eds.), *Educational measurement* (5th ed.). Manuscript in production.
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- Ferrara, S., & Duncan, T. (2011) Comparing science achievement constructs: Targeted and achieved. *The Educational Forum*, 75 (2), 143-156.
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- Ferrara, S., Johnson, E., & Chen, W-H. (2005). Vertically articulated performance standards: Logic, procedures, and likely classification accuracy. *Applied Measurement in Education*, 18 (1), 35-59.
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- Ferrara, S., Lewis, D., & D'Brot, J. (2021). Setting benchmarked performance standards: A method, procedures, and empirical results. *Journal of Applied Testing Technology*, 22(1), 12-24. [See <https://www.testpublishers.org/journal-of-applied-testing-technology>]
- Ferrara, S., Maxey-Moore, K., & Brookhart, S. (2019). *Guidance in the Standards for classroom assessment: Useful or irrelevant?* In S. Brookhart & J. MacMillan (Eds.), *Classroom assessment and educational measurement* (pp. 97-119). Washington, DC: National Council on Measurement in Education.
- Ferrara, S., & McTighe, J. (1992). Assessment: A thoughtful process. In A. Costa, J. Bellanca, & R. Fogarty (Eds.), *If minds matter: A foreword to the future* (Vol. 2). Palatine, IL: Skylight Publishing; reprinted in K. Burke (Ed.), *Authentic assessment: A collection*. Palatine, IL: IRI/Skylight Publishing.
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- McTighe, J., & Ferrara, S. (1998). *Assessing learning in the classroom*. Washington, DC: National Education Association.
- McTighe, J., & Ferrara, S. (2021). *Assessing student learning by design: Principles and practices for teachers and school leaders*. New York: Teachers College Press.
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- Michaels, H., & Ferrara, S. (1999). Evolution of educational reform in Maryland: Using data to drive state policy and local reform. In G. J. Cizek (Ed.), *Handbook of Educational Policy*. San Diego: Academic Press.
- Mueller, L., Ferrara, S., Swaffield, S., & Alexander, D. (2009). The South Carolina alternate assessment. In W. D. Schafer & R. W. Lissitz (Eds.), *Alternate assessments based on alternate achievement standards: Policy, practice, and potential*. Baltimore: Paul Brookes Publishing.
- Mueller, L., Zhang, Y., & Ferrara, S. (2017). What have we learned? In G. J. Cizek & J. A. Wollack (Eds.), *Handbook of quantitative methods for detecting cheating on tests* (pp. 373-389). New York: Routledge.
- Nichols, P. D., Ferrara, S., & Lai, E. (2015). Principled Design for Efficacy: Design and development for the next generation of assessments. In R. W. Lissitz and H. Jiao (Eds.), *The next generation of testing: Common core standards, Smarter-Balanced, PARCC, and the nationwide testing movement* (pp. 49-80). Charlotte, NC: Information Age Publishing.
- Rosen, Y., Ferrara, S., & Mosharraf, M. (Eds.). (2016). *Handbook of research on technology tools for real-world skill development* (Vols. 1 & 2). Hershey, PA: Information Science Reference, IGI Global.
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- Steedle, J. T., & Ferrara, S. (2016). Evaluating comparative judgment as an approach to essay scoring. *Applied Measurement in Education*, 29 (3), 211-223.
- van der Linden, W. J., Jeon, M., & Ferrara, S. (2011). A paradox in the study of the benefits of test-item review. *Journal of Educational Measurement*, 48 (4), 380-398.

Yen, W. M., & Ferrara, S. (1997). The Maryland School Performance Assessment Program: Performance assessments with psychometric quality suitable for high-stakes usage. *Educational and Psychological Measurement*, 57 (1), 60-84.

Selected Manuscripts and Professional Presentations

Atash, N., Ferrara, S., & Bayless. (1994, June). *A-F-G-B: A new method for setting absolute standards*. Paper presented at the annual National Conference on Large Scale Assessment, Albuquerque, NM.

Baghi, H., & Ferrara, S. (1989). *A comparison of IRT, delta plot, and Mantel-Haenszel techniques for detecting differential item functioning across sub-populations in the Maryland Test of Citizenship Skills*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Baghi, H., & Ferrara, S. (1994). *Examining two indices of the reliability of computer-adaptive tests*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.

Behrens, J. T., DiCerbo, K. E., & Ferrara, S. (2012). *Intended and unintended deceptions in the use of simulations*. Princeton, NJ, The K-12 Center at ETS, Educational Testing Service. Available from <http://www.ets.org/Media/Research/pdf/session2-pearson-behrens-dicerbo-ferrara-paper-tea2012.pdf>

Fast, M., Ferrara, S., Conrad, D. (2004). *Current efforts in developing English language proficiency measures as required by NCLB: Description of an 18-state collaboration*. Washington, D.C: American Institutes for Research.

Ferrara, S. (1984). *Modifications, support, and mainstreaming: Excellence in mainstreaming practices and evaluation*. Paper presented at the joint meeting of the Evaluation Research Society and Evaluation Network, San Francisco.

Ferrara, S. (1987). *Effects of essay order on raters' score assignment in a large-scale writing assessment*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.

Ferrara, S., (1987). *Practical considerations in equating a direct writing assessment for high school graduation*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.

Ferrara, S. (1993, April). *Generalizability theory and scaling: Their roles in writing assessment and implications for performance assessments in other content areas*. Paper presented at the annual meeting of the National Council on Measurement in Education, Atlanta.

Ferrara, S. (1994, April). What will be the challenges in reporting and using results as assessment and instruction become more fully integrated? In B. Loyd (Moderator), *Assessment in the 21st century: Issues, technologies, and challenges*. Invited colloquium at the annual meeting of the American Educational Research Association, New Orleans.

Ferrara, S. (1997, April). Test security for high stakes performance assessments: Consideration of ethics, validity, and data integrity. In R. Sjolund (Organizer), *Test Security Issues*. Invited symposium at the annual meeting of the American Educational Research Association and National Council on Measurement in Education, Chicago.

Ferrara, S. (1998, April). Diversity, local control, and national standards. In R. Wolf (Chair), *Multiculturalism, diversity, and national standards*. Invited symposium at the annual meeting of the American Educational Research Association.

***Invited presentation fall ~2000 Rio de Janeiro

Ferrara, S. (2000, November). *Curriculum structure and decision making in the US: The state of Maryland as an illustration*. Paper commissioned and presented for the Biblioteca di Documentazione Pedagogica, Florence, Italy.

Ferrara, S. (2002, April). *Valuing diversity and maintaining validity in the assessment process: Can the two co-exist?* In G. Hughes (Chair), invited panel discussion conducted at the annual meeting of the American Educational Research Association, New Orleans, LA.

Ferrara, S. (2003, June). *Linking performance standards: Examples of judgmental approaches and possible applications to linking to NAEP*. In (A. Kolstad, Moderator), Linking state assessment results to NAEP using statistical and judgmental methods. Presentation at the National Conference on Large Scale Assessment, San Antonio, TX.

Ferrara, S. (2005, November). *Educational certification: The US experience; and Psychometrics*. Invited presentations at the First International Seminar on Occupational Certification, Fundação Luís Eduardo Magalhães, Salvador, Brazil.

Ferrara, S. (2007, June). Standards for proficient achievement growth for South Carolina's alternate assessment, SC-Alt. Presentation in M. Perie (Organizer), *Vertical Integration of Benchmarks and Standards: Including Alternate Assessments in Evaluating Growth* at the National Conference on Large-Scale Assessment, Nashville, TN.

Ferrara, S. (2008, January 16). *Thinking about the think-aloud method to guide development of assessments of modified achievement standards*. Invited presentation at the Office of Special Education Programs GSEG Project Directors Conference, Washington, DC.

Ferrara, S. (2008 April). *Discussion*. In C. Buckendahl (Organizer), *Current practices in standard setting: Illustrations from a range of testing programs*. Coordinated Session in the

annual meeting of the National Council on Measurement in Education, New York, New York.

- Ferrara, S. (2008). Assessing 21st Century Skills feasibly (not the way we may want). Presentation in S. Kahl (Organizer), *Assessment of 21st Century Skills: A Return to Authentic Assessment of the '90s*, a session at the National Conference on Student Assessment, Orlando, FL.
- Ferrara, S. (2009). Principles for test design, revision, and development and discussion questions. In S. Weigert (Moderator), *Reports on methods for designing and developing Alternate Assessments Based on Modified Achievement Standards (AA-MAS)*. Interactive session at the National Conference on Student Assessment, Los Angeles.
- Ferrara, S. (2010). Comments on assessment engineering for multidimensional formative assessments. In R. Luecht (Organizer), *An application of assessment engineering to multidimensional diagnostic testing in an educational setting*. Invited symposium at the annual meeting of the National Council on Measurement in Education, Denver.
- Ferrara, S. (2010). Comments on the revision plans. In B. Plake (Organizer), *Update on the revisions to the Standards for Educational and Psychological Testing*. Invited symposium at the annual meeting of the National Council on Measurement in Education, Denver.
- Ferrara, S. (2012 February 28). Investigation and response: Experiences and reflections of a former state assessment director. Invited panel presentation and discussion in *Testing Integrity Symposium*, sponsored by the National Center for Education Statistics, Washington, DC.
- Ferrara, S. (2012 April). Comments on *Too High, Too Low, or Just Right...* In K. McClarty (Organizer). *Too high, too low, or just right: Using empirical evidence to incorporate policy considerations in setting statewide performance standards*. Symposium conducted at the annual meeting of the National Council on Measurement in Education, Vancouver, British Columbia, Canada.
- Ferrara, S. (2012 May 22). Best practices for assessing low performing students in NextGen, grade level assessments. Invited panel presentation in *Lessons Learned for Improving Access to General Assessments by Low-performing Students with Disabilities*, a symposium sponsored by the US Department of Education and Council of Chief State School Officers, Washington, DC.
- Ferrara, S. (2013 April 11). *Ideas for effective investigations and resolution of possible test security violations in educational testing*. Invited presentation for the Board on Testing and Assessment of the National Research Council, Irvine, CA.
- Ferrara, S. (2013 April). Comments on "Innovative Assessments in Practice: The Technology and Engineering Literacy Assessment." Discussion in Z. Shu (Organizer), *Innovative*

assessments in practice: The Technology and Engineering Literacy Assessment, a coordinated paper session conducted at the annual meeting of the National Council on Measurement in Education, San Francisco, CA.

Ferrara, S. (2013 April). Performance assessment. In Y. Tong (Organizer), *A crash course in hot topics in large scale assessment*, a pre-conference training session conducted at the annual meeting of the National Council on Measurement in Education, San Francisco, CA.

Ferrara, S. (2013 April). Theories of action for performance assessment: Impact research and prospects for next generation assessment programs (Organizer). A coordinated paper session conducted at the annual meeting of the National Council on Measurement in Education, San Francisco, CA.

Ferrara, S. (2014 June). A device-delivered, automatically scored, formative assessment of the CCSS speaking and listening standards. In S. Ferrara (organizer), *The role of teachers and technology in assessing the CCSS speaking and listening standards: PARCC, Smarter Balanced, and a third idea*. Session conducted at the annual meeting of the National Conference on Student Assessment, New Orleans.

Ferrara, S. (2014 June). Comments on comment codes. In D. Vickers (Organizer), *The use of comments codes during performance scoring to provide formative feedback*. Discussion in a session conducted at the annual meeting of the National Conference on Student Assessment, New Orleans.

Ferrara, S. (2014 October). *A framework for policies and practices to improve test security programs: PDIR*. Presentation in the annual Conference on Test Security, Iowa City, IA.

Ferrara, S. (2014 December). Teacher scoring as professional development: Yes, and.... In J. Jensen (Chair), *Teacher scoring as professional development*, a session presented in the annual meeting of the California Educational Research Association, San Diego.

Ferrara, S. (2015 April). Definition of performance assessment. Presentation in C. Tucker (Chair), *Psychometric Considerations for the Next Generation of Performance Assessment*, a coordinated session conducted at the annual meeting of the National Council on Measurement in Education, Chicago.

Ferrara, S. (2015 April). Theories of action for performance assessment, then and now. Presentation in S. Ferrara (Chair), *Theories of action for performance assessment: Assessment consortia validation research*. Coordinated session conducted at the annual meeting of the National Council on Measurement in Education, Chicago.

Ferrara, S. (2015 April). Comments on papers in J. Weeks (Chair), *Comparing standard setting methods*, a paper session conducted at the annual meeting of the National Council on Measurement in Education, Chicago.

- Ferrara, S. (2015). *Assessment of Common Core speaking and listening skills: Two approaches*. Presentation in the annual meeting of the California Educational Research Association, Anaheim, CA.
- Ferrara, S. (2016 April). Comments on Item difficulty modeling: from theory to practice. Discussant comments in I. Bejar (Organizer), *Item difficulty modeling: from theory to practice*, coordinated session conducted at the annual meeting of the National Council on Measurement in Education, Washington, DC.
- Ferrara, S. (2016 June 18). *The role of classroom discussion in developing language proficiency...and academic knowledge and skills*. Invited plenary presentation in the 14th International Bilkent University School of English Language Conference, Ankara, Turkey.
- Ferrara, S. (2016 June 21). Comments on assessment consortia test security presentations. In J. Steedle (Organizer), *Test security for Common Core consortia assessments*, discussion on a session in the National Conference on Student Assessment, Philadelphia, PA.
- Ferrara, S. (2016 June 22). Engineering PLDs and test content to engineer cut scores. In *Engineered cut scores: Aligning standard setting methodology with contemporary assessment design principles*, a session at the National Conference on Student Assessment, Philadelphia, PA.
- Ferrara, S. (2017 April 28). Aligning item response demands with knowledge and skill requirements in achievement level descriptors: An approach to achieving full alignment and engineering cut scores. In D. Lewis (Chair), *Engineered cut scores: Aligning standard setting methodology with contemporary assessment design principles*. Coordinated session conducted at the annual meeting of the National Council on Measurement in Education, San Antonio, TX.
- Ferrara, S. (2017 April 30). Discussant comments. In K. Huff (Chair), *Opportunity to learn: Impact on large-scale and classroom assessment Design and interpretation*. Coordinated session conducted at the annual meeting of the National Council on Measurement in Education, San Antonio, TX.
- Ferrara, S. (2017 April 30). Discussant comments. In Y. Rosen (Organizer), *Assessment in MOOCs: Current and next generation research and development*. Coordinated session conducted as the annual meeting of the National Council on Measurement in Education, San Antonio, TX.
- Ferrara, S. (2017 May 29-31). *Standard setting for language tests: Methods, issues, and hands-on practical experience*. Workshop conducted at the 14th annual meeting of the European Association for Language Testing and Assessment, May 29-31, Sèvres, France.
- Ferrara, S. (2018 April). What's my status? What's my goal? What's my pathway to that goal? In A. Zenisky and C. DePascale (Organizers), *We can do this: Communicating assessment*

data to promote understanding and use. Invited session at the annual meeting of the National Council on Measurement in Education, New York.

Ferrara, S. (2018 June). Benchmarked standard setting. In S. Ferrara (Organizer), *Principled approaches to standard setting: Benchmarked and engineered cut scores*. Presentation in the annual National Council on Student Assessment meeting, San Diego.

Ferrara, S. (2018 June). *Computerized fixed form tests*. Invited presentation in the meeting of the TILSA State Collaborative on Assessment and Student Standards meeting, San Diego.

Ferrara, S. (2018 June). Test security: It's different for state, interim, and classroom assessment. In S. Valenzuela (Organizer), *What's yours is mine and what's mine is yours*. Presentation in the annual National Council on Student Assessment meeting, San Diego.

Ferrara, S. (2018 June). What's my status? What's my goal? What's my pathway to that goal. In S. Ferrara (Organizer), *Growth indicators and instructional pathway recommendations to reach Proficient, from three commercial providers*. Presentation in the annual National Council on Student Assessment meeting, San Diego.

Ferrara, S. (2018 October). *Principled approaches and validity arguments: The future has arrived*. Invited presentation in the meeting of the TILSA State Collaborative on Assessment and Student Standards meeting, Boston.

Ferrara, S. (2019 April). Score reports, technical reports, and validity arguments for different audiences: Some hypotheses and proposals. In P. Nichols (Chair), *The influence of stakeholder needs and values on assessment design and reporting*, an invited session conducted at the annual meeting of the National council on Measurement in Education, Toronto, CA.

