

U.S. Department of Education

Washington, D.C. 20202-5335



**APPLICATION FOR GRANTS
UNDER THE**

EAG-Accessibility

CFDA # 84.368A

PR/Award # S368A120006

Grants.gov Tracking#: GRANT11159879

OMB No. , Expiration Date:

Closing Date: Jun 15, 2012

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This application was generated using the PDF functionality. The PDF functionality automatically numbers the pages in this application. Some pages/sections of this application may contain 2 sets of page numbers, one set created by the applicant and the other set created by e-Application's PDF functionality. Page numbers created by the e-Application PDF functionality will be preceded by the letter e (for example, e1, e2, e3, etc.).

Application for Federal Assistance SF-424

* 1. Type of Submission:

- Preapplication
 Application
 Changed/Corrected Application

* 2. Type of Application:

- New
 Continuation
 Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received:

06/14/2012

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:

Maryland State Department of Education

* b. Employer/Taxpayer Identification Number (EIN/TIN):

52-6002033

* c. Organizational DUNS:

1830714710000

d. Address:

* Street1:

200 W. Baltimore Street

Street2:

* City:

Baltimore

County/Parish:

* State:

MD: Maryland

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

21201-2595

e. Organizational Unit:

Department Name:

Maryland State Dept. of Ed

Division Name:

Accountability & Assessment

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

Ms.

* First Name:

Trinell

Middle Name:

B

* Last Name:

Brown

Suffix:

Title:

Education Program Specialist

Organizational Affiliation:

* Telephone Number:

410-767-2498

Fax Number:

410-333-2017

* Email:

tbrown@msde.state.md.us

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.368

CFDA Title:

Grants for Enhanced Assessment Instruments

*** 12. Funding Opportunity Number:**

ED-GRANTS-043012-002

* Title:

Office of Elementary and Secondary Education (OESE): Enhanced Assessment Instruments Grants Program: Enhanced Assessment Instruments (Accessibility Competition) CFDA Number 84.368A-2

13. Competition Identification Number:

84-368A2012-2

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

*** 15. Descriptive Title of Applicant's Project:**

Guidelines for Accessibility and Assessment Project (GAAP)

Attach supporting documents as specified in agency instructions.

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant

b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

| | |
|---------------------|---|
| * a. Federal | <input type="text" value="1,978,425.00"/> |
| * b. Applicant | <input type="text" value="0.00"/> |
| * c. State | <input type="text" value="(b)(4)"/> |
| * d. Local | |
| * e. Other | |
| * f. Program Income | |
| * g. TOTAL | |

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes No

If "Yes", provide explanation and attach

Add Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number:

Fax Number:

* Email:

* Signature of Authorized Representative:

* Date Signed:

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

| | |
|---|---|
| <p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</p> <p>Brian Dulay</p> | <p>* TITLE</p> <p>Interim State Superintendent of Schools</p> |
| <p>* APPLICANT ORGANIZATION</p> <p>Maryland State Department of Education</p> | <p>* DATE SUBMITTED</p> <p>06/14/2012</p> |

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB
0348-0046

| | | |
|--|--|--|
| 1. * Type of Federal Action: <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance | 2. * Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award | 3. * Report Type: <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change |
| 4. Name and Address of Reporting Entity: <input checked="" type="checkbox"/> Prime <input type="checkbox"/> SubAwardee * Name: <input type="text" value="N/A"/> * Street 1: <input type="text" value="N/A"/> Street 2: <input type="text"/> * City: <input type="text" value="N/A"/> State: <input type="text"/> Zip: <input type="text"/> Congressional District, if known: <input type="text"/> | | |
| 6. * Federal Department/Agency: <input type="text" value="N/A"/> | 7. * Federal Program Name/Description: <input type="text" value="Grants for Enhanced Assessment Instruments"/> CFDA Number, if applicable: <input type="text" value="84.368"/> | |
| 8. Federal Action Number, if known: <input type="text"/> | 9. Award Amount, if known: \$ <input type="text"/> | |
| 10. a. Name and Address of Lobbying Registrant: Prefix: <input type="text"/> * First Name: <input type="text" value="N/A"/> Middle Name: <input type="text"/> * Last Name: <input type="text" value="N/A"/> Suffix: <input type="text"/> * Street 1: <input type="text"/> Street 2: <input type="text"/> * City: <input type="text"/> State: <input type="text"/> Zip: <input type="text"/> | | |
| b. Individual Performing Services (including address if different from No. 10a) Prefix: <input type="text"/> * First Name: <input type="text" value="N/A"/> Middle Name: <input type="text"/> * Last Name: <input type="text" value="N/A"/> Suffix: <input type="text"/> * Street 1: <input type="text"/> Street 2: <input type="text"/> * City: <input type="text"/> State: <input type="text"/> Zip: <input type="text"/> | | |
| 11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. * Signature: <input type="text" value="Brian Dulay"/> * Name: Prefix: <input type="text" value="Dr."/> * First Name: <input type="text" value="Bernard"/> Middle Name: <input type="text" value="J."/> * Last Name: <input type="text" value="Sadusky"/> Suffix: <input type="text"/> Title: <input type="text" value="Interim State Superintendent of Schools"/> Telephone No.: <input type="text" value="410-767-0462"/> Date: <input type="text" value="06/14/2012"/> | | |
| Federal Use Only: | | Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97) |

NOTICE TO ALL APPLICANTS

The purpose of this enclosure is to inform you about a new provision in the Department of Education's General Education Provisions Act (GEPA) that applies to applicants for new grant awards under Department programs. This provision is Section 427 of GEPA, enacted as part of the Improving America's Schools Act of 1994 (Public Law (P.L.) 103-382).

To Whom Does This Provision Apply?

Section 427 of GEPA affects applicants for new grant awards under this program. **ALL APPLICANTS FOR NEW AWARDS MUST INCLUDE INFORMATION IN THEIR APPLICATIONS TO ADDRESS THIS NEW PROVISION IN ORDER TO RECEIVE FUNDING UNDER THIS PROGRAM.**

(If this program is a State-formula grant program, a State needs to provide this description only for projects or activities that it carries out with funds reserved for State-level uses. In addition, local school districts or other eligible applicants that apply to the State for funding need to provide this description in their applications to the State for funding. The State would be responsible for ensuring that the school district or other local entity has submitted a sufficient section 427 statement as described below.)

What Does This Provision Require?

Section 427 requires each applicant for funds (other than an individual person) to include in its application a description of the steps the applicant proposes to take to ensure equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. This provision allows applicants discretion in developing the required description. The statute highlights six types of barriers that can impede equitable access or participation: gender, race, national origin, color, disability, or age. Based on local circumstances, you should determine whether these or other barriers may prevent your students, teachers, etc. from such access or participation in, the Federally-funded project or activity. The description in your application of steps to be taken to overcome these barriers need not be lengthy; you may provide a clear and succinct

description of how you plan to address those barriers that are applicable to your circumstances. In addition, the information may be provided in a single narrative, or, if appropriate, may be discussed in connection with related topics in the application.

Section 427 is not intended to duplicate the requirements of civil rights statutes, but rather to ensure that, in designing their projects, applicants for Federal funds address equity concerns that may affect the ability of certain potential beneficiaries to fully participate in the project and to achieve to high standards. Consistent with program requirements and its approved application, an applicant may use the Federal funds awarded to it to eliminate barriers it identifies.

What are Examples of How an Applicant Might Satisfy the Requirement of This Provision?

The following examples may help illustrate how an applicant may comply with Section 427.

- (1) An applicant that proposes to carry out an adult literacy project serving, among others, adults with limited English proficiency, might describe in its application how it intends to distribute a brochure about the proposed project to such potential participants in their native language.
- (2) An applicant that proposes to develop instructional materials for classroom use might describe how it will make the materials available on audio tape or in braille for students who are blind.
- (3) An applicant that proposes to carry out a model science program for secondary students and is concerned that girls may be less likely than boys to enroll in the course, might indicate how it intends to conduct "outreach" efforts to girls, to encourage their enrollment.

We recognize that many applicants may already be implementing effective steps to ensure equity of access and participation in their grant programs, and we appreciate your cooperation in responding to the requirements of this provision.

Estimated Burden Statement for GEPA Requirements

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1894-0005**. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. **If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to:** U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202-4537.

Optional - You may attach 1 file to this page.

GEPA Requirement.pdf

Delete Attachment

View Attachment

GEPA REQUIREMENT

The Maryland State Department of Education ensures equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. There are implicit and explicit processes and procedures to ensure equal access and treatment of project participants who are groups that have been underrepresented, based on race, color, national origin, gender, age or disability. Some of the specific processes and procedures include:

- All prospective attendees are from schools and participation organizations that will have access to outreach materials, training supplements, etc. MSDE will make specific outreach efforts that target underrepresented populations in the training.
- All MSDE materials are available in alternative formats for special needs populations
- MSDE will provide technical expertise to ensure special needs and diverse populations are addressed through implementation
- The curriculum and instructional materials will be evaluated based on diversity and underrepresented populations.
- The schools targeted by the grant are low performing and located in poverty areas.

GAAP GEPA Text

GAAP specifically focuses on addressing needs of students requiring sign support (deaf and hard of hearing students) and students requiring audio support (students with vision needs, English Language Learners, and students with print disabilities) during assessment. Several steps will be taken to ensure the equitable access to and participation in this project.

First, project advisors and consultants will be asked to provide input on the audio and sign guidelines via conference call or in writing. Two members of the working team are deaf and will be provided a TDD service in order to communicate during calls. We are not aware of any project participants who will require large print or braille versions of project materials, but we will make provisions to provide materials in these forms if the need arises.

Second, students will participate in cognitive labs in order to understand student thinking about the audio and sign representations. We will provide a sign interpreter to present any interview questions in sign and to record student responses. We will also provide language translators for English Language Learners participating in the cognitive labs and a researcher will ask students with visual and print disabilities questions in spoken form and will record their answers as needed.

Third, educators who are asked to provide background information about students participating in the empirically designed research component will be provided adapted versions of the survey if required (large print, braille, etc.).

Finally, face to face meetings with advisory board members, working team members and state representatives will make use of a sign language interpreter as needed and will allow for meeting materials to be made available in large print or braille as needed.

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

| | |
|---|---|
| * APPLICANT'S ORGANIZATION | |
| <input type="text" value="Maryland State Department of Education"/> | |
| * PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE | |
| Prefix: <input type="text" value="Dr."/> | * First Name: <input type="text" value="Bernard"/> Middle Name: <input type="text" value="J."/> |
| * Last Name: <input type="text" value="Sadusky"/> | Suffix: <input type="text"/> |
| * Title: <input type="text" value="Interim State Superintendent of Schools"/> | |
| * SIGNATURE: <input type="text" value="Brian Dulay"/> | * DATE: <input type="text" value="06/14/2012"/> |

SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

| | | | | |
|---------|---------------|--------------|--------------|---------|
| Prefix: | * First Name: | Middle Name: | * Last Name: | Suffix: |
| Ms. | Trinell | | Brown | |

Address:

| | |
|-------------|-------------------------|
| * Street1: | 200 W. Baltimore Street |
| Street2: | |
| * City: | Baltimore |
| County: | |
| * State: | MD: Maryland |
| * Zip Code: | 21201 |
| * Country: | USA: UNITED STATES |

* Phone Number (give area code) Fax Number (give area code)

| | |
|--------------|--|
| 410-767-2498 | |
|--------------|--|

Email Address:

| |
|-------------------------|
| tbrown@msde.state.md.us |
|-------------------------|

2. Applicant Experience:

Novice Applicant Yes No Not applicable to this program

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project Period?

Yes No

Are ALL the research activities proposed designated to be exempt from the regulations?

Yes Provide Exemption(s) #:

| |
|--|
| |
|--|

No Provide Assurance #, if available:

Please attach an explanation Narrative:

| |
|------------------------------|
| Human Subjects Narrative.pdf |
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Nonexempt Research Narrative

The cognitive lab component of GAAP falls into the “nonexempt research” category. Students in GAAP research states who are in grades 3-12 and have one of the following access needs are eligible to participate in the cognitive labs: 1) communicate in sign language and normally use sign support for assessments 2) have a vision need and normally use audio support during assessments or 3) have a print disability and normally use audio support during assessments. Over the two year proposed project period, 90 students from these groups will participate in one cognitive lab session. Cognitive labs are face-to-face interactions during which a researcher observes and evaluates a student’s cognitive processes. Cognitive labs have become a widely used method of gathering evidence related to the validity of inferences made by assessments, specifically evidence about whether assessment items are measuring the intended constructs (Dolan, Goodman, Strain-Seymour, Adams, & Sethuraman, 2011; Ericsson & Simon, 1999; Gorin, 2006; Willis, 1999). This type of qualitative evidence adds significant value to more traditional, quantitative validity evidence (Beatty & Willis, 2007; Willis, 1999; Zucker, Sassman, & Case, 2004). During each cognitive lab session, the researcher will observe the student as he or she completes the test items and “thinks aloud” during this process. The researcher will take particular note of any difficulties the student has interacting with the item or whether the student the student replays the audio or sign representation of any part of the item. After completion of the items, the researcher will conduct an interview to collect retrospective verbal reports from the student. During interviews, students will be asked to explain how the audio or sign support was or was not useful in understanding the item content, how the item would have been approached or considered without the support, and, and in what ways the audio or sign representations could be improved. The purpose of the observations and interviews is to collect evidence from students who normally use sign and audio supports about whether the item modifications decrease the influence non-tested constructs. This will contribute validity evidence based on student response processes.

During each cognitive lab session, the researcher will take notes that will include 1) “think aloud” information that the student provides while working through supported assessment items, 2) information about any difficulties that the student interacting with the item, including whether the student re-played audio or sign representations, 3) interview information about the usefulness of using the audio and sign supports. After collecting the qualitative cognitive lab data, researchers will write up a report, which will be sent to the NCEO evaluation team, who will synthesize the data across cognitive lab sessions. This data will be obtained specifically for research purposes.

Students will be recruited from the lead and partner states. Initial contact with schools will be made by email, using email and listserv information from the lead and research state department of education GAAP participants. We will describe the purpose of the research, provide a description of eligible participants, and a thorough explanation of methods and time commitments. We will then follow up with schools via phone calls if interest is expressed. After teachers within schools agree to participate, parental consent for individual student participation will be sought by having educators send paper based consent forms home with students. Parental consent will be documented in the form of parent’s signature on the parental consent form. After parental consent is obtained, students will then be asked to consent to participate prior to the cognitive lab session. Information in the assessment form will be provided in audio and sign form to the student via the computer based testing system being used for this research. Students will document their assent by choosing the appropriate button (“yes” or “no”) on the digital assent form.

There is a risk that students could be frustrated or stressed by the test items that will be presented to them during this cognitive lab research. We will minimize this risk of frustration or stress by choosing less difficult items for each grade level span and by stopping the research for any student that expresses frustration or stress. In order to protect student confidentiality each

cognitive lab participant will be assigned an identification number that will be associated with the collected data, student names will not be recorded.

Research participants will benefit by practicing their math and language arts skills in a computer environment with embedded access tools. Students who have participated in previous research studies in this online environment have responded very favorably to their experience. This research will help inform the field of testing about how students with low vision, with print disabilities, and who communicate in sign language can best access math and language arts test content in an auditory and sign forms. This project is designed to produce audio and sign guideline that can be immediately used in the development of next generation assessments. This will provide more appropriate access to test content, which could reduce student's frustration and provide a more accurate measure of what students know and can do. To date, little research has been conducted to evaluate strategies for supporting the presentation of text within math and language arts assessment environments to increase accessibility and understanding. This research has the potential to advance the field of educational measurement and assessment by providing strategies to improve test validity by reducing barriers to students' accessing content.

Research participants will be located in schools in either the lead GAAP state (Maryland) or one of the research states (New Hampshire, Vermont, Utah, Arizona). Educators within the schools will be the researchers primary point on contact in 1) recruiting participants 2) obtaining parental consent and 3) coordinating timing for the cognitive lab session.

Abstract

The abstract narrative must not exceed one page and should use language that will be understood by a range of audiences. For all projects, include the project title (if applicable), goals, expected outcomes and contributions for research, policy, practice, etc. Include population to be served, as appropriate. For research applications, also include the following:

- Theoretical and conceptual background of the study (i.e., prior research that this investigation builds upon and that provides a compelling rationale for this study)
- Research issues, hypotheses and questions being addressed
- Study design including a brief description of the sample including sample size, methods, principals dependent, independent, and control variables, and the approach to data analysis.

[Note: For a non-electronic submission, include the name and address of your organization and the name, phone number and e-mail address of the contact person for this project.]

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Guidelines for Accessibility of Assessments Project - Maryland Department of Education

The Guidelines for Accessibility of Assessments Project (GAAP) is a collaborative effort to develop, research, and implement guidelines that will be used to make assessment items and tasks developed using the Common Core State Standards (CCSS) accessible to students requiring spoken and signed representation of content. Currently there are no standard accepted best practices for representing content in a spoken (henceforth audio) or signed form. With the adoption of digital delivery of tests and tools such as APIP, there is an opportunity to develop nationwide consensus on best practices and for state assessment programs and assessment consortia to apply these practices in a consistent manner thus enabling greater access for students and increasing the validity of test score-based inferences about students' academic proficiency.

The GAAP project will focus on audio and sign guidelines for English Language Arts and mathematics. The development of audio guidelines will be informed by the currently funded EAG and OSEP projects, current state practices, and initial work performed by PARCC and the Smarter Balanced Assessment Consortia. Sign guidelines will be informed by current state practice in states such as Massachusetts and South Carolina, by native signers, by deaf K-12 mathematics educators, and by higher education sign experts.

GAAP involves a consortium of 18 states (Utah, Vermont, New Hampshire, Arizona, Connecticut, Rhode Island, Minnesota, Maine, Michigan, Montana, Idaho, Kansas, North Carolina, Washington, Colorado, South Carolina and Oregon) led by the Maryland State Department of Education. The GAAP Consortium will collaborate with Measured Progress accessibility experts, National Center for Educational Outcomes evaluation experts, WGBH's National Center for Accessible Media audio accessibility experts, CCSS content experts, and nationally recognized sign leaders in an iterative process that will include 1) development of audio and sign guidelines, 2) application of guidelines to CCSS items, 3) state, expert, and advisory board member review of guidelines and application to sample items, and 4) research with students who regularly use audio or signed supports for assessment. The resulting guidelines and sample item representations will be widely disseminated and made publicly available.

Project Narrative File(s)

* Mandatory Project Narrative File Filename:

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File

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1.0 The Need for Research-Based Audio and Sign Guidelines

Both the No Child Left Behind (NCLB) and the Individuals with Disabilities Education Improvement (IDEA) Acts require testing programs to provide appropriate accommodations for students during testing. Without access to appropriate accommodations, students are placed at a severe disadvantage in demonstrating their proficiency. Today, most states have written guidelines regarding the roles and responsibilities of educators and other individuals (e.g. readers, scribes, and sign language interpreters) who assist in the administration of accommodations (Clapper, Morse, Lazarus, Thompson & Thurlow, 2005). In most cases, however, these guidelines fall short of the level of detail required to provide valid, fair, and equitable support for students who require read aloud and signed accommodations. Furthermore, individuals who are tasked with reading aloud or signing test content to students who require these supports rarely see the test content in advance; thus, in most cases, test content is being read aloud or signed on-the-fly.

Inadequate guidelines for how test content should be read aloud or signed combined with on-the-fly decisions regarding how to represent test content in a spoken or signed form have several negative consequences. First, the individual administering the accommodation may inadvertently provide additional information that is relevant to the construct being measured, potentially leading the student to the correct response. For example, providing a read aloud description of a scatterplot that includes information about the pattern of points when the assessment item asks the student to identify the pattern in the data provides more construct relevant information to the student than the item without the accommodation and, as a result, provides knowledge that may enable the student to answer the item correctly. Similarly, signing a square when the item asks the student to identify a square shape provides too much construct relevant information. Second, for some items, there may be a variety of ways that content (e.g. mathematical notations or graphs) can be read aloud or signed. This introduces variability in the way test content is presented to students and is a threat to test reliability and therefore, test validity. Lastly, when individuals read aloud on-the-fly there may be a “cuing” effect (Tindal, Heath, Hollenbeck,

Almond, & Harniss, 1998). In essence, the individual who is reading aloud may intentionally or unintentionally emphasize pieces of the item by using body language or voice inflection to influence students' answers (Miranda, Russell, & Hoffmann, 2004; Landau, Russell, Gourgey, Erin, & Cowan, 2003).

Recent advances in computer-based test delivery have enabled test content that has traditionally been read aloud or signed by a human to be delivered digitally. Digital delivery provides the potential to eliminate some of the problems described above (Russell et al, 2009). In a digital environment, alternate representations of test content can be built a priori into the test items. The digital test delivery system can then tailor different representational forms based on each student's individual needs. The Accessible Portable Item Profile (APIP) item model, which was the focus of a previous EAG (described in more detail in the Significance section), provides the structure, format, and language to specify the exact manner in which tailored representations are to be provided by a test delivery system for a student's specific needs. While this technical solution exists, in order for computer-based testing platforms to deliver high-quality read aloud (also referred to as audio) and sign accommodations in a standardized and equitable manner, a set of guidelines for how to appropriately represent item content in different representational forms, such as audio and sign, is essential.

Currently, the two assessment consortia, Smarter Balanced Assessment Consortium (Smarter Balanced) and Partnership for the Assessment of Readiness in College and Careers (PARCC), are aggressively preparing for the implementation of our nation's next generation assessments. By 2014-15, it is expected that the vast majority of K-12 annual testing will be conducted on computer. The new assessments will be administered multiple times during the year to allow scores to be used for both formative and summative purposes, and rather than administering fixed form tests, some states will use adaptive testing technology. As a result, these assessment systems will require very large item banks. And, to assure the test items are portable across testing platforms, PARCC and Smarter Balanced are adopting interoperability standards. Secretary Arne Duncan recently said "Unlike existing assessments, which often retrofit mediocre accommodations into tests, the new assessment systems will be designed,

from the start, to accurately assess both English learners and students with disabilities and provide appropriate accommodations” (Remarks to State Leaders at Achieve's American Diploma Project Leadership Team Meeting, September 2010).

The research and development proposed here directly supports the vision laid out by Secretary Duncan by addressing a critical shortcoming of current test delivery, namely the development of guidelines for creating audio and signed representation of Common Core State Standards (CCSS) assessment items and tasks. Currently there are no standard practices for representing mathematics and English Language Arts content in audio or signed form. This results in inconsistent and sometimes contradictory practices that threaten the validity of assessment results. The Guidelines for Accessible Assessment Project (GAAP) proposed here aims to: a) develop research-based audio guidelines that can be used across states, consortia and assessment vendors to produce reliable and valid audio representations of assessment items and tasks for students with vision or print disabilities, and students with limited English proficiency, and b) develop research-based sign guidelines that can be used across states, consortia and assessment vendors to produce reliable and valid signed representations of assessment items and tasks for students who communicate using sign language.

1.1 Magnitude and severity of the problem

In the United States, nearly 3.3 million students in tested grades (3 through 8 and high school) have Individual Education Plans (IEPs) and are served under IDEA (U.S. Department of Education, Office of Special Education Programs, 2011). In 2009-10, about half of these students took their state’s mathematics and language arts assessment based on grade level achievement standards with an accommodation; nearly 20% of the students took an alternate assessment (U.S. Department of Education, Office of Special Education Programs, 2011). That same year (2009-10), nearly 100,000 U.S. students ages 5 through 18 who were served under IDEA were classified as blind, deaf, hard of hearing or having visual impairments and an equal number were classified as having multiple disabilities which may include blindness, deafness, hard of hearing or visual impairments (U.S. Department of Education, Office of Special Education Programs, 2011).

As states in the PARCC and Smarter Balanced assessment consortia transition to computer based delivery of tests, the burden of presenting test content to these students in a valid, fair, and equitable way shifts away from educators and other individuals in schools, and towards test developers who will be tasked with creating audio and sign representations of the hundreds of thousands of items and tasks that will comprise the PARCC and Smarter Balanced assessment systems. Currently, there are no standards to guide the creation of audio and signed representation of Common Core State Standards (CCSS) assessment items and tasks. GAAP seeks to address the need for guidelines that will enable test developers to consistently represent items in audio and sign form across all items in the large item banks in the PARCC and Smarter Balanced assessment systems. This is a critical need that, when addressed, will enable students who communicate in sign and students with visual and print disabilities to fully participate in the next generation assessments and increase the validity of test score-based inferences about their academic proficiency. Beyond affecting the quality of assessments, the guidelines will also help establish standards for communicating during instruction, in effect unifying practice and better aligning instruction and assessment.

1.2 Addressing the needs of disadvantaged students and students at risk of educational failure

Prior to the enactment of the Education for All Handicapped Children Act (Public Law 94-142) in 1975, the fate of many school-aged children and youth with disabilities was dim as many were denied access to education and opportunities to learn. For example, in 1970, U.S. schools educated only one in five children with disabilities, and many states had laws excluding particular students with disabilities from school, including children who were deaf, blind, emotionally disturbed, or mentally retarded (U.S. Department of Education, Office of Special Education and Rehabilitative Services, *Thirty-five Years of Progress in Educating Children With Disabilities Through IDEA*, Washington, D.C., 2010). When it was passed in 1975, P.L. 94-142 guaranteed a free appropriate public education to each child with a disability. This law articulated a national mission to improve access to education for children with disabilities which continues today in the form of national concern for accountability and assessments.

Today, approximately 6.5 million students with disabilities ages 3 to 21 receive special education services in the United States, making up 13 percent of the total public school enrollment (National Center for Education Statistics, 2010). While these students have access to a public education, their educational outcomes are cause for concern. In particular, several recent studies have found performance gaps between students with disabilities and their non-disabled peers (Albus, Thurlow, and Bremer 2009; Blackorby et al. 2010; Chudowsky, Chudowsky, and Keber 2009; Thurlow, Altman, and Vang 2009).

The primary goal of this project is to help states, consortia and assessment vendors to produce reliable and valid audio and signed representations of assessment items for students who consistently underperform their general education peers on state assessments and are therefore at greater risk for educational failure. Doing so will increase the validity of test score-based inferences about the proficiency of these at-risk students. If successful, this project will support more valid measures of learning for students who have been identified with disabilities, special needs, and/or who are English Language Learners (ELL). In the era of next generation assessments that provide formative information to educators, more valid measures of learning will in turn, support better decisions about instruction and educational services provided to students, which will ultimately decrease the risk of educational failure for these sub-groups of students.

2.0 Significance

For all forms of assessment, validity is paramount. Test validity focuses on the extent to which inferences based on test scores are accurate, the decisions based on those inferences are appropriate, and whether the consequential effects of those decisions are desirable (Messick, 1989). A key factor that influences the accuracy with which a test measures student achievement is the accessibility of the test. To increase accessibility, test accommodations are applied. Traditionally, accommodations have been delivered by educators but recent advances in computer-based testing now enable test accommodations to be delivered by computer. When delivered by computer, accommodations such as read aloud and signing can be delivered in a standardized manner to all students in the testing program who require these supports. While computer-based delivery has potential to dramatically improve both access and valid

measurement for many students with disabilities, special needs, and/or students who have limited English proficiency, the success of this approach is dependent on the ability of test developers to appropriately represent test content in audio and sign form.

GAAP will provide research-based, audio and sign guidelines for representing item content for students with vision or print disabilities, students with limited English proficiency, and students who communicate using sign language via next generation computer-based tests. GAAP will also provide evidence that supports the broad adoption of these guidelines. In turn, when paired with the Accessible Portable Item Profile (APIP) interoperability standard, these guidelines will provide a mechanism to realize the digitally-based and tailored accessibility environment needed for students who communicate in sign, English learners, and students with visual and print disabilities to fully participate in next generation assessments.

2.1 Advances to the field of assessment and widespread system changes

The proposed project is significant in advancing the field of assessment because a) it involves the development of guidelines that, when implemented, will improve the reliability and validity of inferences made about the academic proficiency of students with disabilities who are provided with audio or sign representations of test content; and b) it seeks to improve accessibility practice across the the United States. The project will create an immediate change in practice among the 18 states in the GAAP Consortium who have agreed to implement the audio and sign guidelines in their state testing programs during the project period. The project seeks further widespread system changes by producing and broadly disseminating project findings and making the guidelines freely and publicly available for use by states, consortia and assessment vendors.

2.2 New strategies that build on past developments

The GAAP work described in this proposal is a direct outgrowth of Enhanced Assessment Grant projects that have successfully advanced the field of accessible assessment. The research in each of the EAGs described below was managed by the proposed GAAP management partner organization, Measured Progress's Innovation Lab.

In 2005, through a Rhode Island led EAG, the New England Common Assessment Program (NECAP) pilot tested the use of a computer based testing system to deliver a read aloud accommodation to students with disabilities and English Language Learners. This research provided evidence that it is feasible to embed accessibility tools in a technology based delivery system, that students and educators embrace digitally delivered access to test content, and that students who are eligible for read aloud are more likely to use the accommodation in a digital environment than they are in a paper based environment (Russell, Higgins, & Hoffmann, 2009). The 2005 research laid the groundwork for the development of a universally designed computer based testing system with multiple access and accommodation tools.

A 2008 EAG award provided funding to systematically study the feasibility, effect, and capacity of using a universally designed testing system for state assessments through a project titled Universal Access to Assessments (UAA). Over the 18-month project, more than 3,000 students across 3 states and 150 schools completed state science, mathematics, and reading assessments using the universally designed system. The project provided evidence that schools have the capacity to administer computer based tests with embedded accessibility tools, that it is feasible to embed and deliver accessibility information in test content, and that delivering tests tailored to students' access needs empowers students to access test content in an independent way. The UAA project also highlighted three shortcomings in the field of accessible assessments: 1) educators need help understanding how to match accessibility tools with individual student access needs, 2) there was no interoperability standard that allowed for test items and associated accessibility information to be ported between systems, and 3) there is a need for guidelines to create standard representations of test content such as audio and sign.

Since the completion of the UAA EAG, the federal government funded two projects that address the first two shortcomings identified by the UAA team. The Student Accessibility Assessment System (SAAS) project is currently implementing digital tools to help educators make more informed decisions about assigning accessibility tools to students. Preliminary findings suggest that these tools are both feasible and effective for helping educators improve assignment of accessibility options.

Since the completion of the UAA EAG, the federal government has funded a project to address the first of these shortcomings, the Accessible Portable Item Protocol (APIP) project. This EAG project produced an assessment item interoperability standard that provides a structure for defining student access needs, for storing and porting accessibility representations associated with items, and for defining the behavior of delivery systems that are able to combine the student access need information with the accessibility information to present tailored representations of test items to students. This state driven interoperability standard is now embraced by the assessment vendor community (IMS Global Learning Consortium, 2012) and referenced in multiple state and vendor assessment development and delivery Request For Proposals (Smarter Balanced, 2012; PARCC, 2012; Colorado Department of Education, 2012; Georgia Department of Education, 2012). In addition, the standard has been applied to develop model technology-enhanced items that include a variety of accessibility supports typically used by students with disabilities and by students developing English language proficiency. At the conclusion of the APIP EAG, the project team identified the continued need for the development of guidelines for representing assessment content in alternate forms. In fact, this project revealed that guidelines are requisite to support high-quality and standardized application of APIP to meet the accessibility needs of students (Russell, 2010). Despite this need, states and consortia continue to move forward with their plans to implement digitally based next generation accessible assessments.

In November 2011, the Smarter Balanced Assessment Consortium awarded a contract to Measured Progress which in part required the development of accessibility guidelines in order to create alternate representations of their next generation assessment items. The project team consisted of accessibility experts who identified content elements (e.g. symbols, functions, bar charts, etc.), reviewed existing literature and state practices related to audio guidelines for these content elements, and used emerging research (OSEP funded MeTRC research, Utah led Describing Images for Enhanced Assessments project, and IES funded ETS led project on audio description of mathematics) to propose an audio guideline for each content element. This small scale project was successful in beginning the work of developing content based audio guidelines, but also highlighted two major shortcomings: 1) for more

than half of the mathematics content elements and three quarters of the ELA content elements, there was no existing or emerging research and no current state best practices on how to represent the content in audio form, and 2) through the state review and feedback process, the project team documented the fact that several states raised concerns about using the guidelines because they were either concerned about construct violation or concerned that there was no research to back-up the proposed approach. As described in the Project Design section, GAAP addresses these shortcomings by including experts in the guideline development process, including expertise related to best practices outside the field of assessment, and conducting validity studies.

As part of the same Smarter Balanced Assessment Consortia contract described above, general guidelines for the representation of sign in a digital environment were developed. The project team initially identified three online sign translation tools as resources in the development of sign content guidelines. Each of the tools attempts to create online dictionaries that showed a signed video representation of an individual word (RIT Science Signs Lexicon Signing Math Dictionary by VCom3D, and Texas Math Sign Language Dictionary). This approach assumes a one to one correlation between English and sign, and does not account for the context of the use of the term. During an assessment, it is critical to provide students who communicate in sign with a *message equivalent representation* of the items and tasks. In other words, it is important that the sign representation convey information that is comparable to the information conveyed in the original item rather than a word for word translation of the item. The Smarter Balanced project team searched for context dependent guidelines for the representation of test content in sign and came to the same conclusion as other researchers: “systematically developed and standardized ASL presentations of state and district-wide assessments remain unavailable from test developers and vendors” (Qi and Mitchell, 2012). During this short Smarter Balanced contract, the Measured Progress Innovation Lab team and members of the Accommodations and Accessibility workgroup (from KS, OR, NH, VT, UT, WA, ID, MI, and CA) recognized the need to develop: a) guidelines for the order that information is presented in the item so that message equivalence is maintained while providing access to the item, b) guidelines for identifying words, from the CCSS or

from the consortia Content Specifications, that should be finger spelled because they either have multiple meanings or because the sign could provide construct-relevant information and thus violate the assessment target and c) guidelines for the visual representation of numbers based on the appropriate numbering system.

PARCC and Smarter Balanced have both pushed the assessment industry forward by requesting accessible digital delivery of next generation items and tasks. Past federally funded projects have provided evidence that delivering assessments with embedded accessibility supports is feasible and have also provided some of the tools (such as APIP) for making accessible test delivery efficient and scalable. But the lack of research-based guidelines for the development of alternate representations of content leaves future assessments vulnerable to validity threats for students with special needs and English Language Learners. Building on the work described above, GAAP will use a collaborative and iterative development and research process to develop these guidelines and thus address the threat to assessment validity.

3. Project Design

3.1 Conceptual Framework for Development of Accessibility Guidelines

The conceptual framework guiding the development of the proposed audio and sign guidelines is informed by theories of educational measurement and accessibility, specifically test theory and accessible test design.

Test Theory

A test is an instrument designed to collect information. In most cases, an educational test is developed to measure a specific set of cognitive skills or knowledge, which are referred to as a *construct*. Cognitive constructs present a major challenge to educational testing because they are not directly observable. In other words, a cognitive construct is a set of processes that occur within the brain, and involve the firing of and interactions between complex webs of neurons. Unlike physical traits, such as height or speed, cognitive constructs are unobservable, and therefore cannot be measured directly.

Instead, we must rely on indirect measures of cognitive constructs. Educational tests are the most common tool used to provide an indirect measure of a cognitive construct.

By definition, an educational test is a sample of behaviors that are the product of the application of a cognitive construct. The sample of behaviors is provided through an examinee's interactions with a set of items or tasks. Items and tasks are designed to present a context in which the examinee must apply the targeted construct in order to produce a response. Based on an examinee's performance on a specific sample of items or tasks, inferences are made about the extent to which the examinee is able to apply a construct across the population of possible items and tasks. In this way, a student's score on a test is an estimate of how well the student would perform on the total population of items and tasks that require the application of the tested construct (Madaus, Russell, & Higgins, 2009).

Since the construct cannot be directly observed, items and tasks are constructed to stimulate or activate the construct of interest. In addition, to provide an observable record of the construct, an item or task requires a student to produce an observable product. For a multiple-choice test, the observable product is the option selected by the student. For an open-response item, the observable product is the response the student records on paper using a pencil or on computer, using a keyboard, mouse, or other device. For an oral exam, the observable product is the verbal response provided by the student. While the focus of a student's interaction with an item or task is often on the answer or product produced, that product is only of importance if it accurately reflects the activation of the construct of interest. Once a product is produced in response to the activation and application of a construct (through the item), the product is scored. The scores across items are combined and the total score is then used to make an inference about the extent to which the construct operates or is present within the examinee.

Accessible Test Design

When thinking about a test item as both a stimulant of the construct and a subsequent observable product of the construct, there are three important factors to consider. First, in order for an item to activate a construct, the content of the item must transfer from the medium in which it is presented (e.g.,

paper, computer, orally, etc.) to the examinee's brain. Without a successful and fully accurate transfer, the item is unlikely to activate the construct of interest.

Second, the contents of the item must be carefully designed to stimulate or activate the construct of interest. An item placed on a test intended to measure a mathematical construct, but which does not contain any mathematical content, is unlikely to activate the construct of interest. Similarly, an item that contains mathematical content but uses confusing language or poorly constructed images may also be unsuccessful in stimulating the construct of interest because other unrelated constructs (e.g. reading ability, visual acuity) are activated as the examinee attempts to understand what is being presented or asked.

Third, to produce an observable product, the item must allow an examinee to produce a response that accurately reflects the outcome of the activation of the construct. This requires that the response results from the construct of interest and not other, irrelevant constructs. Further, the method used to render a response must allow the examinee to accurately transfer his/her thinking to the medium used to record the response. For example, an item that asks a student to draw a diagram representing a mathematical construct might not provide an accurate representation of the construct for a student with visual impairment.

Collectively, the accuracy with which an item is able to sample a specific behavior depends on the extent to which: a) an item is able to allow content to be transferred accurately from the medium of presentation to the examinee, b) stimulate the construct of interest, and c) support accurate recording of a response that is the product of the construct of interest. Subsequently, the extent to which a test provides information that allows a user to make accurate inferences about a given construct depends on the quality of each of the items used to form the sample of observable behaviors.

Accessibility in the context of assessment focuses on the extent to which each of these steps occurs during the measurement process. In order for a test item to provide an accurate measure of a targeted construct, that item must be able to access the targeted construct. In order to access the targeted construct, the item must accurately establish the context for the examinee, allow uninhibited processing of

the construct within the examinee, and enable accurate production of a response by the examinee. The extent to which an item is able to accomplish these tasks is influenced by a variety of factors.

The proposed GAAP focuses on the first step of the measurement process: presenting information to the examinee to stimulate the construct. All other steps in the assessment process are dependent on the extent to which non-targeted constructs, such as ability to perceive and process print-based content or communicate in a given language, influence the ability of an item to accurately access the construct. Thus, the accuracy of all steps on the process are dependent on the success of the first step.

The accessible test design model begins by specifying the access needs of examinees. Next, accessibility elements that take the form of the provision of supplementary content and presentation of alternate content are built into the default item information. Collectively, each examinee's access information drives the accessibility information that is presented to the student. GAAP focuses on systematic research and development of content specific guidelines that can be used to create audio and sign accessibility information.

3.2 Methodology and Design

The Joint Standards on Educational and Psychological Testing (AERA, APA and NCME, 1999) describe test validity as a unified concept that focuses on forming an argument regarding an inference then collecting evidence from multiple sources to confirm or disconfirm the claim. There are four sources of validity evidence: a) test content; b) response process; c) internal structure; and d) relations to other variables. GAAP will collect evidence from all four of these sources. More specifically, GAAP will collect validity evidence focusing on five hypotheses related to items developed using the audio and sign guidelines:

H1. Application of the audio and sign guidelines removes construct irrelevant barriers to student performance.

H2. The use of sign representations provided by a digitally-based test delivery system has a positive effect on the performance of students who are eligible for sign accessibility support.

H3. The use of audio representations provided by a digitally-based test delivery system improves test

scores for students who are eligible for the support, but not necessarily for students who are not eligible for the support. In other words, it is hypothesized that there is an interaction between accommodation condition (supported versus unsupported) and type of student (students who are eligible for audio accessibility support versus students without an identified access need) with respect to test performance.

- H4.** The use of audio and sign representations provided by a digitally-based test delivery system improves the test's psychometric properties.
- H5.** Scores on supported item sets will be more consistent with teachers' ratings of student ability than scores on unsupported item sets.

The overall goal of GAAP is to develop guidelines and conduct research to evaluate the use of those guidelines. In the development of the guidelines, GAAP will rely heavily on experts in the field. Expert judgment will be a key factor during the development and review of audio and sign guidelines designed to remove construct irrelevant barriers to performance while maintaining integrity to the construct being measured (H1).

Once the guidelines are developed, GAAP will collect validity evidence regarding the inferences made by supported items from three sources. First, cognitive labs with students will provide evidence on the extent to which audio and sign representations developed according to the guidelines remove construct irrelevant barriers for students (H1). Second, a series of experimentally designed research studies will provide evidence on the extent to which audio and sign representations impact student performance and the test's psychometric properties (H2, H3, H4). Lastly, teacher ratings of students' ability collected via a survey will be used to gain further insight into the extent to which audio and sign representations decreases the influence of non-tested constructs on student performance (H1, H5).

GAAP is structured as a series of development and research cycles, driven by consensus, collaboration, the use of findings from previous research, and the results of previous cycles. The process will begin with a review of existing literature, best practices, and current state practices. Through a literature review, we will collect and synthesize research on audio and sign representation used in

educational settings including instruction and assessment. Best practices will be gleaned from a review of literature as well as examination of existing tools (such as MathSpeak and commonly used text to speech engines) and interviews with individuals from states and organizations that have developed sign and/or audio representations for various purposes (e.g., MA and SC have developed sign representations of state assessments). In the area of audio, we will conduct interviews with members of the Digital Image and Graphic Resources for Accessible Materials (DIAGRAM) project team to learn from and build on the work that has been conducted to develop audio guidelines for textbooks. During this phase of the project, we will also collect and summarize existing state practices and guidelines for audio and sign representation by searching state Department of Education websites and contacting states for which there is no information available online. Findings from the review of literature, best practices, and current state practices will be synthesized and summarized in a document that will be used to inform the development of audio and sign guidelines.

As mentioned above, GAAP is structured as a series of development and research cycles. The initial literature review and synthesis of information can be considered as a “step 0,” or as a prerequisite to the steps described below. Each cycle will focus on one grade span: 3-5, 6-8, and high school. Thus, each of the eight steps below will follow the same eight-step procedure and be conducted three times, once for each grade span.

Step 1: Identify content elements for which audio and sign guidelines are in need. This step involves a review of mathematics and English Language Arts Common Core State Standards to define broad content categories for which guidelines will be developed (e.g. geometry, measurement and data, writing, etc.) PARCC and Smarter Balanced Content and Item Specifications will then be reviewed to further identify specific content elements that require guidelines (e.g. exponents, parentheses, line graphs, literary cartoons, etc). Based on our experience with the Smarter Balanced Accessibility Guideline project summarized in the Significance section, we estimate there to be approximately 30 mathematics content elements and 10 ELA content elements in each targeted grade span. Next, sample items that represent the

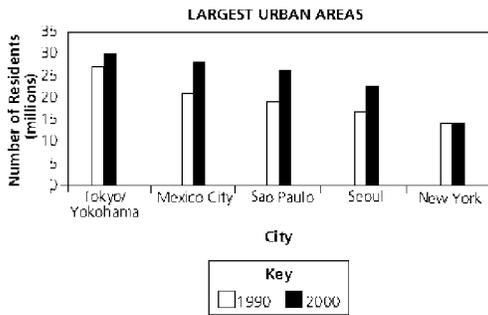
content elements identified in step 1b will be identified. GAAP will not develop original content, but will instead use existing PARCC and Smarter Balanced sample, practice, or pilot test items.

Step 2: Draft audio and sign guidelines and apply to sample items. Information from the review of literature, best practices, and current state practices will be used to develop draft audio and sign guidelines for the given grade span. This step will include a two day working group meeting where a small group of audio specialists, sign experts, visual needs experts and content specialists from lead and research states (listed in the Management Plan section) will work through how to remove construct irrelevant barriers to performance while maintaining the integrity of the construct being measured. The meeting will culminate with an initial draft of audio and sign guidelines (see Personnel section for a list of working group members). For audio representation, some content elements will require only one representation (text only) while other content elements will require two representations (text and graphics). For example, it is likely that the representation of exponents in mathematical expressions will require text only representation that would not differ based on a student's access needs. However, the audio representation of a line graph would require both text and graphic representation and will differ based on a student's access needs (e.g., a student with a vision impairment will require both the text representation and a description of the line graph, while a student with dyslexia will not require a description of the line graph). All feedback from the working group will be synthesized and summarized in a written document.

Next, draft guidelines will be applied to the sample items identified in step 1c. For both audio and sign, the goal of the guidelines is to provide enough information to develop representations that provide auditory and visual access to the item information in a way that is best suited to students while maintaining message equivalence and not violating the measurement construct. As an example, Figure 1 shows a sample mathematics item and identifies examples of audio and sign guidelines that may be used to develop alternate representations.

Figure 1. Sample Mathematics Item

The populations for 1990 and 2000 of the 5 largest urban areas in the world are shown in the graph below.



Which statement about change in the number of residents of each urban area from 1990 to 2000 is correct based on the data in the graph?

- Ⓐ In each of the 5 urban areas, the population increased by more than 1 million.
- Ⓑ Tokyo/Yokohama had the largest increase in the number of residents.
- Ⓒ New York had a larger increase in the number of residents than Seoul.
- Ⓓ The number of residents of Mexico City and Sao Paulo increased by about the same amount.

Example audio guidelines that may be applicable to sample item above:

- 1) Read 1990 as “nineteen ninety,” instead of “one thousand nine hundred and ninety.”
- 2) For student requiring text only audio representation, read the graph title in the order it is presented in the item, but do not automatically read text within graph (e.g. labels). Allow audio descriptions of graphic labels on demand (by clicking, tab-entering navigation, etc).
- 3) For students requiring graphic description, read 1) graph title, 2) graph type (bar chart), 3) key information (light shaded bar represents nineteen ninety, dark shaded bar represents two thousand), 4) axes labels 5) succinctly describe graph. Examples of succinct graphic descriptions will be provided by collaboration with the WGBH National Center for Accessible Material (NCAM) team (see Management Plan section for information about NCAM).

Example Sign Guidelines:

- 1) Use appropriate sign numbering system to represent 1990 and 2000.
- 2) Do not provide signed representation of bar chart. Sign the graph title in the order it is presented in the item, but do not automatically sign text within the graph (e.g. labels). Allow signed representation of graphic labels on demand (by clicking, tab-entering navigation, etc).