Ferrara, S. (2019 June). *Evidence of cognitive processing for peer review—for alternate assessments?* Presentation in the National Conference on Student Assessment, Orlando, FL.

Ferrara, S. (2019 June). *Peer review and validity arguments in technical documentation*. Presentation in the National Conference on Student Assessment, Orlando, FL.

Ferrara, S. (2019 June). *Principled score reporting design: Principles, illustrations, and a state perspective*. National Conference on Student Assessment, Orlando, FL.

Ferrara, S. (2019 July 19). *What does it mean to maintain standards across languages? Basics, logic, and two recommendations*. Invited presentation in the Summer School Colloquium of the European Association for Language Testing and Assessment, Sèvres, France.

- Ferrara, S. (2019 October). Plans for the ITEMS module on test security and a comprehensive framework for test security. In J. Mulkey (Organizer), *Did you know there's an ITEMS for that? Or, I've got a plan for that*. Presentation at the annual Conference on Test Security, Miami, FL.
- Ferrara, S. (2019 November). Cognitive and social processes in standard setting: Proposed frameworks. Virtual presentation in V. Verges (Chair), *Recent research in standard setting*, an invited session at the annual meeting of the Florida Educational Research Association, St. Petersburg.
- Ferrara, S. (2020 March 4). *Item difficulty modeling: What is it? How can we use results to help us?* (Presentation) NCME Graduate Students Virtual Brown Bag series.
- Ferrara, S. (2020 August 17). Value propositions for principled approaches to state summative assessment: Cognia's PADDI process. In P. Nichols (Chair), *What is the value proposition for Principled Assessment Design?* Paper presented in a virtual session of the annual meeting of the National Council on Education.
- Ferrara, S. (2020 September 10). Automated item generation (AIG): The state of the art continues to evolve. In R. Luecht (Chair), *Principled item design: State-of-the-art*. Discussion of papers presented in a virtual session of the annual meeting of the National Council on Measurement in Education.
- Ferrara, S. (2021, May 18). Embedded Standard Setting: Comments on the state of the art and considerations for future work. In D. Lewis (Organizer), *Embedded Standard Setting: Research and advances*. (Session discussion). National Council on Measurement in Education, virtual.
- Ferrara, S. (2021, May 20). Comments. In K. Huff (Organizer), *Unpacking cognitive complexity: What is it and why is it so hard?* (Panel discussion). National Council on Measurement in Education, virtual.
- Ferrara, S. (2021, June 10). The present and possible future of assessment—to know what students are learning. (Presentation). Cognia institute *How do we know what students are learning?* (virtual).
- Ferrara, S. (2021, June 21). A social-cognitive model for standard-setting decision-making. In S. Davis-Becker (Organizer), *The recipe for a judgment: Unpacking how policy, content expertise, social influences, and cognitive processes impact standard setting judgments*. (Presentation). National Conference on Student Assessment (virtual).
- Ferrara, S. (2021, June 23). Discussion on BAS: We're evolving, and in positive directions. In K. Foret (Organizer), *Building a balanced assessment system from the perspectives of policy, practical assessment program matters, and technical quality*. (Discussion). National Conference on Student Assessment (virtual).

- Ferrara, S. (2021, September 24). *Cognitive complexity in assessment design and development*. Invited presentation and training for the Success Academies development team (virtual).
- Ferrara, S., & Addicott, S. (2017 September 7). *Designing, developing, and implementing security policies and practices for formative assessment products*. Presentation in the annual Conference on Test Security, Madison, WI.
- Ferrara, S., Albert, F., Gilmartin, D., Knott, T., Michaels, H., Pollack, J., Schuder, T., Vaeth, R., & Wise, S. (1996, April). A qualitative study of the information examinees consider during item review on a computer-adaptive test. In L. Wolf, (Moderator), *Item review in computerized adaptive testing*. Symposium conducted at the annual meeting of the National Council on Measurement in Education, New York.
- Ferrara, S., & Buckendahl, C. (2018 May 17). *Standard setting: Methods and issues*. Presentation and discussion conducted for the Standards and Testing Agency, Test Development Division, Department for Education, London, England.
- Ferrara, S., Chen, J. (2011). Evidence from think-aloud protocols about the validity of inferences from item response demands coding frameworks. In P. Kaliski (Chair), *Using evidence of student cognition in assessment design: Applications of cognitive interviews*. Cognition and Assessment special interest group symposium conducted at the annual meeting of the American Educational Research Association, New Orleans.
- Ferrara, S., Creed, B., & Goldsmith, J. (2021 November 18). *Cognia's PADDI approach and equitable assessment initiatives: Their role in the Maryland Comprehensive Assessment Program (MCAP)*. Presentation and discussion in the annual meeting of the Maryland Assessment Group, Ocean City, MD. <https://www.magonline.net/files/136514997.pdf>
- Ferrara, S., Dogan, E., Glazer, N., Gorin, J., Haberstroh, J., Hain, B., Huff, K., Larkin, J., Nichols, P., Piper, C., & Sheehan, K. (2014). Development of cognitive complexity measures for PARCC. Invited presentation in A. Rupp (Chair), *Cognition and Assessment Special Interest Group Business Meeting* in the annual meeting of the American Educational Research Association, Philadelphia, PA.
- Ferrara, S., Dogan, E., Glazer, N., Haberstroh, J., Hain, B., Huff, K., Klag, P., Larkin, J., Nichols, P., & Piper, C. (2014). The PARCC cognitive complexity code frameworks: Development, application, and validation evidence. In D. Sundre (Chair), *Developing and establishing validity evidence: In theory and practice*. Paper session in the annual meeting of the American Educational Research Association, Philadelphia, PA.
- Ferrara, S., & Duncan, T. (2010). *Good test preparation can be good instruction*. Unpublished manuscript.

- Ferrara, S., Duncan, T., Freed, R., et al. (2005). *Comparing the achievement constructs targeted and achieved in a statewide middle school science assessment*. Paper presented at the annual meeting of the National Council on Measurement in Education, Montreal, Canada.
- Ferrara, S., Duncan, T. G., Freed, R., Velez-Paschke, A., McGivern, J., Mushlin, S., Mattessich, A., Rogers, A., & Westphalen, K. (2004). *Examining test score validity by examining item construct validity: Preliminary analysis of evidence of the alignment of targeted and observed content, skills, and cognitive processes in a middle school science assessment*. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- Ferrara, S., Duncan, T., Perie, M., Freed, R., McGivern, J., & Chilukuri, R. (2003). Item construct validity: Early results from a study of the relationship between intended and actual cognitive demands in a middle school science assessment. Paper presented in S. Ferrara (Chair), *Cognitive and Other Influences on Responding to Science Test Items: What Is and What Can Be*, a symposium conducted at the annual meeting of the American Educational Research Association, Chicago IL.
- Ferrara, S., & Foster, D. (2019 October). *Critique of the NCME Statement on Test Security for Large Scale Educational, Credentialing, and Workplace Testing*. Presentation in the annual Conference on Test Security, Miami, FL.
- Ferrara, S., & Forte Fast, E. (October, 2001). *Secondary school standards and reform in the United States with illustrations from the states of Maryland and Connecticut*. Invited paper for the Istituto Nazionale di Documentazione per l'Innovazione e la Ricerca Educativa (INDIRE), Florence, Italy.
- Ferrara, S., Goldberg, G., & McTighe, J. (1995, April). *Ways in which teachers communicate learning targets, criteria, and standards for performance to their students*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Ferrara, S., Goldberg, G., Thacher, S., Swaffield, S., Alexander, D., & Siskind, T. (2006). Research and design concepts for an alternate assessment to ensure inclusion of students with the most significant cognitive disabilities. In H. Huynh (Organizer), *Alternate and Modified Assessments for Accountability and AYP Requirements: Policy, Technology, and Implementation Considerations*, an invited symposium at the annual meeting of National Council on Measurement in Education, San Francisco.
- Ferrara, S., Hinds, F., Johnson, M., & Venkateswaran, U. (2021 November 3). *Formative performance assessment to enhance equity and inclusion in assessment*. Presentation in the annual meeting Beyond Multiple Choice (virtual).

- Ferrara, S., Huff, K., & Lopez, E. (2010). Targeting cognition in item design to enhance valid interpretations of test performances: A case study and some speculations. In S. Ferrara & K. Huff (Chairs), *Cognition and Valid Inferences about Student Achievement: Aligning Items with Cognitive and Proficiency Targets*. Cognition and Assessment Special Interest Group symposium conducted at the annual meeting of the American Educational Research Association, Denver.
- Ferrara, S., Lewis, D. M., Mercado, R., Egan, K., D'Brot, J., & Barth, J. (2011). Setting benchmarked performance standards: Standard setting workshop procedures, panelist judgments, and empirical results. In K. Egan (Chair), *Innovations in standard setting*. Invited symposium at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.
- Ferrara, S., Maxey-Moore, K., & Brookhart, S. (2017 September 13). *Guidance in the Standards for classroom assessment practices to support instructional decisions: Useful or irrelevant?* Presentation in the NCME special conference Classroom Assessment and Large-Scale Psychometrics: The Twain Shall Meet, Lawrence, KS.
- Ferrara, S., Maxey-Moore, K., & Brookhart, S. M. (2018 April). Guidance in the *Standards* for classroom assessment practices to support instructional decisions: Useful or irrelevant? In S. Brookhart (Organizer), *Educational measurement and classroom assessment*. Coordinated session at the annual meeting of the National Council on Measurement in Education, New York.
- Ferrara, S., & Michaels, H. (1994). *A preliminary study of black-white performance differences in the Maryland School Performance Assessment Program*. Presentation at the National Conference on Large-Scale Assessment, Council of Chief State School Officers, Albuquerque, NM.
- Ferrara, S., & Michaels, H. (1995). *Minority-majority performance differences in Maryland's statewide assessment programs: On-going studies*. Presentation at the National Conference on Large-Scale Assessment, Council of Chief State School Officers, Phoenix.
- Ferrara, S., & Mueller, L. (2010). *Beyond Angoff: Options for setting cut scores, minimum qualifications, and performance standards*. Invited workshop conducted at the annual meeting of the Society for Industrial and Organizational Psychology, Atlanta, GA.
- Ferrara, S., Nichols, P., Lai, E. (2013). Design and development for next generation tests: Principled design for efficacy (PDE). Presentation in the 2013 annual MARCES conference, *The Next Generation of Testing: Common Core Standards, Smarter Balanced, PARCC, and the Nationwide Testing Movement*, College Park, MD.
- Ferrara, S., Nichols, P., DiCerbo, K., & Lai, E. (2014, October 17). Principled design and development for embedding assessment for learning in games and simulations, with illustrations. Invited presentation in *Technology enhanced innovative assessment*:

Development, modeling, and scoring from an interdisciplinary perspective, the annual Maryland Assessment Research Center (MARC) conference, College Park, MD.

Ferrara, S., Perie, M., & Johnson, E. (2002). *Setting performance standards: The Item-Descriptor (ID) Matching procedure*. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.

Ferrara, S., Perie, M., & Johnson, E. (2002). *Matching the judgmental task with standard setting panelist expertise: The Item-Descriptor (ID) Matching procedure*. Invited colloquium for the Board on Testing and Assessment of the National Research Council, Washington, DC.

Ferrara, S., & Qunbar, S. (2021, June 22). Validity arguments for automated scoring engines, with illustrations for writing and science. In H. Michaels (Organizer), *The importance of validity arguments for innovative AI-enhanced online assessments*. (Symposium). National Conference on Student Assessment (virtual).

Ferrara, S., & Rosen, Y. *A device-delivered, automatically scored, formative assessment of English speaking and listening skills*. Presentation in the annual meeting of the International Association for Educational Assessment, Singapore.

Ferrara, S., Rosen, Y., Frantz, R., Reilly, A., & Xu, X. (2015). *A device-delivered, automatically scored, formative assessment of Common Core speaking and listening skills*. Presentation in the National Conference on Student Assessment, San Diego, CA.

Ferrara, S., & Sewell, D. (2006). Design, psychometric, and instructional considerations for the speaking proficiency component of the English Development Language Assessment (ELDA). In W. E. Wright (Chair), *Language Testing for English Language Learners: Validity and Policy*. Symposium conducted at the annual meeting of the American Educational Research Association, San Francisco.

Ferrara, S., & Steedle, J. (2015 April). *Predicting item parameters using regression trees: Analyzing existing data to understand and improve item writing*. Presentation at the annual meeting of the National Council on Measurement in Education, Chicago.

Ferrara, S., Steedle, J., & Frantz, R. (2018). Item design with test score interpretation in mind. In J. Steedle (Organizer), *Item difficulty modeling: Lessons learned and future directions*. Coordinated session at the annual meeting of the National Council on Measurement in Education, New York.

Ferrara, S., Steedle, J., & Frantz, R. (2021, June 10). Response demands of reading comprehension items: A literature review in progress on item difficulty modeling studies. In G. Gianopoulos (Organizer), *The past, present, and future of item difficulty modeling*. (Coordinated paper session). National Council on Measurement in Education, virtual.

- Ferrara, S., Steedle, J., & Kinsman, A. (2015). *PARCC cognitive complexity: Analyses 1,2, and 3 Results*. Retrieved July 5, 2020 from <https://files.eric.ed.gov/fulltext/ED599050.pdf>
- Ferrara, S., Svetina, D., Davidson, A., & Skucha, S. (2009, April). *Knowledge and skill demands of items that indicate grade-to-grade growth for setting performance standards*. Paper presented in an invited symposium at the annual meeting of the National Council on Measurement in Education, San Diego, CA.
- Ferrara, S., Svetina, D., Skucha, S., & Murphy, A. (2009). Test design with standard setting and growth in mind. In I. Bejar (Moderator), *Standard Setting in an Accountability Growth Context: A Process or One-Time Event?* Invited symposium at the annual meeting of the National Council on Measurement in Education, San Diego.
- Ferrara, S., Swaffield, S., & Siskind, T. (2005). *Conceptions of performance standards for alternate assessments*. Presentation at the National Conference on Large-Scale Assessment, Council of Chief State School Officers, San Antonio, TX.
- Ferrara, S., & Walker-Bartnick, L. (1989). *Constructing an essay prompt bank using the Partial Credit model*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco.
- Ferrara, S., & Way, D. (2014). End of course tests for student assessment and teacher evaluation. In H. Braun (Chair), *Meeting the challenges in measurement in an era of accountability*, a coordinated session conducted at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- Ferrara, S., & Wright, L. (2007, July 26). *Alternate assessments based on modified achievement standards: Following standard design and development principles enables valid interpretations and decisions*. Invited presentation in a meeting of the Special Education Partnership, Washington, DC.
- Fitzpatrick, A. R., Ercikan, K., & Ferrara, S. (1992). An analysis of the technical characteristics of scoring rules for constructed-response items. In W. Yen (Chair), *Measurement characteristics of performance assessments: Findings from state programs*. Symposium conducted at the annual meeting of the National Council on Measurement in Education, San Francisco.
- Haertel, E., Ferrara, S., Korpi, M., & Prescott, B. (1984). *Testing in secondary schools: Student perspectives*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Huff, K., & Ferrara, S. (2010). Frameworks for considering item response demands and item difficulty. In *Theory and research on item response demands: What makes items difficult? Construct-relevant?* Presentation at the annual meeting of the National Conference on Student Assessment, Detroit.

- Huynh, H., & Ferrara, S. (1992). *A comparison of equal percentile and partial credit equatings for performance-based assessments comprised of free-response items*. Paper presented in the annual meeting of the American Educational Research Association, San Francisco.
- Huynh, H., Michaels, H. R., & Ferrara, S. (1995). A comparison of three statistical procedures to identify clusters of items with local dependency. In *Technical advances in partial credit models and their applications to performance assessment*. Invited symposium at the annual meeting of the National Council on Measurement in Education.
- McTighe, J., & Ferrara, S. (2021 July 29). *Assessing Student Learning by Design*. Book talk sponsored by Teachers College Press (virtual).
- McTighe, J., & Ferrara, S. (2021 October 21). *Assessing student learning by design*. Presentation in the annual National Council on Measurement in Education Classroom Assessment Conference (virtual).
- Schneider, M. C., & Ferrara, S. (2016). *Aligning proficiency level descriptors and item response demands to support teacher evaluation systems*. Training session conducted at the annual meeting of the National Council on Measurement in Education, Washington, DC.
- Schneider, M. C., Huff, K. L., Egan, K. L., Tully, M., & Ferrara, S. (2010, May). *Aligning achievement level descriptors to mapped item demands to enhance valid interpretations of scale scores and inform item development*. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.
- Seidman, W., & Ferrara, S. (1984). *Barriers to cost-effectiveness evaluation*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Schneider, C., & Ferrara, S. (2017 April). *Conceptual frameworks for aligning items to achievement level descriptors to enhance validity arguments*. Pre-conference training workshop conducted at the annual meeting of the National Council on Measurement in Education, San Antonio, TX.
- Steedle, J., & Ferrara, S. (2014 December). *A comparative judgment approach to essay scoring*. Presentation in the annual meeting of the California Educational Research Association, San Diego.
- Steedle, J. T., & Ferrara, S. (2015). *Comparative judgment as a novel approach to operational scoring, range-finding, and other assessment activities*. Presentation in the National Conference on Student Assessment, San Diego, CA.




March 14, 2022

Marianne Perie
Area Director, Assessment Research and Innovation
WestEd

RE: Technical Advisory Committee for RFP 22-70622 I AM Alt Assessment Research

By signing my name below, I am certifying that I will commit to serve on the Technical Advisory Committee for the Indiana I AM Alt Assessment Research effort for WestEd upon award of the contract. I understand that this commitment involves attending at least two meetings with other technical experts over the course of a year but will not exceed 80 hours in the year. I believe I bring expertise of alternate assessment design, analysis, research, standard setting, and reporting to the panel and look forward to working with the Indiana Department of Education.

Name: Steve Ferrara
Signature: 
Title: Measurement Solutions Architect
Company: Cognia
Date: March 14, 2022

Derek C. Briggs

University of Colorado, School of Education, 249 UCB, Boulder, CO, 80309

Phone: (303) 709-5381 • E-mail: derek.briggs@colorado.edu

<http://www.colorado.edu/education/derek-briggs>

RESEARCH EXPERTISE

Educational Measurement, History of Measurement, Item Response Theory, Rasch Model, Learning Progressions, Growth Modeling, Large-Scale Assessment, Diagnostic Assessment, Causal Inference

PROFESSIONAL EXPERIENCE

2016-present	Director, Center for Assessment, Design, Research and Evaluation (CADRE) https://www.colorado.edu/cadre/
2013-present	Professor, Research and Evaluation Methodology, School of Education, University of Colorado at Boulder
2009-2013	Associate Professor, Research and Evaluation Methodology, School of Education, University of Colorado at Boulder
2003-2009	Assistant Professor, Research and Evaluation Methodology, School of Education, University of Colorado at Boulder
2002-2003	Visiting Postdoctoral Scholar, Berkeley Evaluation and Assessment Research Center, Graduate School of Education, University of California at Berkeley
1998-2002	Graduate Student Researcher, , National Center for Research on Vocational Education (98-00); Berkeley Evaluation and Assessment Research Center (00-02), Graduate School of Education, University of California at Berkeley
1996-1997	Research Assistant, National Association for State Community Services Programs, Washington, D.C.

1993-1996 Assistant Analyst, Macroeconomic Analysis Division,
Congressional Budget Office, Washington, D.C.

EDUCATION

Ph.D.	University of California, Berkeley	2002
	Education, Quantitative Methods and Evaluation	
	Dissertation: SAT Coaching, Bias and Causal Inference	
	Advisor: Mark Wilson	
B.A.	Carleton College	1993
	Economics	

HONORS/AWARDS

- Honorary Research Fellow, University of Oxford, Department of Education, 2020-2022
- Elected President, National Council for Measurement in Education; Presidential term from 2021-22
- Elected at-large member of Board of Directors, National Council for Measurement in Education, 2016-2019.
- Outstanding Reviewer Award, Journal of Educational and Behavioral Statistics, 2013
- Editor, Educational Measurement: Issues and Practice, 2013-2016.
- University of Colorado Provost's Award for Faculty Achievement, 2012
- Annual Award for Contributions to Theory and Practice, National Council on Measurement in Education, 2012
- Outstanding Reviewer Award, Educational Researcher, 2012
- National Academy of Education/Spencer Postdoctoral Fellowship, 2007-2009
- AERA Division D Mary Catherine Ellwein Outstanding Dissertation Award, 2004
- UC Berkeley Graduate School of Education Commencement Address, 2003
- Educational Testing Service Summer Associate, 2002
- RAND Summer Associate, 2000
- Graduate School of Education Research Centers Coordinator, 1999-2001
- National Center for Educational Statistics, NELS-88 Training Fellowship, Summer 1999

- Graduate School of Education Regents Fellowship, 1999-2002
- Berkeley Evaluation and Assessment Research Center Coordinator, 1998-99
- Departmental Distinction in Economics, Carleton College, 1993

GRANTS

Curriculum Associates. Methods for Normative and Criterion-Referenced Interpretations of i-Ready Growth. \$93,268 (PI) (1/1/20-12/31/20)

National Science Foundation. Transforming the Education and Training of Interdisciplinary Data Scientists (TETRIDS). \$500,000 (co-PI) (7/1/20-6/30/23).

Spencer Foundation. Aspire Research-Practice Partnership: Research Infrastructure for Longitudinal Tracking of Student Science Learning. \$84,466 (co-PI) (12/1/17-11/30/20)

National Science Foundation. From Teacher Task Design to Generalizable Study of Student Learning: A Comprehensive Study of Learning Progression Use. \$461,159 (co-PI) (5/1/16-4/30/19)

Keck Foundation. Evaluating the Validity and Instructional Sensitivity of Concept Inventories. \$300,000 (PI) (8/1/15- 7/31/17)

Denver Public School District. Evaluation of Teacher Professional Compensation Program (ProComp). \$123,160 (PI) (9/1/14-7/31/15)

Denver Public School District. Using Learning Trajectories to Measure Growth for Student Learning Outcomes. \$128,562 (PI) (9/1/14-6/30/15)

Institute for Education Sciences. National Center for Research on Policy and Practice. \$714,404 (co-PI) (7/1/14-6/30/15)

Denver Public School District. Using Learning Trajectories to Measure Growth for Student Learning Outcomes. \$147,980 (PI) (9/1/13-6/30/14)

Denver Public School District. Evaluation of Teacher Professional Compensation Program (ProComp). \$128,241 (PI) (1/15/13-2/28/14)

Pearson. Application of a Diagnostic Classification Model to Learning Progressions in Science. \$43,513 (PI) (2/1/13 – 1/31/14)

Denver Public School District. Student Outcomes Analysis in Support of Educator Effectiveness Evaluation. \$65,028 (PI) (6/1/12-5/31/13)

University of Colorado Department of Continuing Education. An Evaluation of CU's Online Summer Session Courses. \$23,000 (PI) (6/1/12-1/31/13)

Institute of Education Sciences. An Exploration of Novice Teachers' Core Competencies: Impacts on Student Achievement, and Effectiveness of Preparation. \$987,152 (co-PI) (03/01/2012- 02/28/2015)

Colorado Department of Higher Education. Analysis of Educator Preparation and K-12 Placement in Colorado. \$15,000 (PI) (January 2012 to June 2012)

The Carnegie Corporation. Multidimensional Growth Modeling: Estimating Value-Added School Effects with a Multidimensional Vertical Scale. \$300,000 (PI) (January 2009 to December 2011)

American Educational Research Association. The Effectiveness of Admissions Test Preparation: New Evidence From ELS:2002. \$20,000 (PI) (January 2008 to December 2008).

National Science Foundation. Undergraduate Science Course Innovations and their Impact on Student Learning. \$121,000 (PI) (January 2007 to January 2008).

University of Colorado. Junior Faculty Development Grant. Vertical Scaling in Value-Added Models for Student Learning. \$4,000 (July 2006 to August 2006).

National Science Foundation. Learning Assistant model for Teacher Education in Science and Technology. \$2,500,000. (Co-PI) (September 2006 to September 2011).

The Carnegie Corporation. Vertical Scaling in Value-Added Models for Student Learning. \$50,000 (PI) (August 2005 to August 2006).

TEACHING EXPERIENCE

- EDUC 8230: Quantitative Methods in Educational Research I
- EDUC 7316: Intermediate Statistical Methods
- EDUC 7326: Experimental Design
- EDUC 7386: Educational Evaluation
- EDUC 7396: Structural Equation Modeling
- EDUC 7416: Historical and Conceptual Foundations of Measurement
- EDUC 8710: Measurement in Survey Research
- EDUC 8720: Advanced Topics in Measurement

PhD Students Graduated

Eric Snow, 2008; Robert Talbot, 2010; Elena Diaz-Bilello, 2011; Matthew Gaertner, 2011; Jonathan Weeks, 2011; Benjamin Domingue, 2012; Nathan Dadey, 2015; Ruhan Circi, 2015; Jessica Alzen, 2016; Michael Turner, 2019; Amy Burkhardt, 2020; Rajendra Chattergoon, 2020

PUBLICATIONS

Books

Briggs, D. C. (2021) *Historical and Conceptual Foundations of Measurement in the Human Sciences: Credos and Controversies*. New York, NY: Routledge.

Refereed Journal Articles

1. Peck, F., Johnson, R., Briggs, D., & Alzen, J. (2021). Toward learning trajectory-based instruction: A framework of conceptions of learning and assessment. *School Science and Mathematics*, 121, 357– 368. <https://doi.org/10.1111/ssm.12489>
2. Briggs, D. C., Chattergoon, R., & Burkhardt, A. (2019). Examining the dual purpose use of student learning objectives for classroom assessment and teacher evaluation. *Journal of Educational Measurement*. <https://doi.org/10.1111/jedm.12233>
3. Briggs, D. C. (2019). Interpreting and visualizing the unit of measurement in the Rasch Model. *Measurement*, 46 (2019) 961–971. <https://doi.org/10.1016/j.measurement.2019.07.035>
4. Briggs, D. C. & Alzen, J. L. (2019). Making inferences about teacher observation scores over time. *Educational and Psychological Measurement*. <https://doi.org/10.1177/0013164419826237>
5. Briggs, D. C. & Kizil, R. C. (2017). Challenges to the use of artificial neural networks for diagnostic classifications with student test data. *International Journal of Testing*. DOI: 0.1080/15305058.2017.1297816
6. Penuel, W. R., Briggs, D. C., Davidson, K. L., Herlihy, C., Sherer, D., Hill, H. C., Farrell, C., & Allen, A. (2017). How school and district leaders access, perceive, and use research. *AERA Open*, 3(2), 1–17. DOI: 10.1177/2332858417705370
7. Briggs, D. C. & Dadey, N. (2016). Principal holistic judgments and high-stakes evaluations of teachers. *Educational Assessment, Evaluation and Accountability*, 29:155–178. DOI: 10.1007/s11092-016-9256-7
8. Briggs, D. C. & Peck, F. A. (2015). Rejoinder to Commentaries on Using Learning Progressions to Design Vertical Scales, *Measurement: Interdisciplinary Research and Perspectives*, 13:3-4, 206-218, DOI: 10.1080/15366367.2015.1104113.
9. Briggs, D. C. & Peck, F. A. (2015). Using learning progressions to design vertical scales that support coherent inferences about student growth. *Measurement: Interdisciplinary Research & Perspectives*, 13, 75-99.
10. Briggs, D. C. & Dadey, N. (2015). Making sense of common test items that do not get easier over time: Implications for vertical scale designs. *Educational Assessment*, 20(1), 1-22.
11. Briggs, D. C., & Domingue, B. (2013). The gains from vertical scaling. *Journal of Educational and Behavioral Statistics*, 38(6), 551-576.
12. Briggs, D. C. (2013). Measuring growth with vertical scales. *Journal of Educational Measurement*, 50(2), 204-226.

13. Briggs, D. C., Ruiz-Primo, M. A., Furtak, E., Shephard, L. & Yin, Y. (2012). Meta-analytic methodology and conclusions about the efficacy of formative assessment. *Educational Measurement: Issues and Practice*, 13-17.
14. Dadey, N. & Briggs, D. C. (2012). A meta-analysis of growth trends from vertically scaled assessments. *Practical Assessment, Research & Evaluation*, 17(14). Available online: <http://pareonline.net/getvn.asp?v=17&n=14>
15. Furtak, E. M., Seidel, T., Iverson, H. & Briggs, D. C. (2012). Experimental and quasi-experimental studies of inquiry-based science teaching: a meta-analysis. *Review of Educational Research*, 300-329.
16. Safran, R. J., Flaxman, S. M., Kopp, M., Irwin, D. E., Briggs, D., Evans, M., Funk, W., Gray, Hebbets, E., Seddon, N., Scordato, E., Symes, L., Tobias, J., Toews, D, Uy, J. (2013). A robust new metric of phenotypic distance to estimate and compare multiple trait differences among populations. *Current Zoology*, 58(3), 426-439.
17. Briggs, D. C. & Weeks, J. P. (2011) The persistence of value-added school effects. *Journal of Educational and Behavioral Statistics*, 36(5), 616-637.
18. Ruiz-Primo, M., Briggs, D. C., Iverson, H., Talbot, R., & Shepard, L. (2011). Impact of undergraduate science course innovations on learning. *Science*, 331, 1269-1270.
19. Briggs, D. C. & Weeks, J. P. (2009) The sensitivity of value-added modeling to the creation of a vertical scale. *Education Finance & Policy*, 4(4), 384-414.
20. Briggs, D. C. & Weeks, J. P. (2009) The impact of vertical scaling decisions on growth interpretations. *Educational Measurement: Issues & Practice*, 28(4), 3-14.
21. Domingue, B. W. & Briggs, D. C. (2009) Using linear regression and propensity score matching to estimate the effect of coaching on the SAT. *Multiple Linear Regression Viewpoints*, 35(1), 12-29.
22. Briggs, D. C. (2008) Using explanatory item response models to analyze group differences in science achievement. *Applied Measurement in Education*, 21(2), 89-118.
23. Briggs, D. C. (2008) Synthesizing causal inferences. *Educational Researcher*, 37(1), 15-22.
24. Briggs, D. C., & Wilson, M. (2007) Generalizability in item response modeling. *Journal of Educational Measurement*, Vol 44(2), 131-155.
25. Briggs, D., Alonzo, A., Schwab, C. & Wilson, M. (2006) Diagnostic assessment with ordered multiple-choice items. *Educational Assessment*, 11(1), 33-64.
26. Briggs, D. C. (2005) Meta-analysis: a case study. *Evaluation Review*, Vol 29(2), 87-127.
27. Briggs, D. C. (2004) Causal inference and the Heckman model. *Journal of Educational and Behavioral Statistics*. Vol 29(4), 397-420.
28. Briggs, D. C. & Wilson, M. (2003) An introduction to multidimensional measurement using Rasch models. *Journal of Applied Measurement*, 4(1), 87-100.
29. Briggs, D. C. (2002) SAT coaching, bias and causal inference. *Dissertation Abstracts International*. DAI-A 64/12, p. 4433. (UMI No. 3115515)
30. Briggs, D. C. (2001) The effect of admissions test preparation: evidence from NELS-88. *Chance*, Vol. 14(1), 10-18.
31. Stern, D. & Briggs, D. (2001) Does paid employment help or hinder performance in secondary school? Insights from US high school students. *Journal of Education and Work*, Vol. 14(3), 355-372.

32. Stern, D. & Briggs, D. (2001) Changing admissions policies: mounting pressures, new developments, more questions. *Change* Vol. 33(1), 34-41.