- 3) Finger spell the word “urban” and each of the cities listed on the x-axis of the bar chart. Urban and the city names should be finger spelled because a) they are not critical terms to the construct being measured and b) there is not a standard signed representation for these words.

After the draft audio and sign guidelines are applied to sample items in the form of a script, items will be inserted into a computer based test delivery system, which will be used for later stages in the research process. In addition, the necessary audio and video files will be produced and associated with the item within the delivery system.

Step 3: Expert and state review of guidelines and sample items. At this stage in the project, we will have developed draft guidelines for specific content elements for the targeted grade span along with sample items that apply the guidelines. We will then distribute the guidelines and sample items to the working group members (i.e. audio specialists, sign experts, visual needs experts and content specialists from lead and research states), research and partner states, and the GAAP advisory board members (see Personnel section for a list of advisory board members). The purpose of this step is to gain multiple perspectives on the draft guidelines and their application to sample items. Each reviewer will be asked to submit written comments or participate in a conference call to discuss his/her feedback. All feedback will be synthesized and summarized in a document that will be used to guide the revisions described in step 4.

Step 4: Revise based on reviewer feedback. We will revise the draft guidelines and make changes to the sign and audio representation of sample items, where appropriate, based on reviewer feedback. At this step in the cycle, two rounds of expert judgment have informed the development of the audio and sign guidelines which are meant to elicit greater application of the construct of interest and decrease application of irrelevant constructs. The expert judgment collected and documented during steps 2 and 3 will contribute to the validity of inferences made by assessments that implement the guidelines.

Step 5: Conduct cognitive labs. The research team will conduct a series of cognitive labs with students in the appropriate grade span who normally receive sign or audio support during an assessment. Cognitive labs are face-to-face interactions during which a researcher observes and evaluates a student’s

cognitive processes. Cognitive labs have become a widely used method of gathering evidence related to the validity of inferences made by assessments, specifically evidence about whether assessment items are measuring the intended constructs (Dolan, Goodman, Strain-Seymour, Adams, & Sethuraman, 2011; Ericsson & Simon, 1999; Gorin, 2006; Willis, 1999). This type of qualitative evidence adds significant value to more traditional, quantitative validity evidence, such as the evidence that will be collected in step 8 (Beatty & Willis, 2007; Willis, 1999; Zucker, Sassman, & Case, 2004).

During each cognitive lab session, the researcher will observe a student as he/she completes a test that includes some items with audio or sign support and some items without the support. As the student completes test items, he/she will “think aloud” during the process. The researcher will take notes on the student’s thought process, taking particular note of any difficulties the student has interacting with the item or whether the student replays the audio or sign representation of any part of the item. After completion of the items, the researcher will conduct an interview to collect retrospective verbal reports from the student. During interviews, students will be asked to describe their experiences with both the unsupported and supported items. For example, students will be asked if they had difficulty understanding any items and if so, to describe what in particular was difficult to understand. Students will also be asked whether they preferred the supported or unsupported items and why, as well as on which items they felt they performed the best and why. For supported items, students will be asked to explain how the audio or sign support was or was not useful in understanding the item content, and in what ways the audio or sign representations could be improved. The purpose of the observations and interviews is to collect evidence about whether the items with audio and sign support decrease the influence non-tested constructs (H1). This will contribute validity evidence based on student response processes.

Step 6: Revise based on findings from cognitive labs. Based on information collected during the cognitive labs, specifically any difficulties encountered or potential improvements discovered, the guidelines and representations of sample items will be modified as needed. Depending on the level of revision(s) required, an additional review by the advisory board may be conducted. At this stage in the

project, we will have developed guidelines and sample items with validity evidence collected from both experts and student response processes.

Step 7: Develop set of item representations. For each content element identified in step 1, we will select four items to which we will apply the guidelines to create audio and sign representations. GAAP will not develop original content, but will instead use existing PARCC and Smarter Balanced sample, practice, or pilot test items. Whenever possible, the sample item representations will represent a range of item types (selected response, technology enhanced items, extended response, etc). The same production process described in step 2 will be used to create more complete sets of items with audio and signed representations: 1) create audio and video scripts for sample items, 2) insert items into the computer delivery system to be used for research, 3) produce audio and video files, and associate the audio and video files with the item. The resulting item sets will be used for the research studies described below in step 8. These items will also serve as exemplars that will accompany the guidelines when released to the public at the conclusion of the project.

Step 8: Conduct experimentally designed research studies. By step 8, we will have developed guidelines and sample items based on an examination of literature, best practices and current practices; expert judgment; and student response processes. We will also have developed a set of supported items for each content element in the targeted grade span. The experimental research studies will focus on the extent to which the use of these item supports remove construct irrelevant variance for students who normally receive audio and sign supports during assessment.

Research Design. For the targeted grade span, ten separate research studies will be conducted for audio support and five separate research studies will be conducted for sign support. Each of these fifteen research studies will focus on four content elements – three mathematics content elements and one ELA content element. This design allows for 30 mathematics content elements and 10 ELA content elements for the targeted grade span to be evaluated for audio representation, and 15 mathematics content elements and 5 ELA content elements to be evaluated for sign representation for the targeted grade span.

For each study, 4 forms of a 16-item test will be created, as shown in Figure 2 below. Form 1 and 2 will include sign representations of the items and Forms 3 and 4 will include audio representations of the items. Each form will contain the same 16 items in the same order but with different representations. For example, as shown below, in one of the five studies focusing on sign support, Item 1 appears as text only in Form 1 and with sign support in Form 2. In one of the ten studies focusing on audio support, Item 1 appears as text only in Form 3 and with audio of text in Form 4. In that same study, Item 10 appears as text only in Form 3 and text and graphics in Form 4.

A final form of validity evidence will be collected via educator and student surveys. The educator survey will include questions about student’s reading and mathematics ability. For the sign studies, teachers will also be asked about students’ ASL knowledge. For the audio studies, teachers will be asked the reason for students’ need for audio support (e.g. vision disability, print disability, ELL status, etc). The student survey will include questions about the students’ background and the usefulness of the sign or audio supports. Students who receive the audio supports will also be asked questions regarding their preference for audio support (i.e. text only versus text and graphics).

Figure 2: Test Forms

| Content | Block | Item | Sign | | Audio | |
|---------------------------|-------|------|--------|--------|------------|------------|
| | | | Form 1 | Form 2 | Form 3 | Form 4 |
| Math Content Element 1 | A | 1 | Text | Sign | Text | Audio Text |
| | | 2 | Text | Sign | Text | Audio Text |
| | B | 3 | Sign | Text | Audio Text | Text |
| | | 4 | Sign | Text | Audio Text | Text |
| Math Content Element 2 | A | 5 | Text | Sign | Text | Audio Text |
| | | 6 | Text | Sign | Text | Audio Text |
| | B | 7 | Sign | Text | Audio Text | Text |
| | | 8 | Sign | Text | Audio Text | Text |

| | | | | | | |
|---------------------------|---|----|------|------|---------------------|---------------------|
| Math Content Element 3 | A | 9 | Text | Sign | Text | Audio Text |
| | | 10 | Text | Sign | Text | Audio Text/Graphics |
| | B | 11 | Sign | Text | Audio Text | Text |
| | | 12 | Sign | Text | Audio Text/Graphics | Text |
| ELA Content Element 1 | A | 13 | Text | Sign | Text | Audio Text |
| | | 14 | Text | Sign | Text | Audio Text/Graphics |
| | B | 15 | Sign | Text | Audio Text | Text |
| | | 16 | Sign | Text | Audio Text/Graphics | Text |

Sampling Plan. For the research on sign support, a minimum of 100 students from Schools for the Deaf (see letters of support from The Indiana School for the Deaf, The American School for the Deaf (Hartford, CT), and Texas School for the Deaf) and from schools in partner states that mainstream students who communicate via sign will be recruited for each of the 5 studies (minimum of 500 students total for the targeted grade span). Students will be randomly assigned to one of the 5 studies then randomly assigned to one of the two test forms (Form 1 or Form 2) within that study.

For the research on audio support a minimum of 200 students for each of the ten studies will be recruited from schools in partner states (a minimum of 2000 students total for the targeted grade span). The researchers will recruit a minimum of 100 students with no identified access need, at least 50 students who normally receive read aloud of text only and at least 50 students who normally receive read aloud of text and graphics. Students will be randomly assigned to one of the 10 research studies then randomly assigned to one of the two test forms (Form 3 or Form 4) within that study. By including students with no identified need in the audio studies, GAAP will collect evidence that providing audio support to students with access needs improves test performance, but does not necessarily affect test performance for students without identified access needs. Students may participate in more than one of the studies as long as the students meet the grade span criteria and normally receive audio or sign supports during assessment.

Analysis. Three sets of analyses will be conducted for each study. The first set of analyses examines differences in student performance. Independent samples t-tests will be used to examine differences in performance on items presented in sign (supported) and text (unsupported) for each study. The mean score on Form 1 Block A (unsupported) will be compared with the mean score on Form 2 Block A (supported), and the mean score on Form 1 Block B (supported) will be compared with the mean score on Form 2 Block A (unsupported). The level of significance (alpha) will be set at .05. If the use of sign representations of test items and tasks decreases the influence of non-tested constructs on student test performance, as hypothesized, we would expect the mean score on the supported items to be statistically significantly higher than the mean score on unsupported items for students who normally receive sign accommodations during testing.

For the audio study, a two-way analysis of variance will be used to examine the mean difference on supported and unsupported items for students who normally receive an audio support and for students without an identified access need, and the interaction between accommodation condition (supported versus unsupported) and type of student (students who normally receive audio support versus students without an identified access need) on test performance. The level of significance (alpha) will be set at .05. If the use of audio representations of test items and tasks decreases the influence of non-tested constructs on student test performance, as hypothesized, we would expect mean scores on the supported items to be statistically significantly higher than mean scores on unsupported items for students who normally receive audio accommodations during testing. We would further expect a significant interaction between accommodation condition and type of student. As hypothesized, we would expect audio support to lead to improved test scores for students who have an identified need for audio support, but no significant difference in mean score for students without an identified access need. No significant difference in scores is consistent with the traditional views of the effects of accommodations on students without disabilities. However, in recent years, the paradigm has shifted to one of “differential boost” and many researchers have acknowledged that students who are not identified as having a disability may still have access needs that are alleviated by the accommodation. For example, many poor readers are not identified

as having a communication-related learning disability, but they may still benefit from an accommodation in which all or part of a test is read aloud to them. Thus, it is possible that students without access needs will show a significant increase in performance on supported items.

The second set of analyses will examine the effect that the sign and audio supports had on the properties of the test. For this analysis, we will examine both the reliability of the test administered under supported and unsupported conditions and the item difficulties of the test. To examine reliability, Cronbach's alpha will be calculated separately for supported and unsupported items. If the audio or sign support was successful in removing construct-irrelevant variance for students who normally receive sign or audio support, it is expected that the reliability coefficient for the supported block will be higher than the coefficient for the unsupported block. To examine student performance on individual items, item difficulties (proportion of students who answer the item correctly) will be calculated for each item. A z-test of the difference between the two proportions will be used to determine if there are statistically significant differences in the item difficulties of the text (unsupported) and audio and sign representations (supported). The level of significance (alpha) will be set at .05. It is expected that the item difficulties for the supported block will be statistically significantly higher than the item difficulties for the unsupported block for students who normally receive audio or sign support. It is expected that the item difficulties for the supported block will not be statistically significantly different than the item difficulties for the unsupported block for students who do not have an identified access need.

The last set of analysis will examine the relationship between student performance and teacher ratings of student ability. Pearson Product Moment Correlations will be calculated to examine the relationship between teacher ratings of students' math ability and student performance on supported and unsupported math items. If the use of audio and sign representations of test items and tasks decreases the influence of non-tested constructs on student test performance, as hypothesized, we would expect teacher ratings and scores on the supported items to be more highly correlated than teacher ratings and scores on the unsupported items.

Step 9: Revise based on findings from the experimentally designed research studies. Based on findings from the research studies, the guidelines and representations of sample items will be modified as needed.

Through this nine-step development and validation procedure, GAAP will produce research-based audio and sign guidelines along with sample items showing how the guidelines can be implemented. The goal of this project is to build the capacity of states, consortia and assessment vendors to produce reliable and valid audio and sign representations of assessment items and tasks for students with vision or print disabilities and students who communicate using sign language. To facilitate use of the guideline and sample items, grant funding will be used to set up a website that contains the guidelines and associated sample items that will be freely available to the public after the grant has ended. The website will allow users to search by content area, grade level, and content element. Users will be able to view three representations of each item: 1) audio text only, 2) audio text and graphics and 3) sign. The audio representations will be shown as text based scripts while the sign representations will be shown as video files.

In addition, beyond the life of this project, the proposed methodology can be applied to conduct evidence-based research and development of alternate representations such as tactile graphics, simplified English, visual representations of text based content, and language translation, creating a framework for future funding of digitally based supports for alternate representations of assessment content. To guide replication of the project methodology, the GAAP team will develop a “lessons learned” document that summarizes the process along with the successes and challenges encountered in each step and suggestions for how to streamline and/or improve the process. The lessons learned document will draw on findings from the evaluation conducted by NCEO (see Project Evaluation section.) The document will be posted on the website described above.

4. Management Plan

4.1 Roles and Responsibilities

To execute the proposed work, a consortium of research and partner states led by the Maryland State Department of Education has been assembled. Three subcontractors have committed to work on the project. The project management partner is Measured Progress's Innovation Lab. WGBH's National Center for Accessible Materials (NCAM) will serve as audio specialists. The evaluation partner is the National Center for Educational Outcomes. The roles and responsibilities of each entity are described below.

Success of the project depends on the involvement of experts in the field of audio and sign accessibility as well as experts in mathematics and ELA content who are familiar with the CCSS (referred to henceforth as mathematics and ELA CCSS experts). Experts will serve in one of two roles: working group members or advisory board members. The responsibilities associated with each role are described below. The experts who have committed to serve as consultants on the project are listed in the Personnel section.

GAAP Consortium. GAAP will be led by Trinell Bowman, Program Manager for the Maryland State Department of Education and Dale Cornelius, Program Manager, Online Testing, for the Maryland State Department of Education. Ms. Bowman and Mr. Cornelius will be responsible for overseeing and directing all aspects of the project. They will also work with a representative from each of the research and partner states to coordinate activities and receive input on the progress and quality of work produced throughout this project. Ms. Bowman and Mr. Cornelius will dedicate 10% of their time to the project.

The GAAP Consortium includes 18 states; each will play one of three roles described below. While each state has agreed to a particular role in their Memorandum of Understanding (attached), states can request to change roles at any time during the project.

Lead State. The Maryland State Department of Education will lead GAAP and is responsible for directing all work performed on the project. Maryland will also designate one mathematics and one ELA CCSS expert to serve on the working group (see description below). State content CCSS experts do not need experience in accessibility, but will instead contribute critical information about the links between assessment, instruction, and content knowledge.

Research States. Utah, Vermont, New Hampshire and Arizona have agreed to take the role of research states on GAAP. Research states have agreed to: a) participate in face to face project meetings, conference calls and/or webex sessions (including the work described in step 2 of the Methodology and Design section); b) review guideline drafts and materials (including the work described in step 3 of the Methodology and Design section); c) provide assistance in recruiting schools to participate in the research components of the project; and d) implement the guidelines in state testing programs no later than the end of the project period, where appropriate.

Partner States. Connecticut, Rhode Island, Minnesota, Maine, Michigan, Montana, Idaho, Kansas, North Carolina, Washington, Colorado and Oregon have agreed to take the role of partner states on GAAP. Partner states have agreed to: a) participate in face to face project meetings, conference calls and/or webex sessions; b) review guideline drafts and materials (including the work described in step 3 of the Methodology and Design section); and c) implement the guidelines in state testing programs no later than the end of the project period, where appropriate.

The states in the GAAP Consortium are committed to the project and bring a unique combination of expertise and diversity of student populations. As evidenced in the attached Memorandum of Understandings, all states have agreed to participate in GAAP meetings and conference calls, provide verbal and/or written feedback on guideline drafts, and implement the guidelines in state testing programs, where appropriate, no later than the end of the project period. The group of states represents all four Census regions (Northeast, South, Midwest and West) and both the PARCC and Smarter Balanced assessment consortia. The proposed structure of GAAP and involvement of the states is intended to produce maximal state acceptance and broad implementation of the audio and sign guidelines developed and researched as part of the GAAP. This will lead to system changes lasting beyond grant funding.

Project Management Partner. Measured Progress will be contracted by the Maryland State Department of Education as the project management partner for GAAP. Measured Progress is not partnered with any other eligible applicant applying for an award under this competition. Throughout Measured Progress's 28-year history they have successfully collaborated with states to develop and

implement effective, efficient assessment programs and have demonstrated the ability to fulfill program requirements. As a not-for-profit organization, Measured Progress is ultimately dedicated to students, not shareholders.

Within Measured Progress, the Innovation Lab will be responsible for managing GAAP. The Innovation Lab is a division of Measured Progress that focuses specifically on developing solutions for making tests and test content accessible for all students. The Innovation Lab grew out of university-based research, and was formed in response to requests by staff in state assessment programs who wanted to see research on computer-based testing and accessibility brought to market. For this reason, the Innovation Lab contains a unique blend of expertise in technology, special education and English Language Learning policy, research methodology, and accessible test design. Since this project builds on previous research which was managed by the Innovation Lab (work described in the Significance section), they are well-qualified to serve as the GAAP project management partner.

Lisa Famularo, Director of the Innovation Lab will serve as Project Director and have overall responsibility for the day-to-day management of project activities. Dr. Famularo will spend 20% of her time on the project. The Project Director will oversee the work of two teams: the Guideline Development Team and the Research Team. The Guideline Development Team will be led by Jennifer Higgins. This team will be responsible for conducting the literature review and review of current and best practices, developing draft guidelines, working with working group members (described below) to create draft sign and audio guidelines with sample items, and working with advisory board members to collect and incorporate their feedback on the draft audio and sign guidelines and the sample item representations generated from the guidelines. Ms. Higgins will spend 50% of her time on the project. The Research Team will be led by Jessica Masters. This team will be responsible for conducting all research activities including working with research states to recruit schools to participate in the research components of the project; conducting the cognitive labs; preparing the test forms for online administration including developing digital voice recordings for audio items and videos of signed items; analyzing the validity study data, and co-authoring the validity report. Dr. Masters will spend 50% of her time on the project.

Dr. Famularo, Ms. Higgins and Dr. Masters will also work closely with Ms. Bowman and Mr. Cornelius to produce all reports required for this project.

Working Group Members. Success of the project requires the involvement of experts in the field of audio and sign accessibility as well as mathematics and ELA CCSS experts. Experts will serve in one of two roles: working group members or advisory board members. Working group members will actively participate in the development of the audio and sign guidelines via in-person meetings and conference calls as well as in the review of draft guidelines. The experts who have committed to participate in the working group are described below.

Audio Specialists Bryan Gould, Madeleine Rothberg, and Larry Goldberg from WGBH's National Center for Accessible Materials (NCAM) will participate in the development of audio guidelines. WGBH is a non-profit research and development organization dedicated to achieving media access equality for people with disabilities. NCAM is an extension of public broadcasting's groundbreaking work in media access that began in 1972 with the establishment of The Caption Center at WGBH and its development of captioning for television viewers who are deaf and hard-of-hearing. In 1990, WGBH's access mission resulted in the development of video description for television audiences who are blind and visually impaired. More recently NCAM has played a lead role in development efforts of audio descriptions of educational materials for the DIAGRAM center and Description Enhanced Assessments EAG.

Sign Specialists Specialists from the deaf/hard of hearing community who will participate in working group that will develop sign guidelines are Dr. Stephanie Cawthon, Mark Gobble, Lori Moers, and Dr. Cindy Volk. This team of specialists brings expertise in deaf/hard of hearing accommodation policy, deaf/hard of hearing mathematics education, deaf/hard of hearing reading education, and sign interpretation. The sign specialists who have committed to serve on the working group are listed in the Personnel section.

Mathematics and ELA CCSS content specialists. Content area specialists who are involved in the implementation of CCSS from the lead state and a content area specialist from Measured Progress will

participate in the working group. These individuals will provide the content expertise required to ensure the integrity of the construct being measured is maintained as the working group discusses and makes decisions on how to remove construct irrelevant barriers to performance. Donna Watts, Mathematics Coordinator, and Sylvia Edwards, Specialist in Reading/English Language Arts from the Maryland State Department of Education and Mark Johnson, Director of Content Design and Development from Measured Progress have committed to the project.

Advisory Board. The advisory board members will provide critical review of draft audio and sign guidelines and the sample item representations generated from the guidelines (including steps 4 and 6 as described in the Methodology and Design section). The advisory board members will attend three project meetings and will be available for up to ten additional days of consulting for this project. This consultation will focus on providing critical review of draft audio and sign guidelines and the sample item representations generated from the guidelines. The experts who have committed to serve on the Advisory Board are: Barbara Henderson (American Printing House for the Blind), Allan Sheinker (Dynamic Learning Maps Consortia), Jacqueline Kearns (National Center and State Collaborative), Cara Laitusis (ETS), Stephen Sireci (University of Massachusetts), Shirin Antia (University of Arizona), Betty Colonomos (Bilingual Mediation Center) and Lynn Shafer Willner (George Washington-Center for Equity and Excellence in Education) will provide expertise in students with cognitive disabilities, print disabilities, vision disabilities, hearing disabilities, measurement and English Language Learners.

Project Evaluation partner. The National Center for Educational Outcomes (NCEO) will be responsible for conducting evaluation activities. NCEO was established in 1990 to provide national leadership in designing and building educational assessments and accountability systems that appropriately monitor educational results for all students, including students with disabilities and English Language Learners. Since its establishment, NCEO has 1) worked with states and federal agencies to identify important outcomes of education for students with disabilities; 2) examined the participation of students in national and state assessments, including the use of accommodations and alternate assessments; 3) evaluated national and state practices in reporting assessment information on students

with disabilities; 4) bridged general education, special education, and other systems as they work to increase accountability for results of education for all students; and 5) directed research in the area of assessment and accountability.

4.2 Timeline

The project will begin in September 2012. During the first two months, the Measured Progress Guideline Development Team will collect and synthesize existing literature, best practices, and current state practices on audio and sign representation in educational settings. As part of this phase, the Guideline Development Team will also conduct interviews with individuals from states and organizations that have developed sign and/or audio representations for various purposes. (For additional details about this phase of the project, refer the Methodology and Design section.)

In the third month, the project will have a kick off call with all members of the GAAP team where the project design, roles and responsibilities, and literature review information will be shared and the group will have an open discussion about the project and talk through plans for implementation.

The project will then begin the first of three, over-lapping nine-month cycles of development and research of audio and sign guidelines. Each cycle focuses on the development of guidelines and related research for one grade span: grades 3-5, grades 6-8, and high school. As previously described, each cycle will follow the same nine-step procedure. A timeline showing the steps and corresponding activities as well as other milestones (e.g. kick-off call) is shown in Figure 3. Cycle 1, which focuses on guidelines for grades 3-5, will be completed in year 1. Cycle 2, which focuses on guidelines for grades 6-8, will begin in year 1 and conclude in year 2. Cycle 3, which focuses on guidelines for high school grades, will be completed in year 2.