Refereed Book Chapters

1. Briggs, D. C. (2021). A history of scaling and its relationship to measurement. In B. Clauser (Ed.) *A History of Educational Measurement*. New York, NY: Routledge
2. Briggs, D. C. & Furtak, E. F. (2019). Learning progressions and embedded assessment. In S. Brookhart & J. McMillan (Eds) *Classroom Assessment and Educational Measurement*, NCME Book Series.
3. Briggs, D. & Domingue, B. (2014) Value-added to what? The paradox of multidimensionality. R. Lissitz (ed.), *Value-added Modeling and Growth Modeling with Particular Application to Teacher and School Effectiveness*. Charlotte, NC: Information Age Publishing.
4. Camilli, G., Briggs, D. C., Sloane, F., & Chiu, T-W. (2013) Psychometric perspectives on test fairness: shrinkage estimation. *APA Handbook of Testing and Assessment in Psychology*, Volume 3: Testing and Assessment in School Psychology and Education.
5. Briggs, D. C. (2012). Making value-added inferences from large-scale assessments. In M. Simon, K. Ercikan, & M. Rousseau (Eds.), *Improving Large-Scale Assessment in Education: Theory, Issues and Practice*. London: Routledge.
6. Briggs, D. C. (2012). Making progress in the modeling of learning progressions. In A. Alonzo & A. Gotwals (Eds.) *Learning Progressions In Science* (pp. 293-316). Sense Publishers.
7. Briggs, D. C. & Alonzo, A. C. (2012) The psychometric modeling of ordered multiple-choice item responses for diagnostic assessment with a learning progression. In A. Alonzo & A. Gotwals (Eds.), *Learning Progressions In Science* (pp. 345-355). Sense Publishers.
8. Briggs, D. C. (2011) Cause or Effect? Validating the use of tests for high-stakes inferences in education. In N. J. Dorans & S. Sinharay (Eds.), *Looking Back: Proceedings of a Conference in Honor of Paul W. Holland*. New York: Springer.
9. Briggs, D. C. (2010). Two Philadelphia reports. In *Think Tank Research Quality: Lessons for Policymakers, the Media, and the Public*, K. Welner, P. Hinchey, A. Molnar, & D. Weizman (Eds). Information Age Publishing.
10. Briggs, D. C. (2010). Schools in eight states: Effects on achievement, attainment, integration, and competition. In *Think Tank Research Quality: Lessons for Policymakers, the Media, and the Public*, K. Welner, P. Hinchey, A. Molnar, & D. Weizman (Eds). Information Age Publishing.
11. Briggs, D. C., & Wiley, E. (2008) Causes and effects. In *The Future of Test-Based Educational Accountability*, K. Ryan & L. Shepard (Eds). Routledge.
12. Ruiz-Primo, M. A., Briggs, D., Shepard, L., Iverson, H., & Huchton, M. (2008). Evaluating the impact of instructional innovations in engineering education. (Evaluando el impacto de las innovaciones instruccionales en la enseñanza de la ingeniería.) In M. Duque (Ed.). *Engineering education for the XXI Century*:

- Foundations, strategies and cases* (pp. 241-274). Bogotá, Colombia: ACOFI Publications.
13. Rijmen, F. & Briggs, D. C. (2004) Multiple person dimensions and latent item predictors. In: *Explanatory Item Response Models: A Generalized Linear and Nonlinear Approach*, P. De Boeck and M. Wilson, eds., Springer.
 14. Tuerlinckx, F., Rijmen, F., Molenberghs, G., Verbeke, G., Briggs, D., Van den Noortgate, W., Meulders, M., & De Boeck, P. (2004) Estimation and software. In: *Explanatory Item Response Models: A Generalized Linear and Nonlinear Approach*, P. De Boeck and M. Wilson, eds., Springer.
 15. Briggs, D. C. (2004) Evaluating SAT coaching: gains, effects and self-selection. In: *Rethinking the SAT. The Future of Standardized Testing in University Admissions*, R. Zwick, ed., RoutledgeFalmer.
 16. Briggs, D. C. (2002) Test preparation programs: impact. *Encyclopedia of Education*. 2nd Edition.

Reports and Working Papers

1. Hill, Heather C., & Briggs, D. C. (2020). Education Leaders' Knowledge of Causal Research Design: A Measurement Challenge. (EdWorkingPaper: 20-298). Retrieved from Annenberg Institute at Brown University: <https://doi.org/10.26300/vxt5-ws91>
2. Buell, J.Y., Briggs, D.C., Burkhardt, A., Chattergoon, R., Fine, C., Furtak, E.M., Henson, K., Mahr, B., & Tayne, K. (2019). A Learning Progression for Modeling Energy Flows in Systems. Boulder, CO: Center for Assessment, Design, Research and Evaluation (CADRE). <https://www.colorado.edu/cadre/2019/07/19/learning-progression-modeling-energy-flows-systems>
3. Atteberry, A., Briggs, D. C., LaCour, S., & Bibilos, C. (2015). Year 2 Denver ProComp Evaluation Report: Teacher Retention and Variability in Bonus Pay, 2001-02 through 2013-14. Center for Assessment, Design, Research and Evaluation (CADRE). Report for Denver Public Schools.
4. Briggs, D. C., Diaz-Bilello, E., Peck, F., Alzen, J., Chattergoon, R., & Johnson, R. (2015). Using a Learning Progression Framework to Assess and Evaluate Growth. Center for Assessment, Design, Research and Evaluation (CADRE) Working Paper.
5. Briggs, D.C., Dadey, N., & Kizil, R.C. (2015). [*Comparing Student Growth and Teacher Observation to Principal Judgments in the Evaluation of Teacher Effectiveness*](#). Center for Assessment, Design, Research and Evaluation (CADRE). Report for the [Georgia Department of Education](#).
6. Briggs, D.C., Kizil, R.C., & Dadey, N. (2015). [*Adjusting Mean Growth Percentiles for Classroom Composition*](#). Center for Assessment, Design, Research and Evaluation (CADRE). Report for the [Georgia Department of Education](#).
7. Briggs, D. C., Diaz-Bilello, E., Peck, F., Alzen, J., Chattergoon, R., & McClelland, A. (2014). Tier 3 Student Learning Objective Pilot: Documentation of Pilot Work and Lessons Learned in the 2013-2014 School Year. Center for Assessment, Design, Research and Evaluation (CADRE). Report for Denver Public Schools.
8. Briggs, D. C., Diaz-Bilello, E., Maul, A., Turner, M. & Bibilos, C. (2014) [*Denver ProComp Evaluation Report: 2010-2012*](#). Center for Assessment, Design, Research and Evaluation (CADRE) and the National Center for the Improvement of Educational Assessment.

9. Diaz-Bilello, E.K. & Briggs, D.C. (2014) *[Using Student Growth Percentiles for Educator Evaluations at the Teacher Level: Key Issues and Technical Considerations for School Districts in Colorado](#)*. Center for Assessment and the Center for Assessment, Design, Research and Evaluation (CADRE).
10. Briggs, D. & Alzen, J. (2013). Does Taking an Online Version of a Course have a Negative Effect of Student Learning? An Evaluation Study Commissioned by the University of Colorado's Department of Continuing Education.
11. Alzen, J., Briggs, D., Whitcomb, J., Haug, C., Paterson, W. & Klopfestein, K. (2012). An initial exploration of Colorado-trained teachers: Providing context for outcome-based teacher preparation program evaluation. Report Commissioned by the Colorado Department of Higher Education.
12. Alzen, J., Briggs, D., Whitcomb, J., Haug, C., Paterson, W. & Klopfestein, K. (2012). Enhancing Colorado data systems: Linking teachers to preparation programs. Report Commissioned by the Colorado Department of Higher Education.
13. Briggs, D. C. (2011). Making inferences about growth and value-added: Design issues for the PARCC consortium. A White Paper Commissioned by the PARCC Large-Scale Assessment Consortium.
14. Briggs, D. C. & Domingue, B. D. (2011). Due diligence and the evaluation of teachers: A review of the value-added analysis underlying the effectiveness rankings of Los Angeles Unified School District Teachers by the Los Angeles Times. National Education Policy Center. <http://nepc.colorado.edu/publication/due-diligence>
15. Briggs, D. C. & Domingue, B. D. (2011) Hawaii school improvement growth model analysis: 2010 results. A Report Commissioned by the Hawaii Department of Education.
16. Briggs, D. C. & Domingue, B. D. (2010) Hawaii school improvement growth model analysis: 2009 results and sensitivity analysis. A Report Commissioned by the Hawaii Department of Education.
17. Gaertner, M. & Briggs, D. C. (2009) Detecting and addressing item parameter drift in IRT test equating contexts. A Report Commissioned by the National Center for the Improvement of Educational Assessment.
18. Briggs, D. C. (2009) Preparation for college admissions exams. A Report Commissioned by the National Association of College Admissions Counselors. Available online at <http://www.nacacnet.org/PublicationsResources/Research/Documents/TestPrepDiscussionPaper.pdf>
19. Briggs, D. C. & Weeks, J. P. (2009) Hawaii school improvement: growth model analysis. A Report Commissioned by the Hawaii Department of Education.
20. Briggs, D. C. (2008) The goals and uses of value-added models. Paper prepared for a workshop held by the Committee on Value-Added Methodology for Instructional Improvement, Program Evaluation and Educational Accountability sponsored by the National Research Council and the National Academy of Education, Washington DC: November 13-14, 2008.

Published Commentaries and Reviews

1. Briggs, D. C. (2021). Book review: A pragmatic perspective of measurement by David Torres Iribarra. *Integrative Psychological and Behavioral Science*. Online First. DOI: 10.1007/s12124-021-09635-7
2. Briggs, D.C. (2021). Commentary: Comment on college admissions tests and social responsibility. *Educational Measurement: Issues and Practice*. <https://doi.org/10.1111/emip.12455>
3. Briggs, D. C. (2017). Learning theory and psychometrics: room for growth. *Assessment in Education: Principles, Policy & Practice*. 24(3), 351-358.
4. Briggs, D. C. (2016). Can Campbell's Law be mitigated? In H. Braun (Ed.), *Meeting the Challenges to Measurement in an Era of Accountability*. NCME Books Series, Routledge.
5. Briggs, D. C. (2013). Teacher evaluation as Trojan horse: the case for teacher-developed assessments. *Measurement: Interdisciplinary Research and Perspectives*, Vol 11(1-2), 24-29.
6. Briggs, D. C. (2010) Validate high stakes inferences by designing good experiments, not audit items. *Measurement: Interdisciplinary Research and Perspectives*, Vol 8(4), 185-190.
7. Briggs, D. C. (2009) Review of "Charter Schools in Eight States: Effects on Achievement, Attainment, Integration and Competition" by Ron Zimmer, Brian Gill, Kevin Booker, Stephanie Lavertu, Tim Sass and John Witte. *Education Policy Studies Laboratory*. Available online at <http://www.epicpolicy.org/thinktank/review-charter-schools-eight-states>.
8. Talbot, R. & Briggs, D. C. (2007) Does theory drive the items or do items drive the theory? *Measurement: Interdisciplinary Research and Perspectives*. Vol 5(2-3), 205-208.
9. Briggs, D. C. (2007) Review of "**State Takeover, School Restructuring, Private Management, and Student Achievement in Philadelphia**" by Brian Gill, Ron Zimmer, Jolley Christman and Suzanne Blanc and "**School Reform in Philadelphia: A Comparison of Student Achievement at Privately-Managed Schools with Student Achievement in Other District Schools**" by Paul Peterson. *Education Policy Studies Laboratory*. Available online at http://eps1.asu.edu/epru/epru_2007_thinktankreview.htm.
10. Wiley, E. & Briggs, D.C. (2007) Can value-added assessment improve accountability? *Education Views*. University of Colorado at Boulder, School of Education, Winter 2007.
11. Briggs, D. C. (2007) Assessing what students know or how they know it? *Measurement: Interdisciplinary Research and Perspectives*. Vol 5(1), 62-65.
12. Briggs, D. C. (2006) Review of "Getting farther ahead by staying behind: a second-year evaluation of Florida's policy to end social promotion" by Jay Greene and Marcus Winters. *Education Policy Studies Laboratory*. Available online at http://eps1.asu.edu/epru/epru_2006_thinktankreview.htm.
13. Briggs, D. C. (2006) Book Review: The SAGE Handbook of Quantitative Methods in the Social Sciences. *Applied Psychological Methods*. Vol 30(5), 447-451.
14. Briggs, D. C. (2004) Comment: making an argument for design validity before interpretive validity. *Measurement: Interdisciplinary Research and Perspectives*. Vol. 2(3), 171-174.

15. Briggs, D. C. (2002) Comment: Jack Kaplan's new study of SAT coaching. *Chance*. Vol. 15(1), 7-8.

Professional Conference Papers

1. Furtak, E. M, Briggs, D. C, & Chattergoon, R. (2018). Toward a system of classroom assessments for three-dimensional secondary science learning: the case of the Aspire study. Paper presented as part of the symposium "The Challenge of Assessing "Knowledge in Use": Examples from Three-Dimensional Science Learning and Instruction" at the annual meeting of the International Conference of the Learning Sciences, London, UK.
2. Briggs, D. C. & Alzen, J. L. (2018). The hidden facets of teacher growth. Paper presented at the annual meeting of the National Council on Measurement in Education, New York, NY, April 15, 2018.
3. Chattergoon, R., Briggs, D. C., Mahr, B., & Furtak, E. M. (2018). Developing a learning progression for the crosscutting concept of energy. Paper presented at the annual meeting of the National Council on Measurement in Education, New York, NY, April 17, 2018.
4. Burkhardt, A. & Briggs, D. C. (2018). The state of district level interim assessments. Paper presented at the annual meeting of the National Council for Measurement in Education, New York, NY, April 15, 2018.
5. Briggs, D. C., Chattergoon, R., & Burkhardt, A. (2017). Examining the use of Student Learning Objectives to evaluate teachers. Paper presented at the annual meeting of the National Council for Measurement in Education, San Antonio, TX, April 29, 2017.
6. Briggs, D. C., Diaz-Bilello, E., Peck, F., Alzen, J., Chattergoon, R. & Johnson, R. (2015) Using a Learning Progression Framework to Assess and Evaluate Student Growth. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, March 23, 2015.
7. Briggs, D. C., Kizil, R. C., & McClarty, K. (2014). Challenges when Using an Artificial Neural Network to Make Diagnostic Classifications from Ordered Multiple Choice Items. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA, April 7, 2014.
8. Turner, M., Bibilos, C., Briggs, D. C., Maul, A., & Diaz-Bilello, E. (2014). New Evidence on the Effect of the Denver Public Schools Professional Compensation System on Teacher Attitudes. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA, April 6, 2014.
9. Briggs, D. C. & Alzen, J. (2013). Does Taking an Online Version of a Course have a Negative Effect of Student Learning? Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, May 1, 2013.
10. Briggs, D. C., Circi, R., Seidel, K., & Green, K. (2013). Challenges in Measuring Core Competencies in Teacher Preparation Programs. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, May 1, 2013.

11. Dadey, N. & Briggs, D. C. (2013). The curious case of linking items with p-value reversals. Paper presented at the annual meeting of the National Council for Measurement in Education, San Francisco, CA. April 30, 2013.
12. Briggs, D. C. (2012). Prospects for modeling growth with tests designed by the state assessment consortia. Paper presented at the annual meeting of the National Council for Measurement in Education, Vancouver, BC, April 15, 2012.
13. Briggs, D. C. & Maul, A. (2011). The comparability of assessments that include performance tasks. Paper presented at the annual meeting of the National Council for Measurement in Education, New Orleans, LA, April 11, 2011.
14. Dadey, N., Briggs, D. C., & Weeks, J. P. (2011). Making sense of growth trends from vertically scaled assessments. Paper presented at the annual meeting of the National Council for Measurement in Education, New Orleans, LA, April 9, 2011.
15. Briggs, D. C. (2010). Why aren't states with developmental score scales measuring growth? Paper presented at the 2010 International Meeting of the Psychometric Society, Athens, GA, July 10, 2010.
16. Briggs, D. C. (2010). The problem with vertical scales. Paper presented at the 2010 Annual Meeting of the American Educational Research Association, Denver, CO, May 3, 2010.
17. Weeks, J. P., Domingue, B. & Briggs, D. C. (2010) Is a multidimensional vertical scale really necessary? Modeling student achievement growth in multiple dimensions. Paper presented at annual meeting of the National Council for Measurement in Education, Denver, CO, May 1, 2010.
18. Iverson, H.I., Briggs, D.C., Ruiz-Primo, M.A., Talbot, R.M., & Shepard, L.A. (2010, May) A closer look at undergraduate physics course Innovations: a meta-analysis of their impact on student learning. Paper presented at the American Educational Research Association Annual Meeting, Denver, CO, April 30, 2010.
19. Iverson, H., Briggs, D. C., Ruiz-Primo, M., Talbot, R., & Shepard, L. (2009). Undergraduate Physics Course Innovations and Their Impact on Student Learning. 2009 Physics Education Research Conference. Ann Arbor (MI), 29–30 July 2009. AIP Conference Proceedings Volume 1179, pp. 169-172.
20. Briggs, D. C. & Alonzo, A. C. (2009) The psychometric modeling of ordered multiple-choice item responses for diagnostic assessment with a learning progression. Paper presented at the Learning Progressions in Science (LeaPS) Conference, Iowa City, IA, June 25, 2009.
21. Briggs, D. C. & Alonzo, A. C. (2009) Building a Learning Progression as a Cognitive Model. Paper presented at the symposium “How to Build a Cognitive Model for Educational Assessments,” at the annual meeting of the National Council for Measurement in Education, San Diego, CA, April 16, 2009.
22. Choi, J., Briggs, D. C. & Wilson, M. (2009) Multidimensional Extension of Generalizability in Item Response Modeling. Paper presented at the annual meeting of the National Council for Measurement in Education, San Diego, CA, April 16, 2009.
23. Briggs, D. C. & Betebenner, D. (2009) Is Growth in Student Achievement Scale Dependent? Paper presented at the invited symposium “Measuring and Evaluating Changes in Student Achievement: A Conversation about Technical and Conceptual Issues” at the annual meeting of the National Council for Measurement in Education, San Diego, CA, April 14, 2009.

24. Talbot, R., Briggs, D. C. & Otero, V. (2009) Can Science Teachers' Strategic Knowledge be Conceptualized as a Learning Progression? Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA, April 14, 2009.
25. Domingue, B. & Briggs, D. C. (2009) Using Propensity Score Matching to Estimate the Effect of Coaching on the SAT. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA, April 14, 2009.
26. Briggs, D. C., Weeks, J. P., & Wiley, E. W. (2008). The Sensitivity of Value-Added Modeling to Vertical Scaling. Paper presented at the National Conference on Value-Added Modeling, April 22-24, 2008, Madison, WI.
27. Briggs, D. C. & Weeks, J. P. (2008) The Persistence of Value-Added School Effects. Paper presented at the 2008 Annual Meeting of the American Educational Research Association, Division D, New York, NY. March 27, 2008.
28. Briggs, D. C. , Weeks, J. P. & Wiley. E. (2008) The Impact of Vertical Scaling Decisions on Growth Projections. Paper presented at the annual meeting of the National Council for Measurement in Education Annual Conference, March 26, 2008, New York, NY.
29. Talbot, R., & Briggs, D.C. (2008) Measuring the Pedagogical Sophistication of Science Teachers using the Flexible Application of Student-Centered Instruction (FASCI) Instrument. Annual Meeting of the American Educational Research Association, Division D, New York, NY. March 27, 2008.
30. Briggs, D. C., Geil, K., Harlow, D & Talbot, R. (2007). Measuring the Pedagogical Sophistication of Math and Science Teachers using Scenario-based Items. Paper presented at the 2007 Annual Meeting of the American Educational Research Association, Division D, Chicago, IL. April 10, 2007.
31. Briggs, D. C., Wiley, E., & Weeks, J. (2006) Vertical scaling in value-added models for student learning: a simulation study. Paper presented at the 2006 Annual Meeting of the American Educational Research Association, Division D, San Francisco, CA. April 10, 2006.
32. Briggs, D. C. (2005) Measuring racial/ethnic achievement gaps by dimension and level. Presentation at the 2005 AERA Conference, Montreal, Canada. April 12, 2005.
33. Briggs, D. C. (2004) Generalizability theory in item response modeling. Presentation at the International Meeting of the Psychometric Society, Pacific Grove, CA. June 15, 2004.
34. Briggs, D., Alonzo, A., Schwab, C. & Wilson, M. (2004) Developmental assessment with ordered multiple-choice items. Presentation at the 2004 AERA Conference, San Diego, CA. April 15, 2004.
35. Briggs, D. C. (2003) Causal inference and the Heckman model. Paper presented at the National Council on Measurement in Education, Chicago, IL. April 22, 2003.
36. Briggs, D. C. & Wilson, M. (2001) An introduction to multidimensional measurement using Rasch models. Paper presented at the 2001 AERA Conference, Seattle, WA. April 10, 2001.
37. Stern, David S., & Briggs, D. (1999) Competition or complementarity between work and school: some insights from high school students. Paper presented at 1999 AERA Conference, Montreal.

Selected Works in Progress

1. Briggs, D. C., Maul, A., & McGrane, J. (in progress). On the nature of measurement. In L. Cook & M. Pitoniak (Eds.) *Educational Measurement*, 5th Edition.

PRESENTATIONS

1. Briggs, D. C. (2021). Historical and conceptual foundation of measurement in the human sciences: credos and controversies. Presentation for the Institute of Behavioral Sciences, University of Colorado Boulder, November 1, 2021. (Virtual Presentation).
2. Briggs, D. C. (2021). Some lessons learned from research on vertical scaling. Presentation for Associação Brasileira de Avaliação Educacional (ABAVE), September, 27, 2021. (Virtual Presentation).
3. Briggs, D. C. (2021). Historical lessons from the modeling and measuring of human abilities. Invited presentation for the 2021 annual conference of the National Council on Measurement in Education, May 18, 2021. (Virtual Presentation).
4. Briggs, D. C. (2021). State plans for administering large-scale K-12 assessments in 2021. Education Congressional Staff Network Call coordinated by The Aspen Institute, March 19, 2021. (Virtual Presentation).
5. Briggs, D. C. (2021). Discussion: Psychometrics and looming causal inferences. TILSA Panel Coordinated by the Center for Assessment, February, 23, 2021. (Virtual Presentation).
6. Briggs, D. C., Maul, A. & McGrane J. (2021). On the nature of measurement. Spotlight presentation for the International Objective Measurement Workshop, February 5, 2021. (Virtual Presentation).
7. Briggs, D. C. (2021). The use of content-referencing to evaluate the magnitude of student growth. Keynote address at the 17th conference of the Israeli Psychometric Association, January 27, 2021. (Virtual Presentation).
8. Briggs, D. C. (2020). Teaching and learning “educational measurement”: defining the discipline? Presentation for 2020 Annual Meeting of the National Council on Measurement in Education. (Virtual Presentation).
9. Briggs, D. C. (2020). A general factor, neural bonds, and the next generation of science standards. Meeting of Testing Issues in Large-Scale Assessment (TILSA) group during meeting of the Council of Chief State School Officers, New Orleans, LA, February 18, 2020.
10. Briggs, D. C., & Furtak, E. M. (2019). Learning Progressions and NGSS, Presentation at the Special Conference for Classroom Assessment, Boulder, CO, September 18, 2019.
11. Briggs, D. C. (2019). The role of measurement in evaluating the practical significance of learning outcomes. Invited presentation, Stanford University, Graduate School of Education, May 23, 2019.
12. Briggs, D. C. (2019). Some thoughts on the origins of classical test theory. Presentation at the Annual Meeting of the National Council on Measurement in Education, Toronto, April 8, 2019
13. Briggs, D. C. & Furtak, E. (2019). Learning progressions and embedded assessment. Presentation at the Annual Meeting of the National Council on Measurement in Education, Toronto, April 6, 2019.

14. Briggs, D. C. (2018). You can't know where you're going unless you find out where you've been. Invited presentation as part of panel on "measurement problems" theme inspired by Howard Wainer, presented at the annual meeting of the National Council on Measurement in Education, New York, NY, April 16, 2018.
15. Briggs, D. C. (2018). Tolerating approximate answers about student learning. Invited presentation, Oxford University Centre for Assessment, Ashmolean Museum, May 24, 2018. <http://media.podcasts.ox.ac.uk/education/general/2018-05-24briggsv1720.mp4>
16. Briggs, D. C. (2018). Visualizing location and growth: Design principles for person-item maps. Invited keynote presentation, Rasch Measurement Conference, University of Western Australia, Perth, Australia. January 18, 2018.
17. Briggs, D. C. (2017). Longitudinal growth models and classroom assessment. Invited presentation at North Carolina State University, School of Education, November 9, 2017.
18. Briggs, D. C. (2016). Psychometrics, measurement and obtainable Goals. Invited presentation at the International Meeting of the Psychometric Society, Asheville, NC. July 13, 2016.
19. Briggs, D. C. (2015). Measuring Student Learning: Assessment 101. Invited presentation at The Aspen Institute, Aspen, CO. September 26, 2015.
20. Briggs, D. C. (2015). Psychometrics, Testing and Obtainable Goals. Invited debate at the National Council for Measurement in Education, April 19, 2015.
21. Briggs, D. C. (2015). Standardized Testing and Special Needs. Presentation at Chautauqua Education Series, Boulder, CO. March 18, 2015.
22. Briggs, D. C. (2014). Improving the Science Behind Vertical Scaling. Presentation at the annual meeting of the National Council for Measurement in Education, Philadelphia, PA. April 5, 2014.
23. Briggs, D. C., Kizil, R. C. (2014). The Riddle of Dimensional Structure in Surveys of Teacher Preparation. Presentation at the annual meeting of the National Council for Measurement in Education, Philadelphia, PA. April 4, 2014.
24. Briggs, D. C. (2013). The Impact of Coaching on College Admissions (sometimes even a small effect can matter!) Invited presentation at Seminario Internacional de Investigación sobre Calidad de la Educación, Bogotá, Colombia, November 8, 2013.
25. Briggs, D. C. (2013). Comparability Challenges Facing PARCC and SBAC. Invited presentation, annual meeting of the National Council for Measurement in Education, San Francisco, CA. April 30, 2013.
26. Briggs, D. C. (2013). NCME Hot Topics: Growth and Value-Added Modeling. Invited workshop presentation, annual meeting of the National Council for Measurement in Education, San Francisco, CA. April 27, 2013.
27. Briggs, D. C. (2013). An Economist, a Psychometrician and a Father of a Special Needs Child Walk into a School. University of Michigan, Invited Womer Lecture. February, 19, 2013.
28. Briggs, D. C., & Domingue, B. (2012) Exploring Value-Added Across Multiple Dimensions: A Bifactor Approach. Maryland Assessment Conference. October 18, 2012.
29. Briggs, D. C. (2012) Due Diligence and the Evaluation of Teachers. Joint Statistics Meeting, San Diego, CA, July 29, 2012.

30. Briggs, D. C. (2011). Generalizing Causal Inferences: Test Scales and Meta-Analysis. Presentation at the European Association of Research on Learning and Instruction, Exeter, UK, August 31, 2011.
31. Briggs, D. C. (2011). Why Measuring Growth in Student Learning is a Lot Harder than Most People Realize. Presentation at the University of Oslo, March 17, 2011.
32. Briggs, D. C. & Maul, A. (2011). The comparability of assessments that include performance tasks. Paper presented at the annual meeting of the National Council for Measurement in Education, New Orleans, LA, April 11, 2011.
33. Dadey, N., Briggs, D. C., & Weeks, J. P. (2011). Making sense of growth trends from vertically scaled assessments. Paper presented at the annual meeting of the National Council for Measurement in Education, New Orleans, LA, April 9, 2011.
34. Briggs, D. C. (2010) Can We Use Large-Scale Assessments for both Summative and Formative Purposes? Invited presentation at the Reidy Interactive Lectures Series, Cambridge, MA, October 22, 2010.
35. Briggs, D. C. (2010) Rationales for measuring growth in student achievement: choosing between orthodoxy and pragmatism. Invited presentation at the BEAR Seminar, University of California, Berkeley, September 14, 2010.
36. Briggs, D. C. (2010) Making inferences about teachers and schools in the United States: Do we need value-added? Invited presentation at the 2010 Symposium on Causality, Jena University, Germany, July 14, 2010.
37. Weeks, J. P., Domingue, B. & Briggs, D. C. (2010) Design issues in developing a multidimensional vertical scale. Presentation at the 2010 International Meeting of the Psychometric Society, Athens, GA, July 10, 2010.
38. Briggs, D. C. (2010) Pathology or pragmatism? Why psychometricians don't measure growth in student achievement. School of Education Colloquium Series, University of Colorado, April 7, 2010.
39. Briggs, D. C. (2009) Using Learning Progressions on a Large-Scale Basis. Invited presentation to the Massachusetts Department of Education, November 13, 2009.
40. Briggs, D. C. & Alonzo, A. C. (2009) Building a Learning Progression as a Cognitive Model. Presentation at the symposium "How to Build a Cognitive Model for Educational Assessments," at the annual meeting of the National Council for Measurement in Education, San Diego, CA, April 16, 2009.
41. Choi, J., Briggs, D. C. & Wilson, M. (2009) Multidimensional Extension of Generalizability in Item Response Modeling. Presentation at the annual meeting of the National Council for Measurement in Education, San Diego, CA, April 16, 2009.
42. Briggs, D. C. & Betebenner, D. (2009) Is Growth in Student Achievement Scale Dependent? Presentation at the invited symposium "Measuring and Evaluating Changes in Student Achievement: A Conversation about Technical and Conceptual Issues" at the annual meeting of the National Council for Measurement in Education, San Diego, CA, April 14, 2009.
43. Talbot, R., Briggs, D. C. & Otero, V. (2009) Can Science Teachers' Strategic Knowledge be Conceptualized as a Learning Progression? Presentation at the annual meeting of the American Educational Research Association, San Diego, CA, April 14, 2009.
44. Domingue, B. & Briggs, D. C. (2009) Using Propensity Score Matching to Estimate the Effect of Coaching on the SAT. Presentation at the annual meeting of the American Educational Research Association, San Diego, CA, April 14, 2009.

45. Briggs, D. C. (2008) The goals and uses of value-added models. Presentation for a workshop held by the Committee on Value-Added Methodology for Instructional Improvement, Program Evaluation and Educational Accountability sponsored by the National Research Council and the National Academy of Education, Washington DC: November 13-14, 2008.
46. Briggs, D. C. (2008) Validating the use of tests for high-stake inferences in education. Presentation at the National Academy of Education's Annual Meeting and Fellow's Retreat. Seattle, WA. October 17, 2008.
47. Briggs, D. C. (2008) Cause or effect? Validating the use of tests for high-stake inferences in education. Invited presentation at the Festschrift in honor of the career of Paul Holland, ETS, Princeton, NJ. Sep 20, 2008.
48. Briggs, D. C. (2008) Cause or effect? Validating the use of tests for high-stake inferences in education. Invited presentation at the Symposium on Causality, Jena, Germany. July 18, 2008.
49. Ruiz-Primo, M. A., Briggs, D., Shepard, L., Iverson, H., & Huchton, M. (2008, June). Innovations in undergraduate science education: Lessons Learned. Invited talk as a Conference Plenary Session. International Conference of Active Learning in Engineering Education. Bogotá, Colombia.
50. Briggs, D.C., Weeks, J. P. & Wiley. E. (2008) The Impact of Vertical Scaling Decisions on Growth Projections. Presentation at the National Conference on Student Assessment, June 16, 2008, Orlando, FL.
51. Briggs, D. C., Weeks, J. P. & Wiley. E. (2008) Vertical Scaling in Value-Added Models for Student Learning. Presentation at the National Conference for Value-Added Modeling, April 23, 2008, Madison, WI.
52. Briggs, D. C. & Weeks, J. P. (2008) The Persistence of Value-Added School Effects. Presented at the 2008 Annual Meeting of the American Educational Research Association, Division D, New York, NY. March 27, 2008.
53. Talbot, R., & Briggs, D.C. (2008) Measuring the Pedagogical Sophistication of Science Teachers using the Flexible Application of Student-Centered Instruction (FASCI) Instrument. Annual Meeting of the American Educational Research Association, Division D, New York, NY. March 27, 2008.
54. Briggs, D.C., Weeks, J. P. & Wiley. E. (2008) The Impact of Vertical Scaling Decisions on Growth Projections. Presentation at the annual meeting of the National Council for Measurement in Education Annual Conference, March 26, 2008, New York, NY.
55. Briggs, D. C. (2008) The Process of Developing and Validating Learning Progressions: Issues From Two Case Studies. Poster Presented at the Annual Meeting of the American Educational Research Association, Division D, New York, NY. March 25, 2008.
56. Talbot, R. M., Briggs, D., & Otero, V. (2008). A new instrument for measuring the pedagogical knowledge of physics teachers. Workshop given at the Physics Teacher Education Coalition Conference. Austin, TX. March 1, 2008.
57. Briggs, D. C. (2008) The Measurement of Learning Progressions. Invited talk at the University of Arizona, February 21, 2008.
58. Briggs, D. C. (2007). Value-Added Modeling as a Tool for Accountability. Education in the Public Interest Center Conference. Boulder, CO. October 12, 2007.