During the first month of the cycle, content elements will be identified by the Measured Progress Guideline Development Team and reviewed by the working group (step 1). In a small in-person meeting in month two, Measured Progress Guideline Development Team members and working group members will apply research and best practices in audio and sign representation to a sample of CCSS assessment items and create draft guidelines (step 2). Later in month two, the full project team, including advisory

board members will be asked to review the sample representations and draft guidelines and provide feedback either in writing or via a conference call (step 3). The Measured Progress Guideline Development Team will make revisions to the guidelines and sample representations in month three (step 4) and the Research Team will conduct cognitive labs in month four and findings will be synthesized in month five (step 5). The guidelines will be revised based on cognitive lab findings later in month five (step 6). In month six, research forms will be created using sample CCSS items and the draft audio and sign guidelines (step 7). In months seven through nine, the Measured Progress Research Team and NCEO Evaluation Team will conduct the validity study and synthesize the findings (step 8), which will result in the final revision of the guidelines at the end of month 9 (step 9)

Once developed and validated, the audio and sign guidelines will be disseminated broadly to PARCC, Smarter Balanced and state testing programs for adoption and integration into their programs. GAAP team members will submit proposals to present findings at national assessment conferences such as CCSSO's National Conference on Student Assessment. To facilitate use of the guideline and sample items, grant funding will be used to set up a website that contains the guidelines and associated sample items that will be freely available to the public after the grant has ended.

Figure 3. Project Timeline

| Year 1: Sept 1, 2012 - Aug 31, 2013 | | | | | | | | | | | | |
|---|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Activity | Sept | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug |
| Cycle 1 (C1) Grades 3-5 | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| Cycle 2 (C2) Grades 6-8 | | | | | | | | | | 1 | 2 | 3 |
| Literature review and interviews | | | | | | | | | | | | |
| Kick off call | | | | | | | | | | | | |
| Step 1: Identify content elements | | | C1 | | | | | | | C2 | | |
| Step 2: Working group meeting, create draft guidelines and apply to set of sample items | | | | C1 | | | | | | | C2 | |
| Step 3: Full team review and feedback | | | | C1 | | | | | | | C2 | |
| Step 4: Revisions based on team feedback | | | | | C1 | | | | | | | C2 |
| Step 5: Conduct cognitive labs, synthesize findings | | | | | | C1 | C1 | | | | | |
| Step 6: Revisions based on cognitive lab findings | | | | | | | C1 | | | | | |
| Step 7: Create test forms for validity studies | | | | | | | | C1 | | | | |
| Step 8: Conduct validity studies, synthesize findings | | | | | | | | | C1 | C1 | C1 | |

| | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|----|--|
| Step 9: Revisions based on validity study findings | | | | | | | | | | | | | C1 | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|----|--|

| Project Timeline | Year 2: Sept 1, 2013 - Aug 31, 2014 | | | | | | | | | | | | |
|---|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | Sept | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | |
| Cycle 2 (C2) Grades 6-8 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | |
| Cycle 3 (C3) High School | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| Step 1: Identify content elements | | | C3 | | | | | | | | | | |
| Step 2: Working group meeting, create draft guidelines and apply to set of sample items | | | | C3 | | | | | | | | | |
| Step 3: Full team review and feedback | | | | C3 | | | | | | | | | |
| Step 4: Revisions based on team feedback | | | | | C3 | | | | | | | | |
| Step 5: Conduct cognitive labs, synthesize findings | C2 | C2 | | | | C3 | C3 | | | | | | |
| Step 6: Revisions based on cognitive lab findings | | C2 | | | | | C3 | | | | | | |
| Step 7: Create test forms for validity studies | | | C2 | | | | | C3 | | | | | |
| Step 8: Conduct validity studies, synthesize findings | | | | C2 | C2 | C2 | | | C3 | C3 | C3 | | |

| | | | | | | | | | | | | |
|--|--|--|--|--|--|----|--|--|--|--|----|--|
| Step 9: Revisions based on validity study findings | | | | | | C2 | | | | | C4 | |
| Dissemination | | | | | | | | | | | | |

5. Project Personnel

The Principle Investigators of this project are Trinell Bowman and Dale Cornelius from the Maryland State Department of Education. They will be responsible for overseeing the project and ensuring that project activities fulfill the mission of the project.

Trinell Bowman, Program Manager, Division of Accountability, Assessment and Data Systems, MSDE will serve as one of the Principle Investigators for the grant. Ms. Bowman manages all aspects of Maryland's Alternate Assessments based on Alternate Achievement Standards and the Modified Assessments based on Modified Achievement Standards in grades 3-8 for reading and mathematics as well as the high school end-of-course assessments in Algebra/Data Analysis, Biology and English. She is also responsible for providing guidance and implementing policies and procedures for accommodations. In addition, Ms. Bowman serves on the Maryland State Department of Education Universal Design Task Force and on the PARCC Accommodations, Accessibility and Fairness and Technology workgroups.

Dale Cornelius, Project Manager, Division of Accountability, Assessment and Data Systems, MSDE will serve as one of the Principle Investigators for the grant. Mr. Cornelius oversees Maryland's computer-based assessments and the Maryland State Assessment for Science. He has participated in developing interoperability and accessibility standards for online testing systems, known as APIP, since 2009 and represents Maryland on the PARCC technology working group for Interoperability. Prior to Maryland, he was the Assessment Tools Manager for the Oakland Unified School District, in Oakland California, where he helped build a web-based, benchmark assessment system serving over 100 schools.

Within Measured Progress Innovation Lab, Lisa Famularo, Ph.D. will serve as Project Director and have overall responsibility for the day-to-day management of project activities. She will oversee the work of the Guideline Development and Research Teams. Dr. Famularo has over 15 years of experience conducting education research and has directed several large-scale research projects. Dr. Famularo received her Ph.D. in Educational Research, Measurement and Evaluation from Boston College.

Jennifer Higgins will serve as the Guideline Development Project Manager. Ms. Higgins has 10 years of experience managing research on testing and technology in schools, has led several computer-

based test accommodation studies, and worked on three Enhanced Assessment Grants. She earned her M.Ed. in Educational Research, Measurement, and Evaluation from Boston College.

Jessica Masters, Ph.D. will serve as the Research Project Manager. Dr. Masters has over 7 years of experience managing research on testing and technology. She has extensive research experience and is currently PI on an IES-funded project that is developing and evaluating an online formative assessment system for geometry. Dr. Masters received her Ph.D. in Computer Science with a focus on educational technology from the University of California at Santa Cruz.

Dr. Michael Russell, Co-Founder of the Innovation Lab and Senior Vice President of Strategic Development at Measured Progress, will serve as an Advisor to both the Guideline Development and Research Teams. Dr. Russell has extensive experience in test accommodations and accessibility, computer-based testing, and psychometric data analysis. He has played an instrumental role in the development of APIP standards.

Other staff members in the Measured Progress Innovation Lab will serve on the Guidelines Development and Research Teams. Research associates will assist Ms. Higgins and Dr. Masters in guideline development and research activities. Thomas Hoffmann, Senior Development Leader will serve as a technical and user interface advisor on the project. Mr. Hoffmann has over 14 years of experience preparing educational tests and developing computer-based testing interfaces. A graphic designer will be responsible for preparing test items for transfer to the online testing program. Two programmers will prepare the test forms for operational test delivery for the validity studies, provide technical support during the testing windows, and prepare and deliver the test data to the researchers.

Specialists from WGBH's National Center for Accessible Materials (NCAM), who work under the direction of Bryan Gould, will participate in the working group that will develop audio guidelines. Mr. Gould, NCAM Project Manager, is well versed in issues related to blindness and how people who are blind or who have low vision (or any print limitations) access technology and various types of media. Mr. Gould conducts blindness-related research and development projects for NCAM. He led an NSF-funded collaboration with researchers and practitioners at the American Foundation for the Blind,

Recording for the Blind and Dyslexic Inc, and the American Printing House for the Blind to research the most meaningful mix of audio description and tactile exploration required to communicate information to blind post-secondary students and professionals about the physical, life and earth sciences. He is currently providing training sessions to digital talking book providers, multimedia publishers and state organizations providing alternative materials on how best to present complex images to meet the needs of students with print disabilities. He is also spearheading an effort to develop standards-based methods of embedding short and extended description files in Web-based curriculum and digital talking books. Mr. Gould holds a BA from Syracuse University and an MA from the University of Massachusetts.

Specialists from the deaf/hard of hearing community who will participate in working group that will develop sign guidelines are Dr. Stephanie Cawthon, Mark Gobble, Lori Moers, and Dr. Cindy Volk.

Dr. Stephanie Cawthon: Deaf/Hard of Hearing Assessment Accommodation/Policy Advisor - Dr. Cawthon is an Assistant Professor at the University of Texas at Austin and is a national expert on issues related to standardized assessment and students who are deaf or hard of hearing, particularly in the context of accountability reforms. She is the Associate Director for Research at the National Center for Educational and Employment Outcomes for Deaf Students. Dr. Cawthon also explores assessment issues such as the effects of accommodations on test scores for students with disabilities and ELLs.

Mr. Mark Gobble: K-12 Deaf/Hard of Hearing Math Education Specialist – Mr. Gobble is an assistant professor at Boston University’s School of Education, a graduate of Gallaudet University, PhD candidate at University of Texas and former history educator at the Texas School for the Deaf (Austin) and mathematics educator at the Florida School for the Deaf and Blind (St. Augustine). Mr. Gobble brings more than 13 years of experience directly related to deaf education.

Ms. Lori Moers: K-12 Deaf/Hard of Hearing Reading Specialist – Ms. Moers is the Assistant Principal, Family Education and Early Childhood Department at the Maryland School for the Deaf. Ms. Moers prior experience includes acting as a reading specialist for elementary students at the Maryland School for the Deaf and provided technical assistance to programs servicing deaf/hard of hearing children and training for interpreters who translate for deaf/hard of hearing children during state assessments.

Dr. Cindy Volk: Deaf/Hard of Hearing Interpreter – Dr. Volk is an Associate Professor of Practice, Disability and Psychoeducational Studies at the University of Arizona. Dr. Volk is the project director of the Educational Interpreting Program. She has a Ph.D. in higher education from the University of Arizona. She has been an interpreter educator for 20 years. She has national certification from the Registry of Interpreters for the Deaf (CI, CT) and is a CODA (Child of Deaf Adults).

The experts who have committed to serve on the Advisory Board will provide expertise in students with cognitive disabilities, print disabilities, vision disabilities, hearing disabilities, measurement and English Language Learners. Ms. Henderson brings a deep knowledge of students with blind and visual impairments and how to meet their needs for assessment. Dr. Sheinker and Dr. Kearns are both experts in the area of students with significant cognitive disabilities and play leading roles in the Dynamic Learning Maps and National Center and State Collaborate GSEG's respectively. Dr. Laitusis is a research scientist at ETS, her current work includes creating a research agenda for test takers with disabilities and research on the validity of testing accommodations. Dr. Sireci is a Professor of Education at the University of Massachusetts and is known for his research in evaluating test fairness, particularly issues related to content validity, test bias, cross-lingual assessment, standard setting, and sensitivity review. Dr. Antia is a deaf/hard of hearing expert with twenty years of experience supporting the preparation of teachers of deaf/hard of hearing. Ms. Colonomos is a fluent American Sign Language (ASL)/English bilingual and has chaired many national committees on standards and evaluation of interpreters. Finally Ms. Shafer-Willner brings deep knowledge of English Language Learners and serves as lead technical assistance provider on ELL accommodation issues in several states.

The project will be evaluated by Laurene Christensen, research associate at the National Center for Educational Outcomes. Dr. Christensen works with states to improve outcomes for students with disabilities and English language learners (ELLs), particularly in the area of assessment accommodations. Recent evaluation projects have included the Student Accessibility Assessment System (SAAS), as well as a number of evaluation projects designed to improve access programs for at-risk students in post-secondary settings. Dr. Christensen has collaborated with program evaluators on the design and

implementation of the NCEO technical assistance center, informing the development of several tools that have been created for the center evaluation.

Dr. Christensen will be assisted by Christopher Rogers, Jim Hatten, and Dr. Yi-Chen Wu. Christopher Rogers is a Research Fellow who works on projects related to accessibility and accommodations at NCEO. Jim Hatten is a Research Fellow at NCEO who has experience with evaluation, online data collection efforts, and qualitative data analysis. Dr. Wu is a psychometrician at NCEO who conducts statistical evaluations for the center.

As described above, GAAP includes a diverse group of individuals, many of whom have disabilities. If the need should arise to replace staff and/or consultants on the project, persons who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability will be encouraged to apply for these positions.

6. Resources

The Principal Investigators (PIs) and members of the lead, research and partner states are housed within their respective departments of education. The Project Director, Guidelines Development Project Manager, Research Project Manager, and members of the Guidelines Development and Research Teams are housed at Measured Progress. The Project Evaluator is housed at the National Center for Educational Outcomes.

Measured Progress has a 28-year track record of developing and delivering high quality assessment programs. The Innovation Lab, a division of Measured Progress, is a direct outgrowth of more than 10 years of university-based research which provides considerable expertise in computer-based testing, research on testing, and accommodations. Measured Progress's Innovation Lab contracts with Edge Web Hosting, a high-load, high-security 24/7 server provider to assure stable and efficient on-line data collection. Innovation Lab personnel also have many years of experience and demonstrated capability to perform high-quality development and research on test-related issues that is demonstrated by the more than 20 randomized experiments on mode of administration and test accommodations.

Similarly, NCEO has a moderate sized staff that forms a highly respected organization in the field

of disabilities, special needs, and accommodations. NCEO has conducted dozens of studies on accommodations and testing, and has participated in several large-scale research projects aimed at improving educational opportunities and outcomes for students with disabilities and special needs.

Special Facilities and Equipment. Measured Progress's Innovation Lab specializes in developing accessible test delivery interfaces and accessibility tools. To prepare accessible digital materials, the Innovation Lab has an array of specialized software used to develop digital voice recordings, videos of signed items, image processing tools, and software to integrate media files into a seamless yet flexible test-taking experience. As noted above, the Innovation Lab also contracts with a nationally recognized Internet server provider to distribute tests on-line and to collect and store student responses in a reliable and secure manner.

Human and Organizational Resources. The human resources available to this project are vast and highly experienced within the areas of assessment design and delivery, Common Core State Standards, special education, limited English proficiency, scientific and descriptive educational research, educational policy, universal design for assessment, technology, and the education of children who are disadvantaged. We are fortunate to have the support of and access to the vast resources from highly esteemed non-profit organizations: NCEO, American Printing House for the Blind, WGBH's NCAM, representatives from PARCC, Smarter Balanced Assessment Consortium, Dynamic Learning Maps Consortium, National Center and State Collaborative, schools for the deaf. Vitas in Part 6 provide supporting evidence for the quality and relevant training and experience of our personnel and consultants.

Commitment. The commitment of the GAAP states and organizations is reflected in the 4-year history these organizations have working closely together. This is evidenced by the success of the Universal Access to Assessment, APIP, and Student Accessibility Assessment System Enhanced Assessment Grants. This project aims to build on these past relationships and common interests, while also extending the benefits of this work to new research and partner states, as well as states and consortia that do not participate directly in the project.

7. Project Evaluation

In order to ensure the high quality of all project materials, NCEO will provide evaluation services for this project. Evaluation activities will be directed by Laurene Christensen, Research Associate at the National Center on Educational Outcomes (NCEO). Dr. Christensen will be assisted by Christopher Rogers, Jim Hatten, and Dr. Yi-Chen Wu. (See the Personnel section for qualifications of NCEO staff.) Evaluation services will be directed by the Maryland Department of Education and the evaluator will report directly to the project directors, Trinell Bowman and Dale Cornelius.

Outside review of the key products of this project will ensure that any unintentional biases by the project staff are addressed before products are publicly disseminated. NCEO will provide formative evaluation in order to ensure that project activities are of high quality. NCEO will also provide summative evaluation by surveying state partners on the project with regard to their satisfaction with the products of the project as well as improvements that could be applied to the next project cycle.

NCEO will provide feedback on audio and sign guideline literature review conducted by Measured Progress. NCEO staff will provide feedback on completeness of the review by doing an additional library search on the topic. NCEO staff will evaluate readability of the document by conducting a SMOG analysis of the reading level of the report. Based on this analysis, NCEO staff will suggest edits to improve the readability of the report. NCEO staff will evaluate the usability of the report by sharing the draft with a variety of stakeholders and surveying them. NCEO will provide feedback to Measured Progress in a report, which will be completed no later than two months after the completion of the Measured Progress literature review.

NCEO will also conduct formative and summative evaluation for each of the three of guideline development and research. NCEO staff will be involved in each of the steps of the three cycles of guideline research and development, with a role of synthesizing the data from each step, thus ensuring that conclusions from the process are unbiased and valid.

NCEO will synthesize the feedback collected by Measured Progress on the expert judgment activity. Data from the in person meetings and feedback from advisors, consultants and GAAP states via conference calls and written comments will be collected by Measured Progress. The data will be sent to

NCEO using a secure server. Data will be analyzed thematically by NCEO staff, using NVIVO software. Reports of the results of this analysis will be available within one month of the working group meeting.

NCEO will synthesize the data gathered through cognitive labs. The cognitive labs will be conducted by Measured Progress. Transcripts of the cognitive labs, and any additional data collected from the cognitive labs will be delivered to NCEO through a secure data transfer process. NCEO will conduct a thematic content analysis of the cognitive lab transcripts, and provide a written report to Measured Progress within one month of the completion of the cognitive labs.

NCEO will conduct the statistical analyses of the experimental studies, designed to study the effectiveness of the items presented in sign or audio. Measured Progress will develop the student test form instruments and educator survey instrument and will collect the data using online tools. Data will be sent to NCEO using a secure data transfer protocol. Data will be stored on a secure server at NCEO, where staff will conduct the data analysis, using SPSS to run a variety of statistical analyses (including t-tests and ANOVA) as described in the Project Design section. NCEO will provide the reports of analysis within two months of receiving the data. Reports will be provided to Measured Progress within two months of the completion of data collection.

NCEO will also conduct a process evaluation to ensure that state partners are satisfied with the products of the project as well as to learn what improvements can be made for the next project cycle. NCEO will survey state partners near the end of cycles 1 and 2. In this way, Measured Progress will have feedback, in the form of a report, provided at the start of cycles 2 and 3, to use in planning for the in-person meetings. NCEO will utilize a web-based survey tool and examine descriptive statistics for the analysis.

NCEO will collaborate with project partners to disseminate information related to the project activities. NCEO will present information on the project during at least one conference during the grant cycle. Other dissemination efforts may include conference presentations and other publications.

After conducting the analysis of these data gathering activities, NCEO staff will summarize these analyses into a validity report and make recommendations on design changes for the next cycle. Research

strategies that are suitable for replication in other settings will be included in the report so that other states that are not in the project consortium may benefit from the knowledge developed in this project.

Evaluation deliverables will include (1) evaluation reports summarizing each of the data analyses, (2) evaluation reports summarizing the process evaluation components, and (3) a final report, written in collaboration with Measured Progress, that summarizes the findings from the validity studies. NCEO staff will also collaborate with Measured Progress and GAAP States to support the dissemination of the project, through conference presentations, and other publications. In addition to these primary evaluation activities, NCEO staff will attend in-person project meetings and participate in project webinars in order to stay abreast of project activities and developments.

8. **Priorities Met by GAAP**

The GAAP project meets the following Absolute Priorities:

1. Collaborate with institutions of higher education, other research organizations, and other organizations to improve the quality, validity and reliability of state academic assessments beyond ESEA requirements. GAAP will be conducted in collaboration with experts in accessibility and students with special needs at Measured Progress, NCEO, and WGBH's NCAM. The GAAP working group and advisory board include experts from several institutions of higher education including University of Texas at Austin, University of Arizona, University of Massachusetts, Boston University and George Washington University's Center for Equity and Excellence in Education. The work conducted as part of this project goes beyond current ESEA requirements by developing audio and sign guidelines that when implemented will improve access for students with disabilities, special needs, and/or who are English learners as well as increase the validity of inferences made about these students' academic proficiency.

4. Evaluate student achievement using technology-based assessments. When delivered by computer, accommodations such as read aloud and signing can be delivered in a standardized manner to all students in the testing program who require these supports. While computer-based delivery has potential to dramatically improve both access and valid measurement for many students with disabilities, special needs, and/or students who have limited English proficiency, the success of this approach is

dependent on the ability of test developers to appropriately represent test content in audio and sign form. GAAP will provide research-based, audio and sign guidelines for representing item content for students with vision or print disabilities, students with limited English proficiency, and students who communicate using sign language via next generation computer-based tests.

The GAAP project meets the following Competitive Priorities:

1. Accommodations. GAAP involves the development of accessibility and accommodation guidelines that, when implemented, will improve the reliability and validity of inferences made about the academic proficiency of students with disabilities and English learners as well as improve accessibility practice across the United States. The project will create an immediate change in accommodation practice among the 18 states in the GAAP Consortium.

2. Collaborative efforts. GAAP is a collaborative effort conducted by a consortium of states under the leadership of Maryland. Utah, Vermont, Arizona, and New Hampshire will serve in the role of research states. Connecticut, Minnesota, Maine, Montana, Michigan, Rhode Island, Washington, Idaho, Kansas, North Carolina, Oregon, and Colorado will serve in the role of partner states.

3. Dissemination: The goal of this project is to build the capacity of states, consortia and assessment vendors to produce reliable and valid audio and sign representations of assessment items and tasks for students with vision or print disabilities, students with limited English proficiency and students who communicate using sign language. GAAP will take an aggressive approach to dissemination that includes directly contacting state assessment directors, assessment of special population directors, and consortium to inform them about the project and provide access to the guidelines. The GAAP team will also present findings at the CCSSO National Conference on Student Assessment. To facilitate use of the guideline and sample items, grant funding will be used to set up a website that contains the guidelines and associated sample items that will be freely available to the public after the grant has ended.

Other Attachment File(s)

* Mandatory Other Attachment Filename:

To add more "Other Attachment" attachments, please use the attachment buttons below.

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Resumes of Project Director(s) & Key Personnel

CURRICULUM VITAE

Trinell M. Bowman

(b)(6)

EDUCATION

Trinity College, Washington D.C., 2000
Certification in Special Education K-12

Wayne State University, Detroit, Michigan
Master of Social Work, Community Organization/Administration, 1996

Morgan State University, Baltimore, Maryland
Bachelor of Social Work, 1995

CERTIFICATIONS

School Administration Certification II

School Administration Certification I

Advance Teaching Maryland State Certification: Special Education K-12

PROFESSIONAL EXPERIENCE

Program Manager, (2007-Present)

Division of Accountability, Assessment and Data Systems
Maryland State Department of Education (MSDE)
Baltimore, Maryland

Coordinates and collaborates with MSDE staff, test contractors, local accountability coordinators, local assessment facilitators, and stakeholder advisory committee to manage the development, administration, scoring, and reporting of results of the Alternate Assessment and Modified Assessments. Responsibilities include management of program budget, monitoring of contractor via weekly project meetings, conference calls, and periodic site visits to contractors various implementation sites, maintenance and monitoring of project plan, planning and coordination of and participation in program development and implementation, range-finding, operational scoring, reporting, and development of requests for proposal for renewal and additional contractual services by contractors.