59. Briggs, D. C., Geil, K., Harlow, D & Talbot, R. (2007). Measuring the pedagogical sophistication of math and science teachers using scenario-based items Paper presented at the 2007 Annual Meeting of the American Educational Research Association, Division D, Chicago, IL. April 10, 2007.
60. Briggs, D. C. (2007) Causes and Effects. Invited presentation for CRESST Conference: The Future of Test-based Accountability. Los Angeles, CA. January 22, 2007.
61. Briggs, D. C., Wiley, E., & Weeks, J. (2006) Vertical scaling in value-added models for student learning: a simulation study. Paper presented at the 2006 Annual Meeting of the American Educational Research Association, Division D, San Francisco, CA. April 10, 2006.
62. Wilson, M. & Briggs, D. C. (2005). Generalizability in item response modeling. Invited lecture presented at the 21st University of Twente IRT Workshop, Enschede, The Netherlands.
63. Briggs, D. C. (2004) Adequate yearly progress and causal inference. Presentation at the CRESST Conference, Los Angeles, CA. September 9, 2004.
64. Briggs, D. C. (2004) Multidimensionality and latent item predictors as extensions to item response modeling under a GLMM framework. Presentation at the Society for Multivariate Analysis in the Behavioral Sciences Conference, Jenna, Germany. July 21, 2004.
65. Briggs, D., Alonzo, A., Schwab, C. & Wilson, M. (2004) Developmental assessment with ordered multiple-choice items. Presentation at the International Meeting of the Psychometric Society, Pacific Grove, CA. June 16, 2004.
66. Briggs, D. C. (2003) SAT coaching and causal inference. Presentation at the National Council on Measurement in Education, Chicago, IL. April 22, 2003.
67. Briggs, D. C. (2003) SAT coaching and causal inference. Presentation at the UCLA Department of Statistics, Los Angeles, CA. February 11, 2003.
68. Briggs, D. C. (2002) Evaluating SAT test preparation: gains, effects and self-selection. Presentation at the Western Regional Meeting of The College Board, Anaheim, CA. February 24, 2002.
69. Briggs, D. C. & Hansen, B. (2001) Evaluating SAT test preparation: gains, effects and self-selection. Presentation at the University of California, Santa Barbara "Rethinking the SAT in University Admissions" Conference, Santa Barbara, CA. November 12, 2001.
70. Briggs, D. C. (2001) The effect of admissions test preparation: evidence from NELS:88. Presentation at the Board of Testing and Assessment, National Research Council, Washington, D.C. June 6, 2001.
71. Briggs, D. C. & Wilson, M. (2001) An introduction to multidimensional measurement using Rasch models. Presentation at the 2001 AERA Conference, Seattle, WA. April 10, 2001.
72. Briggs, D. C.. (2000) Measuring the racial/ethnic gap in science achievement. Presentation at the Berkeley Evaluation and Assessment Research (BEAR) Seminar, UC Berkeley Department of Education.

73. Briggs, D. C. & Wilson, M. (2000) An introduction to multidimensional measurement. Presentation at the International Objective Measurement Workshop, New Orleans, LA. April 22, 2000.
74. Wilson, M & Briggs, D. (1999) An introduction to individual growth modeling: A multilevel modeling perspective. Presentation at the Institute for Human Development, UC Berkeley Department of Psychology. December 3, 1999.
75. Briggs, D. (1999) Longitudinal data in educational research: NELS-88. Presentation at the Berkeley Evaluation and Assessment Research (BEAR) Seminar, UC Berkeley Department of Education.

PROFESSIONAL AFFILIATIONS

- American Educational Research Association
- National Council on Measurement in Education
- National Education Policy Center
- The Psychometric Society

PROFESSIONAL SERVICE

Advisory Boards & Committees

Current

- Educational Testing Service Visiting Panel on Research, (2019-)
- Curriculum Associates, Technical Advisory Committee, (2018-)
- Multistate Alternate Assessment Consortium, Chair of Technical Advisory Committee (2016-)
- State of Kansas Assessment Technical Advisory Committee (2019-)
- State of Arizona Assessment Technical Advisory Committee (2016-)
- National Assessment of Educational Progress, ETS Design Advisory Committee (2013-)
- Partnership for the Assessment of College and Career Readiness Consortium now New Meridian, Technical Advisory Panel (2011-)
- Smarter Balanced Assessment Consortium (SBAC), Technical Advisory Panel (2011-)
- State of New York Assessment Technical Advisory Committee (2012-)
- State of Utah Assessment Technical Advisory Committee (2007-)
- Editorial Board, *Educational Assessment* (2010-)
- Editorial Board, *Journal of Educational Measurement*, (2016-)

Past

- NAEP Reading Framework Revision, Technical Advisory Panel, (2019-2021)

- NAEP Mathematics Framework Revision, Technical Advisory Panel, (2018-2019)
- National Centers and State Collaborative (NCSC), Technical Advisory Committee (2011-2015)
- Institute of Education Sciences Review Panel, Education Systems and Broad Reform (2016-2019).
- Georgia Educator Effectiveness Technical Advisory Committee (2011-2019)
- State of Nevada Assessment Technical Advisory Committee (2016-2019)
- State of Montana Assessment Technical Advisory Committee (2006-2017)
- State of Michigan Assessment Technical Advisory Committee (2013-2015)
- State of Tennessee Assessment Technical Advisory Committee (2015-2018)
- State of Indiana Assessment Technical Advisory Committee (2016)
- English Language Proficiency Assessment Consortium (ELPA21) Technical Advisory Committee (2013-2016)
- Gates Foundation, Measures of Effective Teaching Technical Advisory Panel (2010)
- National Council on Measurement in Education, Brenda Loyd Dissertation Award Committee (2008-2011)
- Expert Panel, Evaluating the Validity of English Language Proficiency Assessments, (2009-2011)
- Expert Panel, GSEG Consortia: Validity Evaluation, National Alternate Assessment Center (2008-2009)
- Expert Panel, Growth Model Task Force, National Center for Learning Disabilities. (2008)
- Editorial Board, *Educational Researcher* (2006-2009)
- Editorial Board, *Educational Measurement: Issues and Practice* (2007-2009)
- Editorial Board, *International Journal of Testing*, (2016-2019)
- Editorial Board, *AERA Open* (2014-2021)

Leadership Positions

- Executive Committee (elected), National Council for Measurement in Education, 2020-2023.
- At-Large Board Member (elected), National Council for Measurement in Education, 2016-2019
- Research Methods Section Chair, Society for Research on Educational Effectiveness (SREE), Spring 2014 Conference.
- Editor, *Educational Measurement: Issues and Practice*, 2013-2015
- NCME Dissertation Award Committee Chair, 2010-2011
- Conference Chair, International Objective Measurement Workshop, 2010
- AERA Division L, Section 5 Program Chair, 2009-2010
- University of Colorado, School of Education, Research and Evaluation Methodology Program Chair, 2008-2019

Manuscript Reviews

- American Educational Research Journal
- AERA Open
- Applied Psychological Measurement
- Assessment in Education
- Behavioral Research Methods
- British Journal of Mathematical and Statistical Psychology
- Cognition and Instruction
- Educational Evaluation and Policy Analysis
- Educational Measurement: Issues and Practice
- Educational Policy
- Educational Researcher
- Evaluation Review
- International Journal of Testing
- Journal of Educational Measurement
- Journal of Educational and Behavioral Statistics
- Journal of Experimental Child Psychology
- Journal of Teacher Education
- Multivariate Behavioral Research
- Physical Review
- Psychometrika
- Psychological Methods
- Review of Educational Research
- Routledge Publications
- SAGE Publications
- Theory & Psychology

School of Education

- University of Colorado, School of Education, Research and Evaluation Methodology Program Chair, 2008-2019
- Chair of Research and Evaluation Methodology Search Committee 2016
- Member of Dean Search Committee, 2014-16
- Chair of Research and Evaluation Methodology Search Committee 2014-15
- Chair of Research and Evaluation Methodology Search Committee 2013-14
- Chair of Research and Evaluation Methodology Search Committee 2011-12
- Chair of Research and Evaluation Methodology Search Committee 2008-09
- Graduate Student Recruitment Taskforce, 2006-2008
- Coordinator of Bi-Weekly Research & Evaluation Methodology Seminar, 2003-2014
- Research and Evaluation Methodology Search Committee, 2004-05.
- Science Education Search Committee, 2005-2006.
- Doctoral Curriculum Taskforce, 2003-2005.



University of Colorado
Boulder

School of Education
249 UCB
Boulder, Colorado 80309-0249

March 24, 2022

Marianne ~~Perie~~
Area Director, Assessment Research and Innovation
~~WestEd~~

RE: Technical Advisory Committee for RFP 22-70622 I AM Alt Assessment Research

By signing my name below, I am certifying that I will commit to serve on the Technical Advisory Committee for the Indiana I AM Alt Assessment Research effort for ~~WestEd~~ upon award of the contract. I understand that this commitment involves attending at least two meetings with other technical experts over the course of a year but will not exceed 80 hours in the year. I believe I bring expertise related to issues of scale development, growth modeling and a host of other topics germane to educational measurement to the panel and look forward to working with the Indiana Department of Education.

Sincerely,



Derek Briggs, PhD
Professor
Research and Evaluation Methodology
School of Education
University of Colorado at Boulder

Cara Cahalan Laitusis

609-540-8828 | claitusis@ets.org | [LinkedIn](#) | [Google Scholar](#)

Education

Fordham University

Ph.D., School Psychology (2003)

P.D., Urban School Psychology

M.S., Educational Psychology

Trinity College (Hartford)

B.S., Psychology/African Studies (1993)

Dean's List and Psi Chi Honor Society

University of Cape Coast (Ghana)

Doctoral Internship

University of Nairobi (Kenya)

Semester Abroad

Certifications and Awards

- Nationally Certified School Psychologist (NCSP)
- State of New Jersey, Certified School Psychologist
- State of New Jersey Board of Psychological Examiners, Psychologist Permit
- Mini MBA Rutgers University
- National Council on Measurement Education (NCME), Promising Measurement Scholar Award (2008)
- ETS, Presidential Award (2005 & 2011) and Senior Scientist Award (2015)

Employment History

ETS, Division of Research and Measurement Sciences (1997-Present)

Principal Research Scientist (2021-Present)

Currently the most senior scientist in the *Center for Research on Validity, Fairness, and Equity in Learning and Assessment*. My work is focused on mentorship of scientists on grant writing and dissemination of research while I work to advance research to increase teacher diversity and ensure fair and equitable design, scoring, and use of assessments.

Senior Research Director (2015-2021)

Collaborative leader of the *Center for Research on K12 Teaching, Learning, and Assessment*, a team of 50 researchers who conduct a program of research on Big Educational Challenges. My personal research expertise centers on fairness and equity in educational and psychological measurement and the integration of assistive technologies into digital education platforms. My most recent research is aimed at the accessibility of simulated classroom technology for measuring teaching practices, the fairness of AI scoring for individuals who use assistive technology, and a feasibility study for implementing Universal Design and WCAG requirements for international K12 assessments.

Other roles at ETS (1997-2015)

Held roles of increasing responsibility and seniority: predoctoral fellow (1997), Senior Research Assistant (1997-2000), Research Associate (2000-2002), Senior Research Associate (2002-2003), Associate Research Scientists (2003-2005), Research Scientist (2005-2009), Senior Research Scientist (2005-2009), and Research Director (2011-2015)

Other Experience

- | | |
|-------------|--|
| 1999 – 2001 | <p>American Institute of Research (AIR), Washington, DC</p> <p>Statistical and Research Consultant: for a USAID funded project with the Malawi Institute of Research (MIE) and Save the Children to improve primary school education in southern Malawi.</p> |
| 1994 -1997 | <p>Institute for International Research, Arlington, Virginia</p> <p>Statistical and Research Consultant: for a USAID funded project with the Center for Research on Improving Quality Education in Ghana (CRIQPEG) which uses curriculum based assessment (CBA) measures to assess the effectiveness of ESL interventions in Ghanaian primary schools.</p> |
| 1997 - 1998 | <p>Prep for Prep, New York, New York</p> <p>Evaluation specialist for a non-profit program designed to provide gifted minority students (from economically disadvantaged families) support and academic preparation to attend elite private high schools.</p> |
| 1996 - 1997 | <p>Stamford Board of Education, Stamford, Connecticut</p> <p>School Psychologist in a multi-cultural urban elementary school, middle school, and pre-school evaluation center.</p> |

- 1996 Child Development Centre, Cape Coast, GHANA
- Doctoral Intern in an after-school learning center for children who are learning disabled, mentally retarded, physically disabled, visually impaired, and/or hearing impaired.
- 1993 - 1994 Public School 101, New York, New York
- Educational Services Liaison at the Fordham University/Readers Digest Stay in School Program for chronically truant elementary school students. Responsibilities included small group instruction, teacher consultation, parental support, and achievement testing.
- 1992 - 1993 The Institute of Living, Grace Webb School, Hartford, Connecticut
- Student Teacher for middle school children with cognitive and emotional disabilities.

Grants (Principal Investigator)

Project: Development of Computer Based Testing Accommodation for Students with Visual Disabilities

Source: U.S. Department of Education the Institute for Education Sciences (IES) National Center for Special Education Research (NCSER).

Role: Principal Investigator and Project Director

Budget: \$1,171,289

Duration: 2011-2015

Project: Feedback and Revision on Grade 8 Modified Assessment of Mathematics

Source: U.S. Department of Education the Institute for Education Sciences (IES) National Center for Special Education Research (NCSER).

Role: Principal Investigator and Project Co-Director

Budget: \$1,284,990

Duration: 2010-2014

Project: Technology Assisted Reading Assessment (TARA) Project

Source: U.S. Department of Education the Institute for Education Sciences (IES) National Center for Special Education Research (NCSER).

Role: Principal Investigator and Project Co-Director

Budget: \$1,992,629

Duration: 2006-2011

Project: Designing Accessible Reading Assessments (DARA) Project

Source: U.S. Department of Education Office of Special Education Programs (OSEP), transferred to the Institute for Education Sciences (IES) National Center for Special Education Research (NCSER).

Role: Principal Investigator and Project Director

Budget: \$4,603,225 (\$4,436,321 initial award plus supplements of \$71,904 and \$95,000)

Duration: 2004-2010

Additional Grants (Research Director, Key Staff, and Consultant)

Project: Validating the Use of Growth Measures from Statewide Standards-based Summative Assessments for Students with Disabilities

Source: U.S. Department of Education the Institute for Education Sciences (IES) National Center for Special Education Research (NCSER).

Duration: 2012-2014

Project: Expanding Audio Access to Mathematics Expressions by Students with Visual Impairments via MathML

Source: U.S. Department of Education the Institute for Education Sciences (IES) National Center for Special Education Research (NCSE).

Duration: 2011-2014

Project: Mathematics eText Research Center

Source: U.S. Department of Education the Office of Special Education Programs (OSEP)

Duration: 2009-2012

Project: Georgia State Enhanced Assessment Grant

Source: U.S. Department of Education the Office of Special Education Programs (OSEP)

Duration: 2008

Advisory Boards and Committees

Technical Advisor: Kansas State Department of Education Technical Advisory Committee (TAC) on assessment (2022-present)

Technical Advisor: Innovations in Science Map, Assessment, & Report Technologies (I-SMART) Enhanced Assessment Instruments Grant issued by the U.S. Department of Education Office of Elementary and Secondary Education (OESE) (2017-2022)

Representative: Division 5 Representative on American Psychological Association (APA) [Coalition for Psychology in the Schools and Education](#) (2016-Present)

Technical Advisor: Enhancing Accessibility for Students with Disabilities in Large-Scale Reading Assessments (grant R324A120110) issued by U.S. Department of Education the Institute for Education Sciences (IES) National Center for Special Education Research (NCSE) (2012-2014)

Technical Advisor: Guidelines for Accessibility of Assessments Project (GAAP) multistate project led by Maryland with 17 other states (Utah, Vermont, New Hampshire, Arizona, Connecticut, Rhode Island, Minnesota, Maine, Michigan, Montana, Idaho, Kansas, North Carolina, Washington,

Colorado, South Carolina and Oregon). Issued as an Enhanced Assessment Grant (EAG) issued by the U.S. Department of Education (2012-14)

- Program Chair: 2011 conference program co-chair (with Sandip Sinharay) for the National Council on Measurement in Education (NCME)
- Technical Advisor: Student Accessibility Assessment System (SAAS), multistate project Enhanced Assessment Grant (EAG) issued by the U.S. Department of Education and involving 11 states (VT, ME, RI, CT, MT, UT, SC, MD, FL, and MN) (2011-2013)
- Technical Advisor: Montana and the New England Compact Enhanced General Supervision Enhancement Grants (GSEG) issued by the Office of Special Education Programs (USDOE/OSEP) (2008-2010)
- Technical Advisor: Oklahoma Enhanced General Supervision Enhancement Grants (GSEG) issued by the Office of Special Education Programs (USDOE/OSEP) (2008-2010)
- Technical Advisor: Georgia Enhanced General Supervision Enhancement Grants (GSEG) issued by the Office of Special Education Programs (USDOE/OSEP) (2008-2010)
- Committee Chair: National Council on Measurement in Education (NCME) Diversity Committee (April 2007-08)
- Committee Member: National Council on Measurement in Education (NCME) Diversity Committee (2005-2007)
- Technical Advisor: National Research Consortium on Testing and Persons with Disabilities in Higher Education (June 2004-2007)

PUBLICATIONS

Edited Book

Laitusis, C. C., & Cook, L. L. (Eds.) (2007). *Large Scale Assessment and Accommodations: What Works?* Washington, DC: Council for Exceptional Children.

Journals

- Laitusis, C.C., Hansen, E., Fowler, M., & Loew, R. (Under Review). Accessibility of a Simulation-Based Assessment for Teacher Candidates who are Blind or Deaf.
- Supalo, C. A., Guzman-Orth, D., King, T., Laitusis, C., & Steinberg, J. (in press). Towards inclusive science education: Accessible practices and perceptions within an NGSS context for students who are blind or have low vision. *Journal of Blindness Innovation and Research*.
- Lee, D., Buzick, H., Sireci, S.G. Lee, M. & Laitusis, C. (2021). Embedded Accommodation and Accessibility Support Usage on a Computer-Based Statewide Achievement Test. *Practical Assessment, Research, and Evaluation*, v26 (25). DOI: <https://doi.org/10.7275/21926674>
- Hansen, E. G., Loew, R., Laitusis, C.C., Kushalnager, P., Pagliaro, C.M., & Kurz, C. (2018). The Usability of American Sign Language Videos for Presenting Mathematics Assessment Content. *Journal of Deaf Studies and Deaf Education*, eny008. <https://doi.org/10.1093/deafed/eny008>
- Attali, Y., Laitusis, C.C., & Stone, E. (2015). Differences in Reaction to Immediate Feedback and Opportunity to Revise Answers on Multiple-choice and Open-Ended Questions, *Educational and Psychological Measurement*, 76 (5).
- Hansen, E. G., Laitusis, C. C., Frankel, L., & King, T. (2012). Designing accessible technology-enabled reading assessments: Recommendations from teachers of students with visual impairments. *Journal of Blindness Innovation Research*, 2(2). Retrieved from <http://www.nfb-jbir.org/index.php/JBIR>
- Buzick, H. M., & Laitusis, C. C. (2010). Using growth for accountability: Measurement challenges for students with disabilities and recommendations for research, *Educational Researcher*, 39(7), 537–544.
- Laitusis, C. C. (2010). Examining the impact of audio presentation on tests of reading comprehension. *Applied Measurement in Education*, 23(2), 153–167.
- Stone, E., Cook, L., Laitusis, C. C., & Cline, F. (2010). Using Differential Item Functioning to investigate the impact of testing accommodations on an English language arts assessment for students who are blind or visually impaired. *Applied Measurement in Education*, 23(2), 132–152.
- Laitusis, C. C., Maneckshana, B., Monfils, L., & Ahlgrim-Delzell, L. (2009). Differential Item Functioning comparisons on a performance-based alternate assessment for students with severe cognitive impairments, autism and orthopedic impairments. *Journal of Applied Testing Technology*.
- Laitusis, C. C. (2008). State reading assessments and inclusion of students with dyslexia. *Perspectives on Language and Literacy*.
- Laitusis, C. C., & Thurlow, M. (2008). Measuring literacy skills for students with visual impairments. *Innovations Quarterly*, 4(4).
- Thurlow, M., Tindal, G., Powers, R., Lewis, P., Laitusis, C. C., & Breslin-Larson, J. (2007). Research on AT outcomes and large scale assessments assistive technology outcomes and benefits. *Assistive Technology Outcomes and Benefits* 4(1), 11–27.
- Cahalan-Laitusis, C., Mandinach, E. B., & Camara, W. (2003). Flagging and the admissions process: Policies, practices, and implications. *Journal of College Admission*, 181, 18–25.

Gallagher, A., Bennett, R. E., Cahalan, C., & Rock, D. A. (2002). Detecting construct-irrelevant variance in an open-ended, computerized mathematics task. *Educational Assessment*, 8(1), 27–41.

Gallagher, A., Bridgeman, B., & Cahalan, C. (2002). The effect of computer-based tests on racial/ethnic and gender groups. *Journal of Educational Measurement*, 39, 133–147.

Gallagher, A. M., DeLisi, R., Holst, P. C., McGillicuddy-DeLisi, A. V., Morely, M., & Cahalan, C. (2000). Gender differences in advanced mathematical problem solving. *Journal of Experimental Child Psychology*, 75, 165–190.

Cahalan, C. J., Wilmot, E., & Asamoah, A. (1997, Winter). Guiding program decisions with the aid of documentation in Ghana. *The Quality Link*, 6, 15–16. USAID document no. PN-ACK-310.

Peer Reviewed Book Chapters, Technical Reports, Guidelines, and Other Publications:

Laitusis, C.C. (2022) Fairness and Accessibility: Challenges and Solutions in Scoring Performance Assessments. In J. Jonson & K. Geisinger (Eds.) *Fairness in educational and psychological testing: Examining theoretical, research, practice, and policy implications of 2014 Standards*

Buzick, H.M., Rhoad-Drogalis, A., Laitusis, C.C., & King, T.C. (2019). Teachers' Views of Their Practices Related to Common Core Standards-Aligned Assessments. (ETS Research Report RR–19–40). Princeton, NJ: Educational Testing Service. <https://doi.org/10.1002/ets2.12277>

Laitusis, C.C., King, T., Cavalie, C., James, K., & Finnegan, A. (2018). *Special Education Needs Feasibility Study*. OECD commissioned study for the Programme for International Student Assessment (PISA). See full report [here](#).

Stone, E., Laitusis, C., Walker, M., & Bridgeman, B. (2018) Testing Accommodations for English Learners. College Board commissioned study for the SAT.

Guzman-Orth, D., Laitusis, C., Thurlow, M., & Christensen, L. (2016). *Conceptualizing Accessibility for English Learners and English Learners with Disabilities taking English Language Proficiency Assessments: What Do We Know, and Where Do We Go from Here?* (ETS English Learners Series16-17). Princeton, NJ: Educational Testing Service. <https://doi.org/10.1002/ets2.12093>

Stone, E., Laitusis, C., & Cavalie, C. (2016). Exploring Validity and Fairness of the Text-to-Speech Accommodation for College and Career Readiness Assessments. Washington, DC: PARCC, Inc. (for online publication see PARCC, Inc or click [here](#)).

Laitusis, C.C. (2016). Coming Together to Raise Achievement for Students with Disabilities and English Learners. In *The Road Ahead for State Assessments*. Princeton, NJ: Educational Testing Service.

Stone, E., Laitusis, C. C., & Cook, L.L. (2015). Increasing the Accessibility of Assessments through Technology. In F. Drasgow (Ed.) *Technology and Testing: Improving Educational and Psychological Measurement*. New York, NY: Routledge.

- Laitusis, C. C., Stone, E., Steinberg, J., & Cook, L. L. (2014). *Designing Accessible Reading Assessments Field Test Analyses Final Report*. (ETS Research Report RM-14-07). Princeton, NJ: Educational Testing Service.
- Laitusis, C., Guzman-Orth, D., King, T., Courtney, R., & Cline, F. (2013). *PARCC Item Development Research: Cognitive Labs*. Confidential technical report prepared for the Partnership for Assessment of Readiness for College and Careers (PARCC).
- Johnstone, C., Figueroa, C., Yigal, A., Stone, E., & Laitusis, C. (2013). *Results of a cognitive interview study of immediate feedback and revision opportunities for students with disabilities in large scale assessments* (Synthesis Report 92). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.
- Stone, E., Cook, L. L., & Laitusis, C. C. (2013). *Evaluation of a Condition-Adaptive Test of Reading Comprehension for Students with Reading-Based Learning Disabilities*. (ETS Research Report RR-13-20). Princeton, NJ: Educational Testing Service.
- Laitusis, C., Buzick, H., Stone, E., Hansen, E. & Hakkinen, M. (2012). *Literature Review of Testing Accommodations and Accessibility Tools*. Commissioned Report for the Smarter Balanced Assessment Consortium. See <https://portal.smarterbalanced.org/library/en/literature-review-of-testing-accommodations-and-accessibility-tools-for-students-with-disabilities.pdf>
- Cayton-Hodges, G., Marquez, L., van Rijn, P., Keehner, M., Laitusis, C., Zapata-Rivera, D., Bauer, M., & Hakkinen, M. T. (2012). Technology Enhanced Assessments in Mathematics and Beyond: Strengths, Challenges, and Future Directions. <http://www.k12center.org/rsc/pdf/session1-cayton-hodges-keehner-laitusis-marquez-paper-tea2012.pdf>
- Laitusis, C. C., Buzick, H. M., Cook, L. L., & Stone, E. (2011) Adaptive Testing Options for Accountability Assessments. In M. Russell and Kavanaugh, (Eds.) *Assessing Students in the Margins: Challenges, Strategies, and Techniques*. See <http://www.infoagepub.com/products/Assessing-Students-in-the-Margins>
- Stone, E., King, T., & Laitusis, C. C. (2011). *Examining the Comparability of Paper-Based and Computer-Based Administrations of Novel Item Types: Verbal Text Completion and Quantitative Numeric Entry Items*. (ETS Research Report RR-11-03). Princeton, NJ: Educational Testing Service.
- Buzick, H. M., & Laitusis, C. C. (2011). *An Overview of Applications That Use Student Academic Growth for K-12 Accountability and Implications for Students with Disabilities*. ETS Research Spotlight, n4. Princeton, NJ: Educational Testing Service.
- Buzick, H. M., & Laitusis, C. C. (2010). *A Summary of Models and Standards-Based Applications for Grade-to-Grade Growth on Statewide Assessments and Implications for Students With Disabilities*. (ETS Research Report RR-10-14). Princeton, NJ: Educational Testing Service.
- Johnstone, C., Altman, J., Timmons, J., Thurlow, M., & Laitusis, C. (2009). *Field-based perspectives on technology assisted reading assessments: Results of an interview study with teachers of students with visual impairments (TVIs)*. Minneapolis, MN: University of Minnesota, Technology Assisted Reading Assessment. <http://www.naraptara.info/reports/TARAteacherInterviewStudy.pdf>
- Thurlow, M. L., Laitusis, C. C., Dillon, D. R., Cook, L. L., Moen, R. E., Abedi, J., & O'Brien, D. G. (2009). *Accessibility principles for reading assessments*. Minneapolis, MN: National

Accessible Reading Assessment.

<http://www.narap.info/publications/reports/NARAPprinciples.pdf>

- Laitusis, C. C., & Cook, L. L. (2008). Reading aloud a test of reading comprehension. *ETS Research Spotlight*. Princeton, NJ: Educational Testing Service.
- Laitusis, C. C., Cook, L., Cline, F., King, T., & Sabatini, J. (2008). *Examining the Impact of Audio Presentation on Tests of Reading Comprehension*. (ETS Research Report RR-08-23). Princeton, NJ: Educational Testing Service.
- Bridgeman, B., Laitusis, C. C., & Cline, F. (2007) *Time Requirements for the Different Item Types Proposed for Use in the Revised SAT*. (College Board Report No. 2007-35). New York: College Entrance Examination Board.
- Laitusis, C. C. (2007). Validity and Accommodations: A Variety of Approaches to Accessible Assessments. In C. Cahalan Laitusis & L. L. Cook (Eds.), *Large Scale Assessment and Accommodations: What Works*. Washington, DC: Council for Exceptional Children.
- Middleton, K., & Laitusis, C. C. (2007). *Examining Test Items for Differential Distractor Functioning Among Students with Learning Disabilities*. (ETS Research Report RR-07-43). Princeton, NJ: Educational Testing Service.
- Laitusis, C. C., Morgan, D., Bridgeman, B., Zanna, J., & Stone, E. (2007) *Examination of Fatigue Effects from Extended Time Accommodations on the SAT I: Reasoning Test*. (College Board Report No. 2007-31). New York: College Entrance Examination Board.
- Cahalan-Laitusis, C., King, T., Cline, F., & Bridgeman, B. (2006). *Observational Timing Study on the SAT Reasoning Test for Test Takers with Learning Disabilities and/or AD/HD*. (College Board Report No. 2006-4). New York: College Entrance Examination Board.
- Cahalan-Laitusis, C. (2006) *Accommodation Decisions Based on an Accommodations Assessment*. (ETS Research Mem. No. 2006-05). Princeton, NJ: Educational Testing Service.
- Loew, R., Cahalan-Laitusis, C., Cook, L., & Harris, R. (2005). Appropriate Accommodations and Access Considerations in Test Creation: Perspectives from a Testing Organization. In J. Mounty & D. Martin (Eds.) *Assessing Deaf and Hard of Hearing Adults: Issues and Practices*. Washington, DC: Gallaudet.
- Mandinach, E. B., Bridgeman, B., Cahalan, C., & Trapani, C. (2005). *The impact of extended time on SAT I Reasoning test performance*. (College Board Report 2005-8). New York, NY: College Entrance Examination Board.
- Cahalan-Laitusis, C. (2004). *Accommodations on High Stakes Writing Tests for Students with Disabilities*. (ETS Research Rep. No. RR-04-13). Princeton, NJ: Educational Testing Service.

Cahalan, C., Mandinach, E., & Camara, W. (2002). *Predictive validity of SAT I: Reasoning Test for test takers with learning disabilities and extended time accommodations*. (College Board Report). New York, NY: College Entrance Examination Board.

Mandinach, E., Cahalan, C., & Camara, W. (2001). *The impact of flagging on the admissions process: Policies, practices, and implications*. (College Board Report). New York, NY: College Entrance Examination Board.

Gallagher, A., Bridgeman, B., & Cahalan, C. (2000). *The effect of computer-based tests on racial/ethnic, gender, and language groups*. (Graduate Record Examination Board Rep. No. 96–21P). Princeton, NJ: Educational Testing Service.

Gallagher, A., Levin, J., & Cahalan, C. (1999). *Cognitive patterns of gender differences on mathematics admissions tests*. (Graduate Record Examination Board Rep. No. 96–17). Princeton, NJ: Educational Testing Service.

Morley, M., Gallagher, A., & Cahalan, C. (1999). *An examination of problem solving strategies used on GRE mathematical reasoning items*. (Graduate Record Examination Board Rep. No. 97–13). Princeton, NJ: Educational Testing Service.

Gallagher, A., & Cahalan, C. (1998). *Detecting construct-irrelevant variance in an open-ended computerized mathematics task*. (Graduate Record Examination Board Rep. No. 95–13). Princeton, NJ: Educational Testing Service.

Gallagher, A., Tannenbaum, R. J., Cahalan, C., & Morley, M. (1998). *Development of a new criterion measure of success in graduate programs of study*. (Graduate Record Examination Board Rep. No. 96–04). Princeton, NJ: Educational Testing Service.

Dissertation and Thesis Papers

Cahalan, C. (2003). *Oral reading fluency and optimal difficulty level in a literature-based reading curriculum*. Doctoral dissertation, Fordham University, New York, NY.

Cahalan, C. J. (1996). *Curriculum Based Assessment: The legal and prescriptive rationale*. Masters Thesis, Fordham University, New York, NY.

Cahalan, C. J. (1993). *Effects of Low Ability Group Status on Personal Self-esteem and Peer Relationships*. Internship paper, Trinity College, Hartford, CT.

Cahalan, C. J. (1992). *Differences Between Public and Islamic Education on the East African Island of Lamu*. Minor Thesis, University of Nairobi, Nairobi, KENYA.