- Participates on program management teams for each of the Maryland State assessment programs, including but not limited to the Maryland school Assessments in reading, mathematics, and science, and the Maryland High School Assessments, to ensure timely identification and resolution of issues related to the assessment of students with disabilities in these programs.
- Provides analysis/evaluation of test statistics, examiner feedback, and other item data for use in development of future assessments, related to the assessment of students with disabilities.
- Coordinate and facilitate the work of team members and provide technical expertise in the development and implementation of all State Assessment Programs.
- Provides technical expertise and training to MSDE staff and local school systems administrators on instructional and testing accommodations for students participating in State testing programs. Directs and coordinator the

annual update to the Maryland Accommodations Manual, including facilitating advisory groups and producing ancillary materials to be used in the training and staff development related to policy and implementation of accommodations in instruction and assessment

- Provides technical support and expertise on an ad hoc as needed basis on issues relating to the assessment of students with disabilities at the professional staff, branch chief, and assistant State superintendent level
- Developed and Conduct Statewide Training on Standards-based Individualized Education Program (IEP) Professional Development Modules
- Developed Four Online Professional Development Modules for the Alternate Maryland School Assessment for Instruction and Assessment Outcomes
- Prepares Materials for the United States Department of Education Peer Review Process for State Assessments
- Serves as a Member of the Universal Design for Learning State Task Force Committee
- Serves as a Member of the Partnership for Assessment of Readiness for College and Careers (PARCC) Accessibility, Accommodations and Fairness Operational Working Group and the Technology Operational Working Group
- Serves as a Member of the IMS Global Learning Consortium Accessible Portable Item Protocol (APIP) End-Users Working Group

Principal (April 2003-July 2007)

James E. Duckworth Regional School

Prince George's County Public Schools, MD

- Supervised all school operations of a Regional Special Education School for students enrolled in a k-12 program.
- Assured program compliance with all federal, state and local laws and regulations governing the operation of special education programs
- Supervised and evaluated teachers, paraprofessionals and ancillary staff
- Ensured efficient management of school operations and resources for a safe and effective learning environment
- Collaborated with families and community members and is capable of responding to diverse community interests by mobilizing community resources
- Fostered teacher professional development and coaching and motivating employees
- Developed Curriculum Development Content Frameworks in Reading and Mathematics for Students with Disabilities
- Consulted with the Director, Department of Special Education and related services, on the goals, objectives, and needs to support the school Program
- Knowledge of elementary, middle and secondary school curriculum, special education interventions, accommodations and modifications to instruction
- Represented PGCPSS as Facilitator of Alt-MSA with the Maryland State Department of Education
- Coordinated training related to the implementation of the Alt-MSA for Prince George's County Public Schools
- Served as a member of the Maryland State Department of Education Alt-MSA Stakeholder Advisory Committee

Assistant Principal (July 2002-April 2003)

James E. Duckworth School

Prince George's County Public Schools, Maryland

Special Education Teacher (November 1997-June 2002)

James E. Duckworth School

Prince George's County Public Schools, Maryland

Transition/Vocational Coordinator (August 1998-June 2001)

James E. Duckworth School

Prince George's County Public Schools, Maryland

Shelter Social Worker (September 1996-November 1997)

Board of Child Care

Baltimore, Maryland

School Social Work (July 1994-June 1995)

Cecil Elementary School

REFEREED PUBLICATION

Taherbhai, Husein; Seo, Daeryoung, Bowman, Trinell. (2011). Comparison of Paper-Pencil and Online Performances of Students with Learning Disabilities: British Educational Research Journal, v38 n1 p61-74 2012.

PRESENTATIONS AT NATIONAL CONFERENCES

Bowman, T. (May 2007): Curriculum Development Frameworks for Students with Disabilities. Women in Leadership Conference, Towson, Maryland.

Hall, S; Egnor, D; Bowman, T. (August 2008): Alternate Assessment Using Modified Academic Achievement Standards. Office of Special Education Programs, U. S. Department of Education Leadership Conference, Baltimore, Maryland.

Bechard; S; Bowman, T; Cameto, R; Elliott, S; Kettler, R; S; Stoica, W. (June 2009): Reports on Methods for Designing and Developing Alternate Assessments Based on Modified Achievement Standards (AA-MAS). National Conference on Student Assessment, Los Angeles, California.

Bowman, T. (March 2010): Science Education for Students with Disabilities. National Science Teachers Association Conference, Philadelphia, Pennsylvania.

Bechard, S; Bowman, T; Kettler, R; Lovingryder, S. (June 2010): A Research Synthesis: What Do We Know about Developing Items for 2% Assessments? National Conference on Student Assessment, Detroit, Michigan.

Bowman, T; Dami, T; Field, B. (June 2011): Using Technology to Enhance Professional Development for Teachers. National Conference on Student Assessment, Orlando, Florida.

Alcaya, C; Bowman, T; Fedorchak, C. (May 2012): State Perspectives on APIP. IMS Global Learning Consortium Learning Impact Conference, Toronto, Canada.

PROFESSIONAL ACHIEVEMENTS

Maryland State Department of Principal Academy Program 2005
Maryland School Performance Award Issued by the Maryland State Department of Education 2007, 2006, 2005
Prince George's County Public Schools Pre-Leadership Program, 2003
Prince George's County Public Schools Special Education Department Rising Stars Leadership Program, 2001

PROFESSIONAL AFFILIATIONS

Member, of Council for Chief Schools Officers, SCASS, Assessing Special Education Students (ASES)
Served as Co-Chair of the Standards-based IEP Workgroup from May 2010 to May 2012

National Association of Elementary School Principals
Association of Supervision and Curriculum Development
Maryland Assessment Group
National Association of Social Workers
Council for Exceptional Children

Stephanie W. Cawthon, Ph.D.

(b)(6)

EDUCATION

- 2002** **Ph.D., Educational Psychology (Human Development)**
University of Wisconsin-Madison, Madison, WI.
Dissertation: Opportunity to Learn Standards-Based Content for Students who are Deaf or Hard of Hearing
- 1995** **M.A., Psychology (Social Psychology)**
Stanford University, Stanford, CA.
Thesis: Gender differences in construals of sexual harassment
- 1994** **B.A., Psychology**
Stanford University, Stanford, CA. Conferred with Departmental Honors
Thesis: Syntax development in children who are deaf or hard of hearing
- 1991-92** **International study at Oxford University**
Department of Experimental Psychology, Oxford, England

CURRENT POSITION (since 2007)

Assistant Professor, Department of Educational Psychology, The University of Texas at Austin. Current responsibilities include: teaching courses *History and Systems of Psychology* (graduate), *Educational Disabilities in the Schools* (undergraduate/graduate), and *Adolescent Development* (undergraduate); conducting and mentoring research; supervising and serving on dissertation committees and masters reports; and providing local, state, and national service within areas of expertise.

AWARDS and FELLOWSHIPS

-
- 2012** **Exceptional Book of the Year Award**, Exceptionality Education International
- 2011-2012** **Dean's Fellow**, The University of Texas at Austin.
- 2011-2012** **Graduate School Diversity Mentoring Fellowship**, The University of Texas at Austin.
- 2009-2010** **Graduate School Diversity Mentoring Fellowship**, The University of Texas at Austin.
- 2009** **Office of Students with Disabilities Recognition**, The University of Texas at Austin.
- 2009** **Early Career Scholar, School Psychology Research Collaboration Conference**, Toronto, Canada.
- 2008** **Outstanding Publications Competition (Second Place)**, Division H (Research, Evaluation, and Assessment in Schools), American Educational Research Association
- 2006** **Extraordinary Faculty Award Recipient**, College of Behavioral Sciences, Walden University

- 2004** Fellow, Institute on Statistical Analysis in Educational Policy, American Educational Research Association
- 2001** Award for Outstanding Research on Education of Deaf Persons, American Educational Research Association
- 1999-2001** Fellow, Wisconsin Spencer Doctoral Research Training Program, University of Wisconsin-Madison
- 1997-1998** Knapp Graduate Fellowship, University of Wisconsin-Madison

SPECIAL HONORS AND EVIDENCE OF MERIT

- **Invited Expert Panelist** (2012, April). *Accessibility of ASL Accommodated Items*. Measured Progress, Boston, MA.
- **Invited Expert Panelist** (2012, March). *Meeting on Assessment and Accommodations for the Common Core Assessments*. Smarter Balance State Consortium, Boston, MA.
- **Advisory Panel Member** (2011-present). *myASL Quizmaker*, Institute for Disabilities Research and Training, Inc. Project funded by the Institute on Educational Sciences in the US Department of Education.
- **Invited Webinar Panel Moderator** (2011, August). *Testing Issues for Deaf and Hard of Hearing Students*. PEPNet, Bozeman, MN.
- **Invited Assessment Expert** (2011, April). *Assessment accommodations for students with disabilities*. US Department of Education, Washington, DC.
- **Invited keynote presentation** (2009, August). *Assessment Practices for Students who are Deaf or Hard of Hearing*. Universidad de Catolica de Santiago. Santiago, Chile.
- **Two invited keynote presentations** (with Dawson, K. & Lee, B.) (2009, May). *Drama-based Professional Development for Adult Learners* and *Quality and Fidelity Issues in Implementation of a Drama-based Professional Development Model*. Annual Forum of the Southeast Center for Education in the Arts, University of Tennessee at Chattanooga, Chattanooga, TN.
- **Invited Summit Panelist** (2008, August). *Deaf and Hard of Hearing: Test Equity Summit*. Pepnet, Denver, CO.
- **Invited Author** (2008, Oct-Nov). *Journal of Deaf Studies and Deaf Education* Author's Corner Wiki Discussion.
- **E-Editor**, *Journal of Deaf Studies and Deaf Education* (2011-present).
- **Editorial Board**, *Journal of Deaf Studies and Deaf Education* (2010-present).
- **Editorial Board**, *Journal of Postsecondary Education and Disability* (2010-present).
- **Editorial Board**, *American Annals of the Deaf* (2008-present).

PUBLICATIONS

Peer-Reviewed Book

Cawthon, S. (2011). *Accountability Reform and Students who are Deaf or Hard of Hearing*. Gallaudet University Press. <http://gupress.gallaudet.edu/bookpage/ABRbookpage.html>. (Reviewed by Armstrong, H. in *Journal of Deaf Studies and Deaf Education* (2011), doi: 10.1093/deafed/enr032.)

Peer-Reviewed Journal Articles (in reverse order). *denotes student collaborator

Cawthon, S., Dawson, K., Judd-Glossy, L.,* Ihorn, S., * (in press). Participatory research in an arts integration professional development program, *Teacher Development*.

Cawthon, S., Beretvas, S. N., Lockhart, L.,* & Kaye, A.* (in press). Opportunity to Learn for Students With and Without Disabilities. *Educational Policy Analysis Archives*.

Beretvas, S. N., **Cawthon, S.,** Lockhart, L.,* & Kaye, A.* (in press). Assessing Impact, DIF and DFF in Accommodated Item Scores: A Comparison of Multilevel Measurement Model Parameterizations. *Educational and Psychological Measurement*.

Garberoglio, C., Gobble, M., & **Cawthon, S.** (in press). A National Perspective on Teachers' Efficacy Beliefs in Deaf Education. *Journal of Deaf Studies and Deaf Education*.

Cawthon, S., Lockhart, L.*, Kaye, A.* & Beretvas, S. N. (in press). Effects of Linguistic Complexity and Accommodations on Estimates of Ability for Students with Learning Disabilities. *Journal of School Psychology*.

Cawthon, S. (2011). Education of Deaf and Hard of Hearing Students and Accountability Reform: Issues for the Future. *American Annals of the Deaf*, 156 (4), 424-430 | DOI: 10.1353/aad.2011.0035

Cawthon, S. & Dawson, K. (2011). Drama-Based Instruction and Educational Research: A Critical Pedagogical Approach to an Interdisciplinary Partnership and Praxis. *International Journal of Education and the Arts*. 12(17). 22 pages. <http://www.ijea.org/v12n17/>.

Cawthon, S., Highley, K.* & Leppo, R.*(2011). Test Item Modifications for English Language Learners: Review of the Empirical Literature and Recommendations for Practice. *School Psychology Forum: Research in Practice*, 5 (2), 114-127.

Cawthon, S. (2011). Test Item Linguistic Complexity and Students who are Deaf or Hard of Hearing. *American Annals of the Deaf*. 156 (3), 255-69.

Cawthon, S., Winton, S.,* Garberoglio, C.,* & Gobble, M.* (2011). The effects of ASL as an accommodation for students who are deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education*, 16(2), 198-211.

Dawson, K., **Cawthon, S.,** & Baker, S.* (2011). Interrupting Traditional Methods: Rethinking an Arts Integration Professional Development Model. *Research in Drama Education: The*

Journal of Applied Theatre and Performance, 16 (3), 313-335.

Cawthon, S. & Harris, A.* (in press). The Online Research Lab as an Agent for Social Change. *The Journal of Social Change*.

Cawthon, S & the Accommodations Research Lab.* (2010). Assessment accommodations for students who are English Language Learners: Implications of the Texas policy context. *Practical Assessment, Research and Evaluation*. 15(13).
<http://pareonline.net/getvn.asp?v=15&n=13>.

Friedman Narr, R. & **Cawthon, S.** (2010). The Wh- of Visual Phonics in Deaf Education: Who, what, where, when, and why. *Journal of Deaf Studies and Deaf Education*. 16(1): 66-78.

Cawthon, S., Dawson, K. & Ihorn, S.* (2010). Activating Student Engagement Through Drama-Based Instruction. *International Journal for Learning Through the Arts: A Research Journal on Arts Integration in Schools and Communities*, 7(1), <http://escholarship.org/uc/item/6qc4b7pt>

Cawthon, S. Wurtz, K.* & the Online Research Lab* (2010). Factors that predict accommodations use for students who are Deaf or hard of hearing. *Journal of Educational Research and Policy Studies*, 10 (1), 17-35.

Cawthon, S. (2010). Emerging Issues in Assessment Accommodations for Students who are Deaf or Hard of Hearing. *Journal of Deaf Studies and Deaf Education*. 15(2):185-203. doi: 10.1093/deafed/enq002

Cawthon, S. & Cole, E.* (2010). Transition from High School to College for Students who have a Learning Disability. *Journal of Postsecondary Education and Disability*, 23 (2), 118 – 141.

Cawthon, S., Harris, A.* & Jones, R.* (2010). Cognitive Apprenticeship in an Online Research Lab for graduate students in psychology. *International Journal of Web-Based Learning and Teaching Technologies* 5 (1), 1-15, **DOI:** 10.4018/jwlts.2010010101

Cawthon, S. & Dawson, K. (2009). Drama for Schools: Impact of a Drama-Based Professional Development Program on Teacher Self-Efficacy and Authentic Instruction. *Youth Theatre Journal*, 23 (2), 144-161.

Cawthon, S., Hersh, M., Kim, Seong-Hyeon,* & the Online Research Lab* (2009). Accommodations for Students who are Deaf or Hard of Hearing in Large-scale, Standardized Assessments: Surveying the Landscape and Charting a New Direction. *Educational Measurement: Issues and Practice*, 28 (2), 41-49.

Cawthon, S., Ho, E.,* Patel, P.,* Potvin, D., * & Trundt, K.* (2009). Towards a multiple construct model of measuring the validity of assessment accommodations. *Practical Assessment, Evaluation, and Research* 14 (21). Available online: <http://pareonline.net/genpare.asp?wh=0&abt=14>.

Cawthon, S., Nichols, S,* & Collier, M. (2009). Facilitating Access: What Information do Post-Secondary Institutions in Texas Provide about Accommodations and Services for Students who are Deaf or Hard of Hearing? *American Annals of the Deaf*, 153 (5), 450-460.

Cawthon, S. (2009). Making decisions about assessment practices for students who are Deaf or hard of hearing. *Remedial and Special Education*. First published online 8 December 2009; DOI: PR/Award # S368A120006

10.1177/0741932509355950, 18 pages.

- Cawthon, S., Wurtz, K.,* Getsch, S.* & the Online Research Lab*** (2009). Professional Development for Teachers of Students who are Deaf or Hard of Hearing: Facing the Assessment Challenge. *American Annals of the Deaf*, 154 (1), 50-61.
- Cawthon, S., Wurtz, K.* & the Online Research Lab*** (2009). Alternate assessment use with students who are deaf or hard of hearing: An exploratory mixed methods analysis of predictors of portfolio, checklists, and out-of-level testing formats. *Journal of Deaf Studies and Deaf Education*, 14 (2), 155-177.
- Cawthon, S.** (2007). Hidden benefits and unintended consequences of No Child Left Behind policies for students who are Deaf or hard of hearing. *American Educational Research Journal*, 44 (3), 460-492.
- Cawthon, S. & the Online Research Lab ***(2007). Accommodations use for statewide standardized assessments: Prevalence and recommendations for students who are Deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education*, 13 (1), 55-96.
- Cawthon, S.** (2006a). Testing accommodations and students who are Deaf-Blind. *Deaf-Blind Perspectives*, 14 (1), 8-10.
- Cawthon, S.** (2006b). Pebbles in the mainstream: How do we find them? *American Annals of the Deaf*, 151 (2), 105-113.
- Cawthon, S. & the Online Research Lab*** (2006). Findings from the National Survey on Accommodations and Alternate Assessments for Students who are Deaf or Hard of Hearing. *Journal of Deaf Studies and Deaf Education*, 11(3), 337-359.
- Abbeduto, L., Murphy, M. M., Richmond, E. K., Amman, A., Beth, P., Weissman, M. D., Kim, J-S., **Cawthon, S., & Karadottir, S.** (2006). Collaboration in referential communication: Comparison of youth with Down syndrome or fragile X syndrome. *American Journal on Mental Retardation*, 111, 170 -183.
- Cawthon, S.** (2004a). How will No Child Left Behind improve student achievement? The necessity of classroom-based research in accountability reform. *Essays in Education*, 11, 11p.
<http://www.usca.edu/essays/>
- Cawthon, S.** (2004b). Schools for the Deaf and the No Child Left Behind Act. *American Annals of the Deaf*, 149 (4), 314 – 323.
- Cawthon, S.** (2004c) Deaf and hearing students' opportunity to learn Standards-based curriculum: Issues of alignment and teacher perspectives. *American Annals of the Deaf*, 149 (5), 428-434.
- Abbeduto, L., Murphy, M., **Cawthon, S.**, Richmond, E., Weissman, M., Karadottir, S., & O'Brien, A. (2003). Receptive language skills of adolescents and young adults with down or fragile X syndrome. *American Journal on Mental Retardation*, Vol. 108 (3), 149-160.
- Abbeduto, L., Pavetto, M., Kesin, E., Weissman, M., Karadottir, S., O'Brien, A. & **Cawthon, S.** (2001). The linguistic and cognitive profile of Down syndrome: Evidence from comparison with fragile X syndrome. *Down Syndrome Research and Practice*, 7 (1), 9-15.

Betty M. Colonomos

Current Position

Director, The Bilingual Mediation Center, College Park, Maryland
Adjunct Assistant Professor, Department of Linguistics, University of Southern Maine

Languages

Spoken and Written English: native fluency
American Sign Language: native fluency
Spoken/written Spanish: limited

Certification(s)

Masters Comprehensive Skills Certificate (MCSC) from RID, Inc. (1980)

Education

University of Delaware
Newark, Delaware
Doctoral studies in Linguistics (A.B.D.)
Completed qualifying exams and comprehensive examination. (1984-1987)

New York University
New York, New York
Masters (M.A.) in Counseling: specialty area in Deafness/ Rehabilitation (1977-1978)

New York University
New York, New York
B. S. Teaching Language & Speech to the Hearing Impaired
(specialty areas: Audiology, Speech, Language, and Education) 1975 -1977

Relevant Consultations

Educational Sites (1987 - 1993)

Consultant to the Indiana School for the Deaf - working with the Communication Curriculum Committee to implement a Bilingual/Bicultural educational program.

Consultant to the Learning Center in Framingham, Mass. working with the director and supervisory staff to implement Bilingual/Bicultural educational program. (1988 - 1993)

Consultant to Northern Essex Community College Interpreter Training Program. (1988)

Assessment

Providing language assessment services of Deaf individuals for government agencies, courts, and social service agencies (1986 - present)

Providing direct diagnostic feedback services to interpreters, signers, and Sign Language instructors (1989 - present)

1989-1994 Consultant to Association of Visual Language Interpreters of Canada (AVLIC) development of National Evaluation System for interpreters

1994 Consultant for the Library of Congress - developed a complete process of performance assessment for interpreter applicants, training Deaf/hearing rating teams, and production of materials

Administrative/Supervisory Experience

I served as co-director of The Bicultural Center in Riverdale, Maryland. Executive responsibilities included fiscal, personnel, and program planning and management, contract negotiations, and other administrative functions as needed. (September 1987 - July 1995)

I served as the National Interpreter Training Consortium (NITC) Coordinator for the eight-state region (DE, DC, IN, OH, MD, MI, VA, and WV) served by Gallaudet College. In this capacity, I was responsible for implementing a federal grant to provide short-term training for existing interpreters to upgrade their skills and provide entry-level training for novices. (July 1978 to March 1980)

Administrative responsibilities at Gallaudet included: coordination of the non-degree credit Interpreter Training courses, the summer Interpreter Training Program, training and supervision of instructors in a pilot ASL instructional program, preparation of a major grant, and placement of applicants into appropriate level ITP courses. (1980 to 1984)

Interpretation/Translation

Free-lance interpreter, providing ASL/English services in legal, medical, educational, employment, mental health, and community-related settings. (1964 - present)

Conference Interpreter; I have interpreted at more than one hundred local, state, national, and international conferences. (1978 - present)

Mentor to working interpreters, teachers, and students (1980 - present)

International Sign Communication interpreter at the World Congress of the World Federation of the Deaf, Helsinki, Finland (1987), at The Deaf Way Conference, Washington, DC (1989), at the World Congress of the World Federation of the Deaf, Vienna, Austria. (1995), and at the World Congress of the World Federation of the Deaf, Brisbane, Australia (1999)

Teleclass (satellite broadcast) Processes in Interpreting and Transliterating (1992)

Curriculum Preparation

Graduate-level Curriculum for Teachers of American Sign Language and ASL/English Interpretation funded by FIPSE through Western Maryland College (1987-90)

University of New Brunswick: Interpreter Training Curriculum - The Cultures of Hearing People: an Introduction, Comparative Cultural Analysis for Interpreters (co-author) (1987)

Gallaudet College, Washington, DC - Interpreting ASL/English to English: Theory and Practice; Preparation of Curriculum for Grant Proposal: Training Interpreters in Educational Settings (1983)

Professional memberships

Conference of Interpreter Trainers (CIT)

Association of Visual Language Interpreters of Canada (AVLIC)

Modern Language Association (MLA)

RID, Inc.

Potomac Chapter RID

International Sign Linguistics Association

Professional Positions Held

Co-chair, CIT/ASLTA Task Force on Standards, October (2000 – 2003)

Evaluator Sign Instructors Guidance Network (SIGN) (1980-1988)

Chair, National Evaluation System Study Committee (NESSC), RID, Inc. (1982-83)

Member, National Evaluation Board, RID Inc. (1983-1987)

Evaluator MCSC National team, RID, Inc. (1984-1986)

President, Conference of Interpreter Trainers (1988-1990)

Task force on Interpreting for the State of South Dakota (1991 - 1992)

Blueprint Committee for RID Written Test (1993 - 1994)

Publications:

A. Instructional Videotapes:

Biennu, MJ and B.M. Colonomos. 1991. The Face of ASL : Complex Sentences. Burtonsville, MD: Sign Media, Inc.