Presentations

- Laitusis, C.C. (2020, February). *Universal Design and Digital Accessibility*. Invited 2-day workshop for test developers and psychometricians at the Australian Council for Educational Research (ACER), Melbourne, Australia.
- Laitusis, C.C. (June, 2020). *Top 20 Principles for Teaching and Learning: What Teachers of Special Education Students Need to Know*. Invited presentation to the Council for Chief State School Officers (CCSSO) State Collaborative on Assessing Special Education Students. (Virtual)
- Laitusis, C.C., Fowler, M. & Mulholland, M. (2019, June). *Crisis and Alert Papers: Current State of Detection and Future Possibilities*. Paper Presented at the Council for Chief State School Officers (CCSSO) National Conference on Student Assessment. San Diego, CA.
- Laitusis, C.C. Buzick, H., Hazelwood, A., & Kao, A. (2019, June). *Exploring the Consequences of Online Test Practice and Learning Opportunities: Can it Help Diversify the Teacher Pipeline?* Panel presentation at National Association of State Directors of Teacher Education and Certification (NASDTEC) Annual Conference, Denver, CO.
- Laitusis, C.C. (2018). *Special Education Needs Feasibility Study*. Invited Presentation to the Programme for International Student Assessment (PISA) Governing Board (PGB) in Prague, Czech Republic.
- Laitusis, C., Timberlake, A., Isler, J., & Woolard, J. C. (June, 2018). Data, Data, Data: Multi-State Panel Shares Research Interests and Best Practices for Maximizing Data Usage, Lessons Learned, and Future Plans. Coordinated Symposium at the Council for Chief State School Officers (CCSSO) National Conference on Student Assessment. San Diego, CA.
- Buzick, H. M., Rhoad-Drogalis, A., Laitusis, C., & King, T. (2018). Teachers' Practices Related to Common Core State Standards-Aligned Assessments. Paper presented at the annual meeting of the National Council on Measurement in Education. New York, NY.
- Guzman-Orth, D. King, T., Laitusis, C. C., & Supalo, C. (2018, April). Emergent Themes from the Development of NGSS-Aligned Summative Science Assessments: Accessibility Challenges and Opportunities. Paper Presented at the Annual Meeting of the National Council for Measurement in Education. New York, NY.
- Laitusis, C. C. (2018, April). Accessibility Challenges, Solutions, and Surprises in Simulated Performance Assessments. Poster presentation at an American Psychological Association interdisciplinary conference 'Technology, Mind, and Society'. Washington, DC.
- Laitusis, C.C., Hansen, E., & Fowler, M. (2018, April). Accessibility Challenges, Solutions, and Surprises in Simulated Performance Assessments. Paper Presented at the Annual Meeting of the National Council for Measurement in Education. New York, NY.
- Laitusis, C (2017, June). *Text Readers for Everyone on All Tests: Getting a Handle on What This Means*. Invited Presenter (Researcher Perspective) at Pre-Conference Workshop for the Council for Chief State School Officers (CCSSO) National Conference on Student Assessment. Austin, TX
- Laitusis, C (2017, June). *Is the Assessment Cart In Front of the Instructional Horse? Comparing Test Performance for Braille Readers*. Paper presented at the Council for Chief State School Officers (CCSSO) National Conference on Student Assessment. Austin, TX.
- Laitusis, C. (2017, June). Refreshable Braille Testing Accommodations: Performance Differences and Preferences. Paper presented at the annual meeting of the American Educational Research Association (AERA). San Antonio, TX.
- Laitusis, C. (2017, April). *New Advancements in Innovative Technology and Computerized Testing*. Invited Panelist on Sponsored Symposium (by Diversity Issues in Testing Committee) at the annual conference of the National Council on Measurement in Education.

- King, T., & Laitusis, C. (May, 2017). *Examination of Illustrations Glossaries for Deaf and Hard-of-Hearing Students*. Paper presented at the annual meeting of the American Educational Research Association (AERA). San Antonio, TX.
- Laitusis, C. (March, 2017). *Use of Technology in Increasing Accessibility of Assessment*. NAEP Assessment Literacy Workshop. Rockville, MD.
- Laitusis, C. C. (2016, November). *"Comparing test performance for braille readers"*. Paper presented by Danielle Guzman-Orth at 2016 Annual Conference of California Educational Research Association, Sacramento, CA.
- Laitusis, C. & Nabors Olah, L. (2016, June). *Reconsidering Grade Based Assessments: Why adaptive is not sufficient and how learning progressions could support new system designs*. Presented at Council for Chief State School Officers (CCSSO) National Conference on Student Assessment, Philadelphia, PA.
- Laitusis, C. (2016, June). *Delivery of Test Accessibility Tools and Accommodations Across 3 Platforms: Implementation, Success, and Lessons Learned*. Discussant at Council for Chief State School Officers (CCSSO) National Conference on Student Assessment, Philadelphia, PA.
- Laitusis, C. (2015, June). *Implementing Accessibility and Accommodations in New Assessment Systems*. Discussant at Council for Chief State School Officers (CCSSO) National Conference on Student Assessment, San Diego, CA.
- Laitusis, C. C., & Hakkinen, M. (2014, October). *Future Technology Solutions to Creating Alternate Format Test Content 'On the fly': Implications for Adaptive Testing Designs*. Presentation at the International Association of Computer Adaptive Testing, Princeton, NJ.
- Laitusis, C. (2014, June). *Discussion of Next Generation Accessibility and Accommodations for Next Generation Students*. Presentation at the Council for Chief State School Officers National Conference on Student Assessment, New Orleans, LA.
- Stone, E., Laitusis, C., Attali, Y., & Cavalie, C. (2014, April). *Effects of Feedback and Revision for Students with Learning Disabilities*. Paper presented at National Council on Measurement in Education Conference, Philadelphia, PA.
- Attali, Y., Laitusis, C., & Stone, E. (2013, April). *Differences in Reaction to Immediate Feedback and Opportunity to Revise Answers for Multiple-Choice and Open-Ended Questions*. Paper presented at National Council on Measurement in Education Conference, San Diego, CA.
- Zechner, K., Evanini, K., & Laitusis, C. (2012, September). *Using Automatic Speech Recognition to Assess the Reading Proficiency of a Diverse Sample of Middle School Students*. Paper presented at the Workshop on Child, Computer and Interaction (WOCCI), Portland, OR.
- Laitusis, C., King, T., Ayad, E., & Hakkinen, M. (2012, June). *Accessible Reading Assessment and HTML*. Paper presented at the Council for Chief State School Officers (CCSSO) National Conference on Student Assessment (NCSA). Minneapolis, MN.

- Laitusis, C. C., & Thurlow, M., (2011, April). *Putting Accessibility to the Test: The National Accessible Reading Assessment Projects*. Presentation at the annual meeting of the Council for Exceptional Children, National Harbor, MD.
- Buzick, H. M., & Laitusis, C. C. (2011, April). *Using Student Growth Models as a Metric for Assessing Special Education Teacher Quality*. Presentation at the annual meeting of the Council for Exceptional Children, National Harbor, MD.
- Laitusis, C. C. (2011, April). *Designing Accessible Reading Assessments*. Paper presented at National Conference of American Educational Research Association, New Orleans, LA.
- Laitusis, C. C. (2011, April). *Accessibility and Computer-Based Testing*. Invited Lecture at the Buros Center for Testing, University of Nebraska-Lincoln, Lincoln, NE.
- Laitusis, C. C. (2010, June). *A Multistage Adaptive and Accessible Reading Assessment for Accountability*. Invited presentation at the Institute of Education Sciences Research Conference, National Harbor, MD.
- Laitusis, C. C., Cook, L., Stone, E., & King, T. (2010, June). *DARA Project: Field Test of a Multistage Accountability Assessment of Reading*. Poster presentation at the Institute of Education Sciences Research Conference, National Harbor, MD.
- Laitusis, C. C., & Thurlow, M. (2010, June). *Putting Accessibility to the Test: Technology Assisted Reading Assessment*. Paper presented at the Council Chief State School Officers National Conference on Student Assessment, Detroit, MI.
- Laitusis, C. C., (2010, June). *Putting Accessibility to the Test: Design of a Multistage Reading Assessment for Accountability*. Paper presented at the Council Chief State School Officers National Conference on Student Assessment, Detroit, MI.
- Laitusis, C. C., & Hall, T., (2010, April). *Learn How to Assess B/LV Students Use of Technology to Access Text*. Presentation at the annual meeting of the Council for Exceptional Children, Nashville, TN.
- Laitusis, C. C., & Hall, T. (2010, January). *Development of an Accountability Test to Measure a Student's Ability to Access Text with AT*. Paper presented at the Assistive Technology Industry Association, Orlando, FL.
- Laitusis, C. C. (2009, June). *Developing and Validating Accessible Reading Assessment for Students with Disabilities* (pre-conference workshop with Martha Thurlow, Deborah Dillon, and Linda Cook) presented at the Council of Chief State School Officers, National Conference on Student Assessment, Los Angeles, CA.

- Laitusis, C. C., Thurlow, M., & Dillon, D. (2009, June). *National Accessible Reading Assessment Projects: Goal 4 Field Test Plans* poster presentation at the annual IES Research Conference, Washington, DC.
- Laitusis C. C. (2009, April). *Technology Assisted Reading: Development of a Prototype Accountability Assessment*. Paper presented at the Council for Exceptional Children Conference, Seattle, WA.
- Laitusis C. C. (2009, April). *Designing Accessible Reading Assessments for Students With Disabilities: A Professional Training Session*. Professional Development Course at the American Educational Research Association Conference, San Diego, CA.
- Laitusis C. C. (2009, April). *Investigating Accommodation Validity: Current Approaches*. Paper presented at National Council on Measurement in Education conference, San Diego, CA.
- King, T., & Laitusis, C. C. (2009, April). *Methodology, Protocol, and Issues to Consider in Cognitive Interviews with Students with Disabilities*. Paper presented at National Council on Measurement in Education conference, San Diego, CA.
- Laitusis, C. C. (2008, June). *Agreeing on the “Principles” of Accessible Reading Assessments—Can We Do It Together?* Presented at the Council of Chief State School Officers (CCSSO) National Conference on Student Assessment, Orlando, FL.
- Laitusis, C. C. (2008, June). *Designing Accessible Reading Assessment for Students with Disabilities* (pre-conference workshop) presented at the Council of Chief State School Officers (CCSSO) National Conference on Student Assessment, Orlando, FL.
- Laitusis, C. (2008, April). *Research Findings and Implications for Reading Assessment and Instruction*. Presented at the Council for Exceptional Children conference, Boston, MA.
- Laitusis, C., & Cook, L. L. (2008, March). *Accommodation or Modification: An Investigation of Read Aloud Test Changes for Reading Assessments*. Paper presented at National Council on Measurement in Education (NCME) conference, New York, NY.
- Laitusis, C. C. (2007, June). *Proposed Design for Multi-stage Assessment of Reading*. Paper presented at the Council of Chief State School Officers (CCSSO) National Conference on Large Scale Assessment, Nashville, TN.
- Laitusis, C. (2007, April). *Designing Accessible Reading Assessments*. Paper presented at the Council for Exceptional Children conference, Louisville, KY.
- Laitusis, C. (2007, April). *Observational Timing Study on the SAT Reasoning Test for Test Takers with Learning Disabilities and/or ADHD*. Paper presented at the American Educational Research Association conference, Chicago, IL.

- Cahalan-Laitusis, C. (2006, February). *Examining Differential Boost from Read Aloud on a Test of Reading Comprehension at Grades 4 and 8* at the Learning Disabilities of American conference in Jacksonville, FL.
- Cahalan-Laitusis, C. (2006, March) *Operational Data or Experimental Design? A Variety of Approaches to Examining the Validity of Test Accommodations* at the Accommodating Students with Disabilities on State Assessments: What Works? Savannah, GA.
- Cahalan-Laitusis, C. (2006, February). *Overview of Designing Accessible Reading Assessments (DARA)*. Paper presented at National Conference of Association of Test Publishers, Orlando, FL.
- Cahalan-Laitusis, C. (2006, February). *Creating Accessible Reading Assessments*. Paper presented at National Conference of Learning Disabilities of America, Jacksonville, FL.
- Cahalan-Laitusis, C. (2006, April). *An Examination of Differential Boost from Read Aloud Accommodations on Tests of Reading Comprehension*. Paper presented at National Conference of National Association of Educational Measurement, San Francisco, CA.
- Cahalan-Laitusis, C. (2006, April). *The Designing Accessible Reading Assessments Project: An Overview*. Paper presented at National Conference of American Educational Research Association, San Francisco, CA.
- Cahalan-Laitusis, C. (2006, June). *Read Aloud Accommodations for Large-Scale Reading Assessments: Issues and Related Research*. Paper presented at the Council of Chief State School Officers (CCSSO) National Conference on Large Scale Assessment, San Francisco, CA.
- Cahalan-Laitusis, C., Cook, L. L., & DeLauro, L. (2005, April). *A Comparison of State Policies for Including Students with Disabilities in State and NAEP Assessments Across Eight States*. Paper presented at American Educational Research Association conference, Montreal, Canada.
- Cook, L. L., Eignor, D., & Cahalan-Laitusis, C. (2004, June). *Reporting accommodated scores for English language learners for AYP purposes: A discussion of the psychometric issues*. Paper presented at the National Conference on Large Scale Assessment, Boston, MA.
- Cook, L. L., Eignor, D., & Cahalan-Laitusis, C. (2004, June). *Alternate assessments: Key issues and research implications*. Paper presented at the National Conference on Large Scale Assessment, Boston, MA.
- Cahalan-Laitusis, C., & Cook, L. (2004, April). *Detecting item bias for students with disabilities*. Paper presented at National Council on Measurement in Education conference, San Diego, CA.

- Cahalan-Laitusis, C. (2004, March). *Examining test items across populations of test takers with disabilities*. Paper presented at the Learning Disability Association conference, Atlanta, GA.
- Cahalan, C., & Harris, A. (2003, April). *Oral reading fluency and optimal difficulty level in a literature-based reading curriculum*. Paper presented at American Educational Research Association conference, Chicago, IL.
- Cahalan, C., Mandinach, E. B., & Camara, W. (2003, April). *Predictive validity of SAT I: Reasoning Test for test takers with learning disabilities and extended time accommodations*. Paper presented at National Council on Measurement in Education conference, Chicago, IL.
- Morgan, D., & Cahalan, C. (2003, April). *Accommodations policies for high stakes high school graduation exams*. Paper presented at National Council on Measurement in Education conference, Chicago, IL.
- Cahalan, C. (2001, January). *Validity of SAT I: Reasoning Test for test takers with accommodations for learning disabilities*. Paper presented at the Center for Higher Education Research Seminar, Educational Testing Service, Princeton, NJ.
- Cahalan, C. (2000, April). *Geographic clusters of learning disabled test takers in the United States*. Paper presented at American Educational Research Association conference, New Orleans, LA.
- Gallagher, A., Bridgeman, B., & Cahalan, C. (1999, April). *Fairness in computer-based testing*. Paper presented at National Council on Measurement in Education conference, Montréal, Canada.
- Gallagher, A., & Cahalan, C. (1999, April). *Cognitive patterns of gender differences on mathematics admissions tests*. Paper presented at American Educational Research Association conference, Montréal, Canada.
- Gallagher, A., & Cahalan, C. (1998, August). *Cognitive attributes of questions as predictors of gender differences in performance on quantitative reasoning tasks*. Paper presented at American Psychological Association conference, San Francisco, CA.
- Harris, A., & Cahalan, C. (1997, March). *Participation by girls in Ghanaian primary schools: Exploring schools with gender-equal enrollments in a system typified by unequal enrollments*. Paper presented at the Comparative International Education Society, International conference, Mexico City, Mexico. USAID document no. PN-ACK-639.
- Cahalan, C. J. (1997, March). *Pupil profiles: The classroom experience*. Paper presented at the Comparative International Education Society International conference, Mexico City, Mexico.

- Cahalan, C. J., & Okyere, B. (1996, March). *Gender equity in Ghanaian primary schools: differences between Catholic and Muslim schools*. Paper presented at the Comparative and International Education Society International conference, Williamsburg, VA.
- Hagin, R. A., & Cahalan, C. J. (1995, March). *Learning disability and asthma: Theoretical and practical considerations*. Paper presented at the Learning Disabilities Association International conference, Orlando, FL.
- Reuman, D., & Cahalan, C. J. (1994, February). *The effects of ability grouping and cooperative learning on inter-racial friendships at school*. Paper presented at the Society for Research on Adolescence, San Diego, CA.




April 2, 2022

Marianne Perie
Area Director, Assessment Research and Innovation
WestEd

RE: Technical Advisory Committee for RFP 22-70622 I AM Alt Assessment Research

By signing my name below, I am certifying that I will commit to serve on the Technical Advisory Committee for the Indiana I AM Alt Assessment Research effort for WestEd upon award of the contract. I understand that this commitment involves attending at least two meetings with other technical experts over the course of a year but will not exceed 80 hours in the year. I believe I bring expertise of research and best practice on accessibility across a wide variety of different testing programs (including alternate assessments) to the panel and look forward to working with the Indiana Department of Education.

Name: Cara Cahalan Laitusis
Signature: 
Title: Principal Research Scientist
Company: ETS
Date: March 29, 2022

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