_____. 1991. The Face of ASL : Conditionals and Relative Clauses. Burtonsville, MD: Sign Media, Inc.

_____. 1990. The Face of ASL : Basic Questions. Burtonsville, MD: Sign Media, Inc.

_____. 1990. The Face of ASL : Basic Declarative Sentences. Burtonsville, MD: Sign Media, Inc.

_____. 1989. ASL Numbers: Developing your skills. (Set of three videotapes: Cardinal and Ordinal Systems, Incorporating Systems, Unique Systems) Burtonsville, MD: Sign Media, Inc.

_____. 1985. An Introduction to American Deaf Culture: Rules for Social Interaction. Silver Spring, MD: Sign Media, Inc.

_____. 1986. An Introduction to American Deaf Culture:Values. Silver Spring, MD: Sign Media, Inc.

_____. 1987. An Introduction to American Deaf Culture: Language and Traditions. Silver Spring, MD: Sign Media, Inc.

_____. 1988. An Introduction to American Deaf Culture: Group Norms. Silver Spring, MD: Sign Media, Inc.

_____. 1988. An Introduction to American Deaf Culture: Identity. Silver Spring, MD: Sign Media, Inc.

_____. 1989. ASL Numbers: Developing Your Skills. Silver Spring, MD: Sign Media, Inc.

B. Print

Colonomos, Betty M. 2012. The evolution of a model: implications for the training of interpreters. (interim title, in preparation.)

_____ and MJ Bienvenu. 1993. Companion Workbook for An Introduction to American Deaf Culture:Identity. Burtonsville, MD: Sign Media, Inc.

_____ and MJ Bienvenu. 1993. Companion Workbook for An Introduction to American Deaf Culture:Group Norms. Burtonsville, MD: Sign Media, Inc.

_____ and MJ Bienvenu. 1993. Companion Workbook for An Introduction to American Deaf Culture:Language and Traditions. Burtonsville, MD: Sign Media, Inc.

_____ and MJ Bienvenu. 1993. Companion Workbook for An Introduction to American Deaf Culture:Values. Burtonsville, MD: Sign Media, Inc.

_____ and MJ Bienvenu. 1992. Companion Workbook for An Introduction to American Deaf Culture: Rules for Social Interaction. Burtonsville, MD: Sign Media, Inc.

_____. 1990. The performance of nonnative speakers of American Sign Language: a question of proficiency. In A. Labarca and L. Bailey (Eds.) Issues in L2: Theory as Practice/Practice as Theory. Paper delivered at the Delaware Symposium VII on Language Studies, Oct. 1985. Norwood, NJ: Ablex Publishing, pp. 204-216.

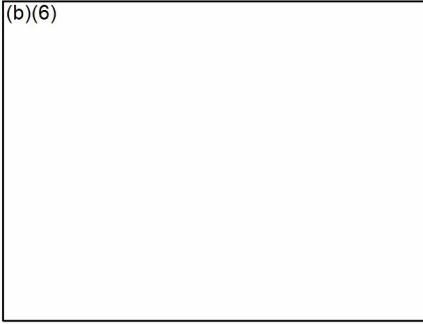
_____. 1984. A semantic look at sign glosses. The Reflector, Vol. 9, Spring, 1984. University Park, MD.

_____. 1981. Reflections of an interpreter trainer. The Reflector, Vol. 2, Winter, 1981. University Park, MD

References

Furnished upon request.

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James Daly Cornelius (Dale)

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SUMMARY

Overseeing the development of Maryland's next generation computer-based assessments. Prior to Maryland, I was the Director of Operations for MESH, Inc., a micro-engineering, software, and hardware company that develops leading edge technology to safeguard people and facilities from chemical and biological weapons. Before MESH, I worked as an independent consultant developing virtual learning environments for California public schools, using open source software. Prior to that, as the Assessment Tools Manager for Oakland Unified, I oversaw the development of a web-based assessment system serving over 100 schools. Previous to Oakland, as the Data Integration Lead for Edusoft, an assessment startup in San Francisco (acquired by Houghton Mifflin), I led a team of engineers and data analysts to develop web-based assessment systems for public school districts across the United States. Prior to Edusoft, I developed communications and technology programs at McKinsey & Company. I began my career teaching middle school Language Arts.

AREAS OF EXPERTISE

Large-scale assessment systems, high-stakes testing, test development, computer-based assessment, communications, vendor management, training, and data analysis.

EXPERIENCE

Project Manager, Online Testing and Science Assessment

Maryland State Department of Education, Baltimore, MD 2008-Current

Lead development of state's online testing system in the Department of Assessment and Accountability.

Manage Maryland State Assessment for Science, which includes Technology-Enhanced Items.

Represent Maryland on federal Accessible Portable Item Protocol (APIP) grant, since 2009, to create accessibility and interoperability standards for online testing systems.

Review county-level Race to the Top (RTT) spending allocations.

Serve as technology subject matter expert on internal RTT projects.

Participate in next generation assessment RTT technology panel discussions in Washington, D.C.

Director of Operations

MESH, Inc., Oxford, PA October 2007-2008

Led operations for a micro-engineering, software, and hardware company.

Project Managed development of proprietary, mobile chemical weapons detection systems.

Represented MESH at Pentagon Force Protection Agency meetings.

Founder/Consultant

Open Learning Systems, San Francisco, CA 2007-2008

Configured web-based Learning Management Systems for public schools using Moodle, an open source platform deployed in over 50,000 institutions and 200 countries.

Supported development of online Professional Learning Communities and virtual classrooms.

Assessment Tools Manager

Oakland Unified School District, Oakland, CA 2005-2007

Led team of assessment specialists in the Department of Research, Assessment, and Accountability to develop and deploy a web-based benchmark assessment system, serving approximately 45,000 students in 90 schools.

Served as technology project manager for Superintendent strategy group to develop an online, results-based budgeting performance management system.

Data Integration Lead

Edusoft/Houghton-Mifflin, San Francisco, CA 2003-2005

Led team of engineers and analysts in client services department to develop and deploy online curriculum-based assessment systems used to administer assessments in over 200 school districts across the United States.

Collaborated with project managers and engineers to develop client-facing and in-house tools. Joined Edusoft in its infancy, worked through an acquisition and a merger.

West Coast Training Coordinator

McKinsey & Company, San Francisco, CA 2000-2001

Developed technology and communications professional development programs to enhance internal and external communications.

Collaborated with communications specialists to revise firm's communications style guide and supported production of McKinsey studies in PowerPoint and Word

Language Arts Teacher and Theater Director

Live Oak School, San Francisco, CA 1997-2000

Taught middle-school Language Arts. Aligned curriculum to CA state standards.

Started school's theater program and produced annual shows.

EDUCATION

M.A., Middlebury College, Middlebury, VT, 1999

B.A., University of Wisconsin, Madison, WI, 1993

Resume
Sylvia J. Edwards

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Current Position:

Specialist in English Language Arts (ELA)
Maryland State Department of Education (MSDE)

2002-Present

Most Recent Position:

High School English Specialist
Anne Arundel County Public Schools
Annapolis, MD

1996-2002

Current Responsibilities:

Maryland School Assessment (MSA) for Reading,
Grades 3-8 and Modified Maryland School
Assessment (MOD MSA) for Reading, Grades 3-8

I oversee all aspects of the content development of the MSA Reading and the MOD MSA Reading assessment 3-8, including passage selection and review, item development, item content review, and range finding. The MSA Reading assessments are part of the statewide assessment program required by the No Child Left Behind Act.

Content Projects for ELA as part of the Race to the Top Initiative and implementation of the Common Core State Standards (CCSS) for English Language Arts/Literacy

I facilitated the development of the Maryland Common Core State Curriculum Frameworks as well as unit and lesson plans aligned to the CCSS. I have also collaborated to train Master Teachers for the Educator Effectiveness Academy on the CCSS and provided updates and training for ELA Supervisors.

Assessment Design and Development Committee for the Partnership for Assessment of College and Career Readiness (PARCC) Consortium

I am the content representative for ELA from MSDE to the PARCC consortium for both grades 3 through 8 and for high school. I am also a member of the PARCC Core Leadership Review Committee for ELA. PARCC is developing assessments based on the Common Core State Standards in both English Language Arts/Literacy and mathematics.

Education:

| | | |
|------------------------------------|---------|----------------------------------|
| Washington College | '79-'83 | M.A. English Literature |
| Frostburg State University | '69-'73 | B.A. French |
| Towson University | '99-'00 | Reading Leadership Institute |
| The Catholic University of America | '86-'88 | Coursework in English Literature |

Teaching Experience:

| | |
|--|-----------|
| Arundel High School | 1991-1995 |
| English 9 (Co-Taught), English 9 (Honors), English 10, 12 | |
| Southern Middle School | 1988-1991 |
| French IA & IB, Exploratory Language | |
| Bates Junior High School | 1982-1986 |
| French I and II, Exploratory Language, <i>English 9</i> (Honors) | |
| Easton High School | 1973-1982 |
| French I and II, <i>English 9</i> and 12 | |

Professional Activities:

Curriculum

- Content lead for the development of the Maryland Voluntary State Curriculum for English, Grades 9 through 12, in conjunction with Achieve and the American Diploma Project: 2006-2007
- Content Lead for the Development of the Maryland Voluntary State Curriculum for Reading/English Language Arts, Grades 3-8: 2002-2003
- English 9 and English 10, Anne Arundel County Public Schools, 1996-2000

Assessment

- CTB MCGraw Hill, Item Specifications for Common Core State Standards, 2010
- GED Reading Test Item Writer, 2009-2012
- MSDE BCR Range Finding for the English High School Assessment: June 2001; January and June 2002; January 2003
- MSDE High School Assessment Bias and Sensitivity Review: 2002
- American Institute for Research (AIR) Item Writer for the Philadelphia City Schools Citywide Assessment, Grades 8 and 10: 1999-2001
- High School Assessment (HSA) Item Writer English Test 1 (Grade 9): 1999
- Writer of Form B for Maryland’s English HSA Exploratory Study: 1998
- HSA Test Specifications Committee High School Assessment English Test 1: 1997

Professional Development and College/University Teaching

- Educator Effectiveness Academy for Implementation of the CCSS: MSDE, 2011, 2012
- Workshop: Item Writing for the English HSA: MSDE, 2003
- Workshop: Item Writing for MSA Reading, Harcourt Assessment, 2007
- Workshop: Grammar as Part of Language Study, 1999
- Workshop: English 9 for Special Educators, 1999-2000
- Workshop: Anne Arundel County Summer Academies for English 9 and English 10: 1998-2001
- Course: Composition 101, Literature 102, The Catholic University of America, 1986-1988
- Course: Young Adult Literature, Towson University, 2000-2001
- Course: English 101, English 102, Chesapeake College, 1981-1982

References:

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|---------------------------|---|
| Summary of Qualifications | Dr. Lisa Famularo is trained in educational research and measurement. Over her 18 years career in research, she has developed strong leadership, communication, and project management skills. Her work has resulted in multiple scholarly articles and educational research conference presentations. |
| Education | Ph.D., Educational Research, Measurement and Evaluation, Boston College, Chestnut Hill, MA M.Ed., Educational Psychology, Temple University, Philadelphia, PA B.A., Journalism, Temple University, Philadelphia, PA |
| Professional Experience | 2012–present Director, INNOVATION LAB, Measured Progress, Inc., Newton, MA Oversee all research and development conducted within the lab. Lead and champion innovation efforts. Provide leadership and decision making for setting priorities, research design, analytic methods, and dissemination of findings. Present lab work to internal and external audiences. 2008–2012 Vice President of Research and Evaluation, Rennie Center for Education Research & Policy, Cambridge, MA Shaped and led all aspects of the Center’s research agenda. Oversaw all of the Center’s research (both quantitative and qualitative), policy analysis and program evaluations. §Worked with diverse stakeholders to advance education reform progress in Massachusetts and the recommendations from the Center’s research. 2007–2008 Director, Student Affairs Learning Collaborative, Eduventures, Boston, MA Directed all activities for a member-based research consortium. Members were Vice Presidents of Student Affairs divisions at colleges and universities. Developed the learning collaborative research agenda and was responsible for overall management of research projects from inception to analysis and reporting. 2002–2007 Research Associate and Teaching Assistant, Boston College, Chestnut Hill, MA Managed research projects in the Center for the Study of Testing, Evaluation and Educational Policy (CSTEPP). Teaching Assistant for introductory and intermediate statistics courses. 2006 Visiting Teaching Fellow, Harvard University, Graduate School of Education, Cambridge, MA Teaching Fellow for a course called <i>Understanding Today’s Educational Testing</i> . 1997–2002 Research Group Manager, TNS, Horsham, PA Managed a team of project directors in the Social and Government Research Group. Responsible for overall management of research projects from inception to analysis and reporting. Primary responsibility for client relations including cultivating new clients and maintaining relationships with existing clients. Client base included leaders in federal, state and local government agencies, non-profit organizations and academic institutions. |

1994–1997 Research Associate, Institute for Survey Research (ISR), Temple University, Philadelphia, PA

Assisted in the planning and management of research projects for clients in federal, state and local government agencies, non-profit organizations and academic institutions. Assisted in study design, proposal writing, development of data collection instruments, monitoring data collection, and preparation of reports.

INVITED PRESENTATIONS AND MEDIA INTERVIEWS

Famularo, L. & Allen, B. (2011). *Meeting the Challenge: Fiscal Implications of Dropout Prevention in Massachusetts*. Presentation to Massachusetts Association of School Committees (MASC) and Massachusetts Association of School Superintendents (MASS). MASC/MASS 47th Annual Joint Conference - Leadership for Learning in a Global Economy: Building Leadership Capacity to Support Student Achievement, Hyannis, MA: November 9, 2011.

November 4, 2011: Talk on translating academic research for a policy audience to faculty in career development as part of a workshop on grant writing. Invited by V. Scott Solberg, Associate Dean for Research, School of Education, Boston University.

Famularo, L. (2011). *A Revolving Door: Challenges and Solutions to Educating Mobile Students*. Presentation to Massachusetts Child and Youth Readiness Cabinet, Boston, MA: October 27, 2011.

Public Hearing on Dropout Legislation: Presented findings from Rennie Center policy briefs on raising the compulsory school age, school discipline, and promising practices for dropout prevention to the State Legislature's Joint Committee on Education, September 27, 2011.

Famularo, L. (2011). *A Revolving Door: Challenges and Solutions to Educating Mobile Students*. Interviewed by Jill Kaufman (88.5 WFCR, NPR News and Music for Western New England) about study findings. Segment aired in September.

Radio segment: *Student Test Scores Among Biggest Changes To Teacher Evaluation System*. Interviewed by Deborah Becker for a radio segment on Massachusetts' new teacher evaluation system. Segment aired on June 28, 2011.

Famularo, L. (2011). *Meeting the Challenge: Fiscal Implications of Dropout Prevention in Massachusetts*. Presentation to Massachusetts Association of School Business Officials (MASBO) September 13.

Famularo, L. (2011). *Meeting the Challenge: Fiscal Implications of Dropout Prevention in Massachusetts*. Presentation to Springfield Public Schools Superintendent Alan Ingram and his leadership team. April 25.

Famularo, L. (2011). Panelist at Fostering Media Connections' town hall event: On the Road to Educational Equality. Springfield, MA: May 19.

Famularo, L. (2011). *A New Era of Education Reform: Massachusetts' School and District Leaders' Views on 21st Century Skills*. Presentation to members of the Massachusetts Association of School Superintendents. Mid-Winter Conference in Marlborough, MA: February 14.

Famularo, L. (2010). *A New Era of Education Reform: Preparing All Students for Success in College, Career and Life*. Presentation to Massachusetts Commissioner of Education Mitchell Chester and senior Department of Elementary and Secondary Education staff members. Malden, MA: October 14.

Famularo, L. (2010). *A New Era of Education Reform: Preparing All Students for Success in College, Career and Life*. Study findings presented at a Boston International forum titled: Reform and Policymaking in the Education Sector: From the US to Colombia. November 4.

Famularo, L. (2010.) *Preparing Tomorrow's Teachers*. Discussed study findings on Boston Neighborhood Network (BNN) News. Segment aired on February 9.

Famularo, L. (2009). *Raise the Age, Lower the Dropout Rate? Considerations for Policymakers*. Discussed study findings on BNN Live. Segment aired on April 9.

Famularo, L. (2009). *Raise the Age, Lower the Dropout Rate? Considerations for Policymakers*. Interviewed by Monica Brady-Myerov for a radio segment on raising the age of compulsory school attendance. Segment aired on March 30.

Famularo, L. (2008). *Opportunity to Learn: Elementary and High School Science*. Presentation to science coordinators in Massachusetts' large urban school districts. Meeting convened by Jake Foster, Office for Mathematics, Science and Technology/Engineering, Massachusetts Department of Elementary and Secondary Education.

RECENT PRESENTATIONS

Famularo, L. (2011). *Incorporating 21st Century Skills into Teaching and Learning: The Classroom Teachers' Perspective*. Paper presented at the Northeastern Education Research Association (NERA) Annual Meeting. Rocky Hill, CT: October 20.

Famularo, L. (2011). *Act Out, Get Out? Considering the Impact of School Discipline Practices in Massachusetts*. Paper presented at the Northeastern Education Research Association (NERA) Annual Meeting. Rocky Hill, CT: October 19.

Famularo, L. (2011). *A New Era of Education Reform in Massachusetts: School and District Leaders' Views on 21st Century Skills*. Paper presented at the Northeastern Education Research Association (NERA) Annual Meeting. Rocky Hill, CT: October 19.

Famularo, L. (2011). *A Revolving Door: Challenges and Solutions to Educating Mobile Students*. Presentation at the Rennie Center for Education Research & Policy public forum titled: A Revolving Door: Challenges and Solutions to Educating Mobile Students. Holyoke, MA: September 20.

Famularo, L. (2011). *Integrating 21st Century Skills into Teaching & Learning: Preparing All Students for Success in College, Career and Life*. Workshop presentation at the National Partnership for Educational Access (NPEA) Annual Conference. Atlanta, GA, April 29.

Famularo, L. (2011). *A New Era of Education Reform in Massachusetts: School and District Leaders' Views on 21st Century Skills*. Paper presented at the New England Education Research Organization Annual Meeting. New Bedford, MA, April 27.

Famularo, L. (2011). *Considering the Impact of School Discipline Policies on Massachusetts' Most Vulnerable Students*. Paper presented at the New England Education Research Organization Annual Meeting. New Bedford, MA, April 27.

Famularo, L. (2010). *The Role of Practice-based Teacher Preparation Programs in Massachusetts*. Paper presented at the National Center for Education Information and National Center for Alternative Certification: Effective Pathways to Teaching Conference. Washington, DC, March 26.

Famularo, L. (2010). *Act Out, Get Out?* Presentation at the Rennie Center for Education Research & Policy public forum titled: Western MA, Examining School Discipline Policies in Massachusetts. Springfield, MA: October 13.

Famularo, L. (2010). *Preparing All Students for Success in College, Career and Life*. Presentation at the Rennie Center for Education Research & Policy public forum titled: What Should Students Know and Be Able to Do? Views on Preparing Students for Success in College, Careers and Life. Boston, October 7.

Famularo, L. (2010). *Act Out, Get Out?* Presentation at the Rennie Center for Education Research & Policy public forum titled: Examining School Discipline Policies in Massachusetts. Boston, May 26.

Famularo, L. (2009). *Practice-Based Teacher Preparation*. Presentation at the Rennie Center for Education Research & Policy public forum titled: Presentation at Preparing Tomorrow's Teachers: The Role of Practice-Based Teacher Preparation Programs in Massachusetts. Boston, November 19.

Famularo, L. (2009). *Toward Interagency Collaboration: The Role of Children's Cabinets*. Presentation at the Rennie Center for Education Research & Policy public forum titled: Toward Interagency Collaboration: The Role of the Children's Cabinet. Boston, June 10.

Famularo, L. (2009) *Raise the Age, Lower the Dropout Rate? Considerations for Policymakers*. Presentation at the Youth Transitions Task Force/Boston Private Industry Council (PIC) and Rennie Center for Education Research & Policy public forum titled: Raise the Age, Lower the Dropout Rate?: Policy Considerations for Raising the Compulsory Age of Attendance. Boston, April 9.

Famularo, L. (2008) *Findings from the Opportunity to Learn Audit: High School Science*. Presentation at the Rennie Center for Education Research & Policy public forum titled: Opportunity to Learn Audit: Science. Boston, December 12.

Famularo, L. (2008) *Massachusetts Context and a First Look at District Size and Spending*. Presentation at the Rennie Center for Education Research & Policy public forum titled: School District Consolidation in Massachusetts: Opportunities and Challenges. Boston, September 24.

Famularo, L. (2007). *The Effect of Response Format and Test Taking Strategies on Item Difficulty: A Comparison of Stem-Equivalent Multiple Choice and Constructed Response Test Items*. Paper presented at the American Educational Research Association annual meeting. Chicago, April 12.

Famularo, L. & Russell, M. (2007). *Examining the Utility of a Prototype Assessment for Assessing Students in the Gap*. Paper presented at the American Educational Research Association annual meeting. Chicago, April 12.

Famularo, L. & Russell, M. (2007). *What Should the Assessment Options be for Students in the Gaps?* Paper presented at the National Council on Measurement in Education annual meeting. Session titled "Students in the Gap(s): Who is not validly assessed in large-scale assessment systems and what do they really need?" Chicago, April 10.

Ludlow, L.H., Famularo, L., & Enterline, S. (2005). *Drawing Conclusions III: Using Student Drawings to Inform Teaching and Learning in a University Setting*. Paper presented at the American Educational Research Association annual meeting. Session titled "Drawing Inferences – Literally! What Students' and Teachers' Drawings Tell Us About Schools." Montreal, Canada April 14.

Ludlow, L.H., Famularo, L., & Enterline, S. (2005). *Drawing Conclusions III: Using Student Drawings to Inform Teaching and Learning in a University Setting*. Paper presented at the American Educational Research Association annual meeting. Roundtable session titled "Evaluating Teaching and Learning in Tertiary Education." Montreal, Canada April 13.

Enterline, E., Famularo, L. & Hoffman, M. (2003). *It's All Greek to Me! A Phenomenological Study of Statistics Anxiety*. Paper presented at the New England Educational Research Organization annual meeting. Portsmouth, N.H. April 23.

RECENT PAPERS AND PUBLICATIONS

Famularo, L. (2011). *A Revolving Door: Student Mobility in Massachusetts Public Schools*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2010). *A New Era of Education Reform: Preparing All Students for Success in College, Career and Life*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2010). *21st Century Skills State Policy Initiatives: School Leaders' Views*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2010). *Act Out, Get Out? Considering the Impact of School Discipline Practices in Massachusetts*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2010). *Preparing Tomorrow's Teachers: The Role of Practice-Based Teacher Preparation Programs in Massachusetts*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2009). (White Paper) *Practice-Based Teacher Preparation Programs in Massachusetts: A Review of Funding Models*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2009). (White Paper) *The Role of Alternative Preparation Programs in Massachusetts*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2009). *Toward Interagency Collaboration: The Role of Children's Cabinets*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2009) *Raise the Age, Lower the Dropout Rate? Considerations for Policymakers*. Cambridge, MA: Rennie Center for Education Research & Policy.

Famularo, L. (2008) *Opportunity to Learn Audit: High School Science*. Cambridge, MA: Rennie Center for Education Research & Policy.

Russell, M. and Famularo, L. (2008). *Testing what students in the gap can do*. *Journal of Applied Testing Technology*, 9 (4).

Famularo, L. (2007) *Achieving Strategic Alignment in Student Affairs*. Boston, MA: Eduventures.

Famularo, L. (2007) *Differences in Student Engagement: An Analysis of 2005 and 2007 National Survey of Student Engagement (NSSE) data*. Boston, MA: Eduventures.

Mark Edward Gobble

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EDUCATION

- 2012
(expected) Ph.D., Educational Psychology
Specialization: Human Development, Culture, and Learning Sciences
Concentration: Learning Sciences
The University of Texas at Austin, Austin, Texas
- 2006 Ed.S., Change Leadership in Education
Gallaudet University, Washington DC.
- 2001 M.Ed., Deaf Education
University of North Florida, Jacksonville, Florida
- 1997 B.A., Government
Gallaudet University, Washington DC.

RESEARCH INTERESTS

Cognitive Science, Learning Sciences, Educational Technology
Cognitive and Emotional Factors in Deaf Education Design
Cognitive Load Theory
Digital Media and Learning in Deaf Education
Language and Knowledge Acquisition in Deaf Learners
Information Architecture, Information Design, and Interaction Design for Deaf Education Environments
Research Trends and Practices in Deaf Education and Studies Journals

AWARDS and FELLOWSHIPS

- 2012 Best Paper Award (with Carrie Lou Garberoglio), American Educational Research Association SIG – Research on the Education of Deaf Persons
- 2012 Marilla Svinicki Candidacy Award
- 2010-2011 Joseph L. and Katherine D. Henderson Foundation, University of Texas at Austin
- 2008-2011 Gallaudet Graduate Fellowship Fund, Gallaudet University.
- 2004-2006 Foerderer's Fellowship, Gallaudet University.

PUBLICATIONS

Gobble, M., Hamilton, G., Garberoglio, C. L., Wynne, M. (2012). Deaf Education/Deaf Studies Current Research: Questions of Complexity and Variation. *Deaf Studies Digital Journal*.

Garberoglio, C.L., **Gobble, M.**, & Cawthon, S. (2012). A National Perspective on Teachers' Efficacy Beliefs in Deaf Education. *Journal of Deaf Studies and Deaf Education*, 17(3).

Cawthon, S., Winton, S. Garberoglio, C.L., & **Gobble, M.**, (2011). The Effects of American Sign Language as an

Assessment Accommodation for Students who are Deaf. *Journal of Deaf Studies and Deaf Education*. 16 (2), 198-211.

In Preparation

Gobble, M., Robinson, D., & Garberoglio, C.L. (in preparation). *Incidence of "Prescriptive" Statements in Deaf Education Research*.

Gobble, M., Wynne, M. & Garberoglio, C.L. (in preparation). *Productivity in Deaf Education and Deaf Studies Journals. from 2000-2010*.

PRESENTATIONS

Gobble, M. (March, 2012) *A critical analysis of the role of digital media and multimodality in deaf education*. Paper presentation at the 2012 Digital Media and Learning Conference. San Francisco, CA.

Gobble, M. & Morrison, M. (March, 2012) *PEPNet 2.0: Needs assessment and plans for the future*. Roundtable presentation at the 2012 California Educators of the Deaf and Hard of Hearing Conference. Monterey, CA.

Gobble, M. (June, 2011) *An examination of the deaf community in its present state, and directions for the future of our community*. Keynote presentation at the biannual conference of the Texas Association of the Deaf. Big Spring, TX.

Garberoglio, C.L. & **Gobble, M.** (April, 2011) *A national perspective of teacher efficacy in deaf education*. Paper presentation at the annual meeting of the American Educational Research Association. New Orleans, LA.

Gobble, M., Garberoglio, C.L. & Hamilton, G. (February, 2011) *An examination of deaf researchers' productivity in deaf education journals*. Paper presentation at the annual conference of the Southwest Educational Research Association. San Antonio, TX.

Gobble, M. & Wynne, M. (July, 2010) *Deficit Thinking in Deaf Education*. Presentation at the Statewide Conference on Education of the Deaf and Hard of Hearing. Austin, TX.

Gobble, M. & Garberoglio, C. L. (July, 2010) *Beyond language: A new perspective of multimodality*. Presentation at the Statewide Conference on Education of the Deaf and Hard of Hearing. Austin, TX.

Gobble, M. (July, 2010) *TEDxIslay and the deaf community*. Invited presentation at Communication Skills Workshop. Austin, TX.

Garberoglio, C. L. & **Gobble, M.** (March, 2010) *A space beyond language: Multimodality in deaf education*. Paper presentation at the Conference on Research in Teacher Education. Austin, TX.

Gobble, M. (October, 2009) *Current Research in Deaf Education and Educational Psychology*. Invited presentation at the Deaf Education Symposium at the University of Texas at Austin. Austin, TX.

Gobble, M. & Wynne, M. (June, 2009) *Beyond Deafness: A Paradigm Shift*. Invited presentation at the biannual conference of the Texas Association of the Deaf. San Antonio, TX.

CURRENT PROJECTS

Lead Investigator (2011-present)

PR/Award # S368A120006

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An examination of the integration of iPads and digital media in deaf education classrooms.

Department of Educational Psychology, University of Texas at Austin

Examines the integration of iPads and the use of digital media by teachers of the deaf and/or deaf students in a deaf state school setting that supports instruction and learning in a traditional deaf education classroom. A diverse set of data, both qualitative and quantitative, are used in the areas of motivation, engagement, self-efficacy, student achievement, and technology efficacy. Interested in the role of ASL, English, and multiliteracies in teaching and learning when integrated with the iPad technology and digital media, this study evaluates the effectiveness of the iPad integration in the deaf education classroom as well.

Lead Investigator (2011-present)

Effects of Language Modality in a Complex Simulation Environment on Deaf Students' Retention and Transfer of Knowledge

Department of Educational Psychology, University of Texas at Austin

Undergraduate deaf students are given a tutorial on how to use Packet Tracer (PT), a computer-networking training simulations. Participants are randomly assigned to a tutorial language modality, and are tested on retention of tutorial context and transfer using PT. This study examines the cognitive theory of multimedia learning and the cognitive load theory by testing language modality effects with deaf students.

Research Assistant (2011-present)

Postsecondary Education Programs Network - Evidence Synthesis

Postsecondary Education Center for Individuals Who are Deaf grant award (Office of Special Education Programs)

Focuses on postsecondary services for deaf students especially those with co-occurring disabilities. This program examines what happens to deaf students as they leave high school. Research and needs assessment are the primary work of this study, and we examine needs assessment, best practices, evidence-based practices, national surveys, demonstration projects, and research and evaluation of the program. In addition, sampling development, focus groups with stakeholders, and interpretation and presentation of findings are ongoing work in this evidence synthesis work utilizing the research logic model.

Lead Investigator (2009-present)

Incidence of "Prescriptive" Statements in Deaf Education Research

Department of Educational Psychology, University of Texas at Austin

Examines the methodologies of articles in deaf education and deaf studies journals, published in 1998 to 2008, and classify them as either intervention (based on researcher-manipulated variables) or nonintervention. Preliminary findings show intervention research articles to make up a small percentage of studies published in deaf education and deaf studies journal between 1998 and 2008. For nonintervention articles, the incidence of "causal" statements (e.g. if teachers/schools/parents did X, then student/child outcome Y would likely result) were recorded. Preliminary findings indicate that at the same time intervention research are becoming less prevalent in deaf education and deaf studies research literature, research is more inclined to include causal statements in nonintervention studies.

Co-Investigator (2009-present)

Deaf Education Scholarly Productivity Studies

Department of Educational Psychology, University of Texas at Austin

Research articles in deaf education journals are being analyzed in an effort to assess scholarly productivity. This study examines the most productive institutions and most prolific individual scholars conducting deaf education research. Additionally, the topics of primary interest to deaf educators are examined.

Co-Investigator (2009-present)

Trends in Authorships, Editorial Board Membership, and Editorships in Deaf Education Journals

Department of Educational Psychology, University of Texas at Austin

Authorship of articles in major deaf education journals is being used as an indicator of productivity of individuals and institutions over a 10-year period. Trends in authorships, editorial board membership, and editorships are examined as well.

PREVIOUS PROJECTS and RESEARCH EXPERIENCE

Project Team member (2011)

An examination of the use of iPads in elementary classrooms

Department of Radio, Television, and Film, University of Texas at Austin

This study collected a diverse set of data, both qualitative and quantitative measuring the motivation, engagement, self-efficacy, and student achievement as a result of using iPads in the classroom. I assisted in the development of study design that examines the use of iPads and a variety of apps in 4th and 5th grade classrooms in Oregon public schools. I examined a variety of motivation and engagement instruments, made recommendations for use in this study, and developed an instrument specific to this study as well as the design of survey analysis.

Project Team Member (2008-2011)

Teacher Efficacy in Deaf Education

Department of Educational Psychology, University of Texas at Austin

The purpose of this study was to gain a broad perspective on teacher efficacy in deaf education across a variety of educational settings in the nation. This information collected utilized a teacher demographic survey, the TSES, and the short version of the CE-S. I assisted in the recruitment of 300 teachers and a significant number of schools/programs for the deaf as units of analyses and interest. I analyzed and interpreted the Collective Efficacy scores for participating schools and generated reports of the Collective Efficacy Scale results.

Research Assistant (2008-2010)

National Survey of Assessments and Accommodations for Students who are Deaf or Hard of Hearing *Department of Educational Psychology, University of Texas at Austin*. Conducted by Dr. Stephanie Cawthon, the aim of this project was to gather information about assessment participation, accommodations, and use of alternate assessments for students who are deaf or hard of hearing in a range of educational settings. I helped with the development of research protocol, translated the test items into ASL to be used in the video portion of the study, conducted the pilot study, and recruited students at six sites across the country.

POST-SECONDARY TEACHING EXPERIENCE

Assistant Professor, *Boston University* (Fall 2012-present). Faculty member in the School of Education in the Deaf Studies Program. Courses include: Instructional Strategies and the Deaf Child (graduate), Literacy Skills in Deaf Children (graduate), Practicum/Practicum Equivalent: Student-Teaching (graduate)

Teaching Assistant, *The University of Texas at Austin* (2010-2011). I assisted Dr. Daniel Robinson as his teaching assistant for two semesters. In the fall of 2010 and the spring of 2011, he taught an undergraduate course on cognition and learning. During these semesters, I helped students with course concepts, helped administer and grade tests and quizzes, and served as the instructor on several occasions. Course: Cognition, Human Learning, and Motivation

Adjunct Faculty, *Austin Community College* (2004). Course: ESOL for Deaf Students

Adjunct Faculty, *Florida Community College at Jacksonville* (2001). Course: American Sign Language
American Sign Language

Adjunct Faculty, *Flagler College* (1997). Course: American Sign Language

SECONDARY TEACHING EXPERIENCE

2008 High School
Texas School for the Deaf, Austin, Texas
AP United States History

- 2001-2004 Middle School Teacher
Texas School for the Deaf, Austin, Texas
United States History, World Civilizations, and General Social Studies
- 2000-2001 Middle School Teacher
Florida School for the Deaf and Blind, St. Augustine, Florida
General Science and Mathematics
- 1999 High School Teacher
Sandalwood High School, Jacksonville, Florida
American Sign Language

EDUCATIONAL ADMINISTRATION EXPERIENCE

- 2007-2008 High School Principal
Texas School for the Deaf, Austin, Texas
- 2006-2007 High School Associate Principal
Texas School for the Deaf, Austin, Texas
- 2004-2006 High School Assistant Principal
Texas School for the Deaf, Austin, Texas

SERVICE

Co-organizer (2012) TEDxIsla Conference. New York City, NY.

Assistant to the e-Editor (2011-present), *Journal of Deaf Studies and Deaf Education*, Oxford University Press.

Committee Member (2011-2012) Site Based Team. *Texas School for the Deaf*. Austin, TX.

Reviewer (2011), Best Paper Award (Research on the Education of Deaf Persons, Special Interest Group #95),
American Educational Research Association.

Co-organizer (2011) TEDxIsla Conference. California State University at Northridge. Los Angeles, CA.

Committee Member (2011) Strategic Goal Team for Five-Year Strategy Plan: Curriculum and Instruction Strand.
Texas School for the Deaf. Austin, TX.

Co-organizer (2010) TEDxIsla Conference. The University of Texas at Austin. Austin, TX.

Committee Member (2008-2011) District Advisory Committee. *Texas School for the Deaf*. Austin, TX.

PROFESSIONAL CERTIFICATIONS

Texas Educator Certificate from State Board for Educator Certification
Principal – Grades EC-12
Hearing Impaired – Grades PK-12

Lawrence R. Goldberg

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Profile

Founded the Carl and Ruth Shapiro Family National Center for Accessible Media at WGBH (NCAM), the nation's only research and development center dedicated to making new media technologies accessible to people with disabilities. Provides leadership for research, outreach, policy and standards initiatives with public- and private-sector partners that impact how, when and where people of all ages and abilities gain access to information, education, employment and entertainment.

Education

Master's courses, Computer Graphics, New York Institute of Technology 1985
B.A., Broadcast Journalism, University of Southern California, Cum Laude 1976

Selected Initiatives and Accomplishments

- Co-chaired FCC's Video Programming Accessibility Advisory Committee
- Chaired subcommittee of FCC DTV Closed Captioning and Video Description Working Group
- Served as an information and technical resource for people with disabilities, legislators and policy makers with testimony as expert witness before House Subcommittee on Telecommunications and the Internet on "Twenty-first Century Communications and Video Accessibility Act" (enacted Oct. 2010). Helped draft both the Television Decoder Circuitry of 1990 and the media access provisions of the Telecommunications Act of 1996.
- Established "Accessible User Interface" project with Royal National Institute of the Blind (UK) and American Foundation for the Blind to enhance navigation of consumer electronics equipment
- Leads "DVS New Platforms" project to bring video description to video-on-demand, DVDs, and online media.
- Consults with museums on accessibility and technology (Whitney, Intrepid, Corcoran, National Gallery of Art, Smithsonian); advised theme parks on attraction and ride accessibility (Disney Resorts - Florida and California).
- Developed "Caption Accuracy Metrics" project to create benchmark for measuring live captioning quality
- Partnered with National Public Radio on "Accessible Digital Radio Broadcast Services" to utilize new digital radio platform to better serve people with disabilities.
- Chaired Federal Access Board's Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC) Audio/Video subcommittee, (2007-08) which submitted recommendations for updated section 508 accessibility requirements related to multimedia. Served on Federal Access Board's Electronic and Information Technology Access Advisory Committee (1998-99) that formulated federal regulations to comply with Section 508 amendments to the Rehabilitation Act.
- Led federally funded R&D project, "Access to In-flight Entertainment and Information," working with airline industry on methods to incorporate captions, descriptions and accessible user interfaces for new and emerging on-board and seat-back entertainment and information systems, and contributing to World Airlines Entertainment Association (WAEA) technical specifications.
- Researched the use of talking menus in electronic program guides (EPGs) and DVDs, which resulted in the first-ever commercially available DVDs with talking menus and publication of "A Developer's Guide to Creating Talking Menus for Set-top Boxes and DVDs."
- Founding chairperson of the Working Group on Advanced Television Closed Captioning of the Television Data Systems Subcommittee of the Electronic Industries Association charged with design of a captioning system for the U.S. DTV system. Conducted consumer focus groups, which yielded feature set, which was incorporated into DTV (ATSC) closed captioning standard.
- Invented "Rear Window®" - a system for displaying hidden captions for deaf and hard-of-hearing people in theaters - technology has been adopted by conventional movie theaters in North America, IMAX® screens and theme parks including Disney attractions.

Recent Awards

- American Council of the Blind 2010 *Media Access Award*
- *Excellence in Accessibility Leadership Award*: John F. Kennedy Center for the Performing Arts
- Health Sciences Communications Association 2010 *Distinguished Achievement Award*

Committee Memberships and Advisory Roles

- Co-chair, FCC, Video Programming Accessibility Advisory Committee
- Institute for Human-Centered Design (former Adaptive Environments) - Member of Board of Directors
- AT&T Advisory Panel on Accessibility & Aging
- FCC Technological Advisory Council
- FCC Consumer Advisory Committee (chair, Working Group on Advanced Technology)
- National Broadband Resource Center (former Alliance for Public Technology) - Member of Board of Directors
- Federal Access Board's Electronic and Information Technology Access Advisory Committee (EITAAC) and subsequent Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC)
- New York State Task Force on Post-Secondary Education and Students with Disabilities
- Web Accessibility Initiative, World Wide Web Consortium
- Television Data Systems Subcommittee, Electronic Industries Association
- Advanced Television Working Group, Electronic Industries Association
- Digital Platforms Committee, Corporation for Public Broadcasting
- National Task Force on Technology and Disability (Mott Commission)
- Peer reviewer, *Journal of Visual Impairment and Blindness*, American Foundation for the Blind

Project Advisory Boards:

- Strategic Planning Committee, National Technical Institute for the Deaf
- National Center for the Study of Supported Text in Electronic Learning Environments, EDC
- National Center for Technology Innovation, American Institutes for Research
- Consortium for School Networking "Accessible Technologies for All Students"
- Gallaudet University Rehabilitation Engineering Research Center on Telecommunications
- Project on Universal Design, Trace Research & Development Center
- Information Technology Assistance and Training Center at Georgia Institute of Technology

Selected Publications and Presentations

- Goldberg, L., Lide, B., Lowry, S., Masset, H., O'Connell, T., Preece, J., Quesenbery, W., Shneiderman, B. Usability and Accessibility in Consumer Health Informatics: Current Trends and Future Challenges. *American Journal of Preventative Medicine* (in press)
- Keynote Address, NHK Science and Technology Labs Open House, "Media Accessibility in the US: Innovations for Today and Tomorrow," Tokyo, May 2011
- Panel Moderator, American Association of Museums, "The Accessible Museum of the Present and Future: Technologies and Techniques for Visitors with Disabilities," Houston, TX, May 2011
- Policy Presentation, 4th Annual Healthcare Informatics Symposium, "Design of Informatics for Inclusion of All Users: A Policy Framework," Philadelphia, PA, April 2011
- Keynote Address, Technology Policy, NCTI Technology Innovators Conference, Washington, DC, November 2010
- Invited Expert, Accessible Electronic Health Records Symposium, NSF, Orlando, October 2010
- "Emerging Technologies and Expanding Markets for People with Disabilities," Connected Health Symposium, Partners HealthCare, Boston, October 2010
- "Exhibit Design Relating to Low Vision and Blindness," National Center for Accessibility white paper and pre-conference, LEAD Conference, San Diego CA, August 2010
- "Technologies in Museums, Exhibitions, Theaters and More," Leadership Exchange in Arts and Disability (LEAD) conference, August 2010
- "Universal Design in Health and Medical Information and Communications," Health and Science Communications Association, June 2010
- "Interactive multimedia and accessibility," ICDR conference on health, disability and technology, May 2010
- Keynote: Multimedia Accessibility, IBM Japan Accessibility Summit, Tokyo, December 2009
- Panelist, NIH/NIST/CDC "Informatics for Consumer Health Summit on Communication, Collaboration, and Quality", Potomac MD, November 2009
- Panelist, FCC Broadband Workshop on Disability Access Policy Recommendations, Washington DC, October 2009
- Keynote: Kennedy Center LEAD Conference (Leadership Exchange in Arts and Disability), Washington DC, August 2009
- Invited participant: IEEE/IBM Conference, "Accessing the Future," Boston MA July 2009
- Moderator, speaker: Technology Innovators Conference, Washington DC, 2008, 2009
- Keynote speaker, Whitney Museum of American Art, New York, NY, October 2008

- Keynote speaker, IBM Global Accessibility Summit, Watson Research Center, Yorktown NY, September 2008
- Moderator, DTV Transition Panel, Hearing Loss Association of America conference, Reno NV, June 2008
- Keynote speaker and recipient of Lifetime Achievement Award, Telecommunications for the Deaf Inc., San Mateo CA, August 2007
- Invited Speaker, Usability Professionals' Association conference, Austin TX, June 2007
- Panelist, "Museums Matter to People with Hearing Loss," American Association of Museums annual conference, Chicago May 2007
- Panel presentation, 1st G3ict Global Forum, Global Initiative for Inclusive Technologies. United Nations, New York. March 2007
- Invited Expert, "Matching Needs of Users with Disabilities to Emerging Technology Capabilities: Setting an R&D Agenda in Accessible Interface and Information Technologies," National Institute of Standards and Technology (NIST), Gaithersburg MD, February 2007
- Accessibility and Universal Display Workshop, National Public Radio HD Radio Project, Consumer Electronics Show, Las Vegas NV. January 2007
- Keynote speaker, 2nd International Conference for Universal Design, Kyoto, Japan, October 2006

BRYAN GOULD

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EDUCATION

Master of Arts in American History, University of Massachusetts, Amherst. 2002.

Bachelor of Arts in History, Syracuse University. 1994.

PUBLICATIONS

Kobayashi, M., O'Connell, T., Gould, B., Takagi, H., and Asakawa, C. (2010) Are Synthesized Video Descriptions Acceptable? In Proceedings of ASSETS 2010, ACM, October 2010, in press.

Gould, B., O'Connell, T., Freed, G. (2009) Effective Practices for Description of Science Content within Digital Talking Books. WGBH National Center for Accessible Media. On the web at: <http://ncam.wgbh.org/publications/stemdx/>

Gould, B. & Rothberg, M., (2008) Accessible Digital Library: WGBH's Teachers' Domain, AER Journal: Research and Practice in Visual Impairment and Blindness. Winter 2009: 2(1) pp. 44-45

Gould, B., Ferrell, K., O'Connell, T. (2008) Accessible Science: How To Describe STEM Images. AER Journal: Research and Practice in Visual Impairment and Blindness. Winter 2009: 2(1) pp. 67-69.

RECENT PRESENTATIONS

— Assessing Special Education Students-SCASS at CCSSO, February 2012. "How To Describe Images for Assessments."

— JUICE Conference, November 2011. "Why Risk Accessibility?"

— Colorado Teachers of the Visually Impaired Statewide Training, October 2011. "Image Description Training."

— Utah Teachers of the Visually Impaired Statewide Training, September 2011. "Image Description Training."

— National Park Service, August 2011. "Audio Description for Exhibits."

— Association for Education and Rehabilitation of the Blind and Visually Impaired (AER), July 2010. "Accessible Science: How to Describe STEM Images" & "Accessible Multi-Media for Science: Teachers' Domain."

— American Printing House for the Blind, April 2010. "Accessible Science: How To Describe STEM Images"

— CSUN, March 2010. "Accessible Science: How To Describe STEM Images"

— Accessing Higher Ground, November 2009. "Accessible Science: How To Describe STEM Images"

— ISTE National Educational Computing Conference, June 2009. "Trends and Futures in Accessible Media in the Classroom."

— American Foundation for the Blind's Jo Taylor Leadership Institute (JTLI) March 2009. "Accessible Science: How To Describe STEM Images."

— Assistive Technology Industry Association (ATIA) Conference, January 2009. "Accessible Science: How to Describe STEM Images."

SYNERGISTIC ACTIVITIES

Project Manager / WGBH National Center for Accessible Media 2004 – present

Description-Enhanced Assessments for Students with Visual & Print Disabilities

Collaborate with National Center on Severe and Sensory Disabilities and Utah, Kansas and Colorado State Departments of Education on research to identify consistent methods of providing access to complex images in test items through descriptions. Produce guidelines to assist other states in developing description accommodation for their statewide assessments

DIAGRAM Center

Evaluate products that create and playback image descriptions within digital texts including DTBs (digital talking books) and e-book readers. Collaborate with Bookshare and DAISY to promote standard image description processes across digital platforms. Provide training in description best practices.

Graduate Management Admission Council

Expert review and evaluation of description of STEM images in DTB study guide for GMAT, high-stakes exam for graduate business school. Collaborated on design and analysis of focus group of blind and visually impaired test takers.

Boston Museum of Science

Expert assessment of accessibility of over 400 museum exhibits including multi-media, digital interactives, manipulatives and live events.

Synthesized Video Descriptions

Collaborated with IBM researchers to conduct web surveys and focus groups to evaluate effect of and response to video descriptions delivered via synthesized speech.

Personalized Access to NSDL

Support development and use of an accessibility metadata schema within the central repository of the National Science Digital Library (NSDL). Establish an NSDL Access For All portal for use by NSDL collections of formal and informal science learning resources.

Dissemination of Effective Description Practice Research within DTBSs

Leads NSF-funded training and outreach activities to disseminate results of research into effective practices used DTBs to describe science-focused images, charts, graphs, diagrams, illustrations, equations, and other graphics for users with visual impairments. Develops and conducts free Webinars to train on STEM description guidelines developed through research with a wide range of visually impaired respondents from professionals to students. Coordinated participation of partners, American Foundation for the Blind, Recording for the Blind and Dyslexic, Inc., and the American Printing House for the Blind.

User Centered Digital Library: Transforming Resources for Individual Preferences

Provides extended descriptions for charts, images, graphs, interactive simulations, and video segments embedded in WGBH's Teachers' Domain, a K-12 library of rich-media science resources that support standards-based teaching and learning. Assists in tagging resources with the appropriate metadata; and manages and analyze responses to Web surveys.

**Describer / Operations Manager
Descriptive Video Service (DVS)**

1996-1999; 2002-2009

Developed audio descriptions of visual content for programs, products, and Web sites for programs such as *Nova*, *Nature*, *Science Odyssey*, *Living Edens*, *Scientific American Frontiers*, and NASA films. Managed DVS staff through content research, development, and delivery of audio descriptions in fulfillment of Federal and foundation grants, and client orders. Coordinated and facilitated focus groups of consumers of all ages, educators and media experts to refine and extend descriptive approaches. Incorporated results into DVS Description Writing Style Guide.

Recent Collaborators

Kay Ferrell, National Center on Severe and Sensory Disabilities • Jim Fruchterman, Benetech/Bookshare • Lois Frankel, Educational Testing Service • Barbara Henderson, American Printing House for the Blind • Chuck Hitchcock, Director of NIMAS Development Center at CAST • Rosanne Hoffman, American Printing House for the Blind • George Kerscher, Secretary General for the DAISY Consortium • Mark Riccobonno, Executive Director, National Federation of the Blind Jernigan Institute

CURRICULUM VITAE

James E. Hatten, M.Ed.

May 2012

Home address:

(b)(6)

Work address:

National Center on Educational Outcomes
University of Minnesota
207 Pattee Hall
150 Pillsbury Drive SE
Minneapolis, MN 55455

(b)(6)

ACCOMPLISHMENTS

Designed, recruited and moderated (or co-moderated) 39 focus groups research discussions for academic research with over 270 overall participants. Compiled field notes, conducted one-on-one interviews with teachers, and analyzed data on a school year-long evaluation of a one-to-one laptop initiative in a large urban school district (2010-2011). Designed and collected surveys from over 150 subjects on various subjects using the “Taylor Design Method” (Dillman, Smyth & Christian). Utilized SPSS software for analysis of five statistical studies. Conducted comprehensive quantitative analysis for coding and dissemination of data using classical qualitative analysis techniques and NVivo software. Formally trained in focus group discussion research methodology, narrative/storytelling methodology, statistical and probability research (quantitative) methodologies, and online qualitative research methods.

EDUCATION

University of Minnesota

Minneapolis, MN

2010-present

- Doctoral Student, Curriculum and Instruction – Learning Technologies
- Estimated graduation December 2012
- Estimated A.B.D., June 2012
- Coursework: Cooperative Learning; Adult Learning and Development; Teaching and Research; Statistical Methods (Quantitative Research 1); Research Methodologies in Curriculum & Instruction; Focus Group Research Methods; Narratives, Storytelling and Interviewing Research, Online Focus Groups, Interactive Design, Mobile Design (iPhone/iPad applications).

University of Minnesota

Minneapolis, MN

September 2004-December 2009

- M.Ed., Curriculum and Instruction – Learning Technologies
- Technology Enhanced Learning Certificate (K-12 Technology Integration and Web Design and Development)
- Degree and certificate conferred December 2009
- Thesis topic: Informing better design through client/designer collaboration
- Coursework: Designing Online Distance Learning Environments; Interactive Multimedia Instruction (Flash, Flash Media Server, HTML and Actionscript 3.0); Multimedia Development (HTML, Dreamweaver, Photoshop, video editing, sound editing); Educational Multimedia (Web 2.0 tools); Contemporary Curriculum, Instruction and Assessment; Integrating the Internet into Schools for Learning , Instruction and Professional Development; Learning Technologies Theory and Practice; Technology Tools For Educators; Teaching Film Television and Media, Teaching Literacy.

St. Cloud State University

St. Cloud, MN

1988-1997

- B.S., English
- B.S. Mass Communications (News Editorial emphasis)
- Minor: Secondary Education
- Degrees conferred May 1997

University of Minnesota

Minneapolis, MN

September 1986-December 1987

- Pre-Education major in College of Liberal Arts

EMPLOYMENT

Research Fellow, Web & Instructional Designer

National Center on Educational Outcomes, University of Minnesota

Minneapolis, MN

February 2012-present

Program Associate, Web & Instructional Designer

National Center on Educational Outcomes, University of Minnesota

Minneapolis, MN

May 2011-February 2012

Graduate Assistant/Teacher

Learning Technologies & Business Industry Education

Department of Curriculum and Instruction, University of Minnesota

Minneapolis, MN

September 2010-present

Multimedia Consultant

SMART Learning Commons and Coordinated Educational Services

University of Minnesota Libraries
Minneapolis, MN
January 2009-September 2010

English/Language Arts and Journalism Teacher
Edina, Tartan, Champlin Park, and St. Francis High Schools
August 1997-August 2008

Writer, Columnist and Copy Editor
Sports Department
St. Paul Pioneer Press and St. Cloud Times newspapers
February 1989-August 1997; September 2002-December 2003

RESEARCH AND SCHOLARLY CONTRIBUTIONS

Contributions to textbook

Hatten, J. (2008). Using blogs and wikis for teaching high school journalism. In Beach, R., Anson, C., Breuch, L.-A. K., and Swiss, T. *Teaching writing using blogs, wikis, and other digital tools* (pp. 172-173). Norwood, MA: Christopher-Gordon Publishers, Inc.

Presentations at National, State, and Local Professional Meetings

National (refereed)

Hatten, J. (2011, Oct). Proposing the 2(ICD) Design Model: How Interactive Inclusive Collaboration with the Client Informs Better Development and Design. In World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education. Honolulu, Hawaii, USA: Association for the Advancement of Computing in Education (AACE).

Hatten, J. & Tholen Hatten, R. (2011, Oct). Transforming Collaboration into Cooperation: Fostering Positive Interdependence in Online Computer Supported Collaborative Learning Environments. In World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education. Honolulu, Hawaii, USA: Association for the Advancement of Computing in Education (AACE).

Hatten, J. (2011, March). A Call for Essential Certification and Apprenticeship Socialization in K-12 Online Teaching. *Long paper (for publication) presented at Association for the Advancement of Computing in Education 22nd International Conference of the Society for Information Technology and Teacher Education, Nashville, TN.*

St. Louis, E., McCauley, P., Breuch, T.J., & Hatten, J. (2009, October). Artscura: experiencing art through art. *Short paper presented at Association for the Advancement of Computing in Education World Conference on E-Learning in Corporate, Government, Health Care & Higher Education, Vancouver, B.C.*

State

Hatten, J. & Tholen Hatten, R. (2011, March 30). Fostering Positive Interdependence in Online Computer Supported Collaborative Learning Environments. University of Minnesota Curriculum and Instruction Research Day, Minneapolis.

Krueger, R., Casey, M.A., Ernst, D., Lee, M., Link, A., Sintjago, A., O'Leary, P., Hatten, J., O'Brien, M.K., Dinsmore, S., Lindsay, C., and Longley, N. (2012, March 29). Internet focus group interviewing. Conference Session at Minnesota Evaluation Studies Institute (MESI) Conference, St. Paul, Minnesota.

Liu, K., Hatten, J., Goldstone, L., Nguyen, H., & Larson, J. (2012, March 12) Qualitative research of ELLs with disabilities in online asynchronous environments. Poster presentation at College of Education and Human Development (CEHD) Research Day. McNamara Center, University of Minnesota, Minneapolis.

Hatten, J. (2011, March). A Call for Essential Certification and Apprenticeship Socialization in K-12 Online Teaching. *Long paper and poster presented 4th Annual Curriculum and Instruction Graduate Student Research Symposium, University of Minnesota, Minneapolis, MN.*

St. Louis, E., McCauley, P., Breuch, T.J., & Hatten, J.E. (2009, May). Artscura: experiencing art through art. *Paper and poster presentation at 2nd Annual Curriculum and Instruction Graduate Student Research Symposium, University of Minnesota, Minneapolis, MN.*

Local

Hatten, J., Maddy, L., & O'Leary, P. (2011, December 6). Advanced Graphic Design and Photo manipulation. *Discussant leader at the December Upload/Download colloquium, University of Minnesota.*

Hatten, J. (2011, Nov. 14). Twitter feeds, online collaboration, clickers, & instant polling. *Presentation at Institute on Community Integration Annual Kickoff Event. Minneapolis, MN.*

Hatten, J., Maddie, L., & O'Leary, P. (2011, November 15). Introduction to Graphic Design and Photo manipulation. *Discussant leader at the November Upload/Download colloquium, University of Minnesota.*

Hatten, J. (2011, October 10). Utilizing php and MySQL within HTML files. *Discussant leader at the October Upload/Download colloquium, University of Minnesota.*

Hatten, J. (2011, April 6). An introduction to HTML5/CSS3. *Discussant leader at the April Upload/Download colloquium, University of Minnesota.*

Hatten, J. (2011, February 7). Stop-motion animation and time-lapse triggers using web cameras. *Discussant leader at the February Upload/Download colloquium,*

University of Minnesota.

TEACHING

College/University

University of Minnesota

Minneapolis, MN

College of Education and Human Development

Department of Curriculum and Instruction

CI 5362: *Foundations of Interactive Design for Web-Based Learning*

- Spring 2011, 17 students, 3 credits

EDHD 5007: *Technology for Teaching and Learning*

- Fall 2010, 22 students, 1.5 credits

CI 5362: *Foundations of Interactive Design for Web-Based Learning*

- Fall 2010, 12 students, 3 credits

CI 5303: *Data Analysis and Information Design for Business and Education*

- Spring 2010, 21 students, 3 credits

Professional Workshops

Minnesota Department of Education

Roseville, MN

Integrating Web 2.0 Into Your Classroom: A Workshop For All K-12 Teachers

- June 28, 2008, 28 teachers and administrators, 8 hours
- June 28, 2007, 21 teachers and administrators, 8 hours
- August 17, 2007, 25 teachers and administrators, 8 hours

High School

Edina High School, *Edina, MN*, 2006-2007

- English 10, 8 sections, 240 students; Journalism, 1 section, 28 students; Broadcast Journalism, 1 section, 28 students

Tartan High School, *Oakdale, MN*, 2005-2006

- English 10, 6 sections, 208 students; Communications, 1 section, 38 students

Champlin Park High School, *Champlin, MN*, 2003-2006

- English 9, 7 sections, 238 students; English 10, 2 sections, 63 students; Introduction to Print Journalism, 5 sections 249 students; Broadcast Television, 2 sections, 56 students

St. Francis High School, *St. Francis, MN*, 1997-2002

- English 11, 6 sections, 222 students; English 10, 8 sections, 304 students; English 9, 6 sections, 220 students; Broadcast Television Production, 16 sections, 426 students

Barbara Henderson, M.A./B.A. (Linguistics)

Test & Assessment Project Leader American Printing House for the Blind, Louisville, KY

Barbara has worked in the field of visual impairment for over twenty-seven years. Her career at APH began in the Talking Book Studios. Her experience in creating assessments in accessible formats started in 1994, in the braille department, where she edited tests and wrote teacher's notes for presentation in braille and tactile formats.

Since then, Barbara has directed numerous multi-media projects including: the braille edition of the Stanford Achievement Test Series, Ninth Edition; the braille and large print editions of the *Kaufman Functional Academic Skills Test (K-FAST)*; the braille and large print editions of *Brigance® Diagnostic Comprehensive Inventory of Basic Skills, Revised (CIBS-R)*; the braille and large print versions of the *Woodcock-Johnson III Tests of Achievement*; and the braille, large print, and audio cassette versions of the *Allied Health Professional Admissions Test (AHPAT)*; reviewing and making recommendations for test publishers regarding accommodations for persons with low vision and persons with color vision deficiencies and editing hundreds of individual assessments for publishers and state departments of education nationwide.

Barbara became Test & Assessment Project Leader in the APH Educational Research Department in 2000, joining *Test Central* in 2003 in order to help develop the infrastructure of a federally funded initiative which later became the APH Accessible Tests Department.

Barbara acted as project director for the accessible web publication titled *Test Access: Guidelines for Computer Administered Testing (2003)*, available at www.aph.org. In this connection, the Kentucky Department of Education invited Barbara to join their *Universal Design for Learning Workgroup (UDL) in 2005*. During her tenure there, Barbara helped to implement accessible online delivery of the Commonwealth Accountability Testing System (CATS).

She served for three years on the Kentucky Core Content Test (KCCT) Bias & Sensitivity Review Committee. Between 2006 and 2009 Barbara acted by invitation as a panelist on the 3-year NSF-funded study entitled *Effective Practices for Description of Science Content within Digital Talking Books*, with NCAM/WGBH. Most recently, Barbara has been invited to serve as a

senior advisor to the Smarter Balanced Assessment Consortium (SBAC) on accessibility issues within the Common Core Standards.

Her professional memberships include the American Educational Research Association (AERA)-Inclusion and Accommodation in Educational Assessment SIG, the Council on Exceptional Children (CEC) DVI, and the Association for the Education and Rehabilitation of the Blind and Visually Impaired (AERBVI).

Barbara can be reached at bhenderson@aph.org



Jennifer Cowan Higgins
Research Manager: Nimble Innovation Lab

Summary of
Qualifications

Ms. Jennifer Higgins has 10 years of experience managing research on testing and technology in schools and has led several computer-based test accommodation studies. This work has resulted in multiple scholarly articles and educational research conference presentations.

Education

M.Ed., Educational Research, Measurement, and Evaluation, Boston College, Chestnut Hill, MA
B.S., Systems Engineering, University of Virginia, Charlottesville, VA

Professional
Experience

2010-present Research Manager, Nimble Innovation Lab, Measured Progress, Inc., Newton, MA

Manage multiple research projects focused on improving the accessibility of assessments. Work with state Education Assessment Directors on an Enhanced Assessment Grant to develop resources that will help educators, parents and students make more informed decisions about accessibility tool assignment. Manage multiple research studies examining the impact of audio scripting rules on student achievement and student preference.

2007-2010 Director of Field Operations, Nimble Assessment System, Inc., Newton, MA

Managed two federally funded Enhanced Assessment Grant projects with multiple state Department of Education Assessment Directors. Worked with state assessment directors to manage the implementation of NimbleTools, a universally designed test delivery system, across multiple grade levels and content areas in New Hampshire, Vermont, and Rhode Island. Worked with team to develop audio scripting rules for science, mathematics and reading test items. Worked with lead and participating states to define access needs and tools that are requirements in developing portable and accessible test content standards.

2001-2007 Research Associate, Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA

Managed two research projects studying the impact of computer-based testing on students' reading comprehension and writing assessment performance. Analyzed data and produced a report on the impact of implementing laptops at a one to one ratio with students in a northern Massachusetts school. Assistant Editor of the Journal of Technology, Learning, and Assessment.

1998-2001 Operations Manager, Reebok International Limited, Canton, MA

Inventory and production planning manager of \$400 million footwear division. Responsible for managing over \$80 million in footwear inventory and leading global production planning operations.

1994-1998 Consultant, Accenture (formerly Andersen Consulting), Boston, MA

Consultant in the Business Operations Productivity Group. Clients include Ericsson Cellular Phone, Pillsbury, and Time Warner.

Relevant
Publications and
Presentations

Higgins, J. (2011). *“Opportunities and Challenges of Meeting Diverse Needs Through Technology-Based Testing.”* National Council of Teachers of Mathematics Annual Conference Presentation.

Higgins, J. (2011). *“Technology as an Agent for Change in Rethinking the Design and Delivery of Assessments for All Students.”* American Educational Research Association Annual Conference Presentation.

Higgins, J. & Katz, M. (2011). *MeTRC Accessible Assessment Research Study Report.* Report prepared for the University of Oregon.

Russell, M., Mattson, D., Higgins, J., Hoffmann, T., Bebell, D., & Alcaya, C. (2011). *A Primer to the Accessible Portable Item Profile (APIP) Standards.* [White Paper]. Retrieved from <http://apipstandard.org/archive/papers/APIP%20Primer%20-%20Final.pdf>.

Higgins, J., Patterson, M. B., Bozman, M., & Katz, M. (2010). Examining the Feasibility and Effect of Transitioning GED Tests to Computer. *Journal of Technology, Learning, and Assessment, 10*(2). Retrieved from <http://www.jtla.org>.

Madaus, G., Russell, M., & Higgins, J. (2009). *The Paradoxes of High-Stakes Testing: How They Affect Students, Their Parents, Teachers, Principals, Schools, and Society.* Charlotte, NC: Information Age Publishing.

Russell, M., Kavanaugh, M., Masters, J., Higgins, J., & Hoffmann, T. (2009). Computer-Based Signing Accommodations: Comparing a Recorded Human with an Avatar. *Journal of Applied Testing Technology, 10*(3). Retrieved from <http://www.testpublishers.org/Documents/090727Russelletal.pdf>.

Russell, M., Hoffmann, T., & Higgins, J. (2009). *NimbleTools: A Universally Designed Test Delivery System.* Teaching Exceptional Children.

Russell, M., Higgins, J., & Hoffmann, T. (2009). Meeting the Needs of All Students: A Universal Design Approach to Computer-Based Testing. *Innovate.*

Higgins, J., Russell, M., & Hoffmann, T. (2005). Examining the effect of computer-based passage presentation on reading test performance. *Journal of Technology, Learning, and Assessment, 3*(4). Retrieved from <http://www.jtla.org>

Russell, M., C. Johnstone, J. Higgins, & T. Hoffmann. (2008). *FCAT computer accommodations pilot study final report.* Report prepared for the Florida Department of Education, Tallahassee, FL.

Russell, M., Bebell, D. & Higgins, J. (2004). Laptop learning: A comparison of teaching and learning in upper elementary classrooms equipped with shared carts of laptops and permanent 1:1 laptops. *Journal of Educational Computing Research, 31*(2) 313-330.

Russell, M., Cowan, C., & Raczek, S. (2004). Accountability California style: Counting or accounting for educational impacts. *Teachers College Record, 106*(11).

Curriculum Vitae

Jacqueline Farmer Kearns, Ed.D.

Expertise – Severe disabilities, inclusive education, alternate assessment, large-scale assessment

Current Position

Principal Investigator, The NAAC GSEG Consortia. US Department of Education, Office of Special Education Programs.

Principal Investigator, The National Alternate Assessment Center (NAAC), US Department of Education, Office of Special Education Programs.

Project Director, Inclusive Large-Scale Standards and Assessment Group. State funded alternate assessment projects.

Degree Status

Ed.D. Educational Administration, University of Kentucky, 1997.

M.S. Special Education, University of Kentucky, 1987.

B.A. Elementary and Special Education, University of Kentucky, 1982.

Professional Certification

Standard Teacher Certification,
Elementary & Special Education (Moderate and Severe Disabilities)

Special Education Administration Endorsement

Professional Experience: Grants Funded

Principal Investigator, **NAAC GSEG Consortia**, US Department of Education Office of Special Education Programs. October 2007 – September 2011 (\$5,000,000.00).

Evaluator, NCEO GSEG Consortia: Toward a Defensible AA-MAS. US Department of Education, Office of Special Education Programs. (October 2007 – 2011).

Principal Investigator, **The National Alternate Assessment Center**, US Department of Education Office of Special Education Programs (January 2005 – December of 2009) (\$5,000,000.00)

Principal Investigator, **The New Hampshire Enhanced Assessment Initiative**. New Hampshire Department of Education, US Department of Education Enhanced Assessment Initiative.

Principal Investigator, **SPDG Low Incidence Initiative**. Kentucky Department of Education, (\$250,000.000).

Principal Investigator, **NCEO GSEG Evaluation**, University of Minnesota, October 2007 – September 2010 (\$75,000.00)

Wickham, D. and **Kearns J.F.** (2006-2008); **Alternate Assessment Program**. KY Department of Education (\$1,500,000.00.).

Principal Investigator, **SPLASH: Professional Development Training Program**. Kentucky Department of Education – University of Kentucky 2004-2007. KY Dept. of Ed (\$192,000.00)

Principal Investigator, **Universal Design of Assessment: Applications of Technology – Interdisciplinary Human Development Institute** – US Department of Education Office of Special Education Programs. October 2002- 2005. University of Kentucky, Lexington, KY, October 2002. OSEP, USDOE (\$500,000.00)

Principal Investigator, **Including Students who are Deafblind in Large-Scale Assessment Systems**. US Department of Education Office of Special Education Program. October 1999-2002. (\$500,000.00).

Kearns, J. F. Kentucky Alternate Assessment System (1994-2005), KY Department of Education (\$2,500,000).

Kearns, J.F. and Ron Harrison (2002 - 2005) **Inclusive Education Initiative**. KY Developmental Disabilities Planning Council. (\$750,000.00)

Kleinert, H.K. and **Kearns, J.F.** (1992-1997) **Kentucky Systems Change Project** Office of Special Education Programs, U S Department of Education (\$1,250,000.00).

Selected Professional Research/Publications

Kearns, J.F., Towles-Reeves, E., Kleinert, H., Kleinert, J., Klein-Kracht-Thomas (in press). Characteristics of the learners who take alternate assessments on alternate achievement standards. *Journal of Special Education*.

Towles-Reeves, E.; **Kearns, J.F.**, Kleinert, H., Kleinert, J. (2008, May 12). An analysis of learning characteristics taking alternate assessments based on alternate achievement standards. *Journal of Special Education* (retrieved, July 24 From <http://SED.sagepub.com/cgi/rapidpdf/0022466907313451V1>).

Kearns, J., Lewis, P., Hall, T., & Kleinert, H. (2006). *Universal Design of Alternate Assessment on Alternate Achievement Standards: Concepts, Issues and Strategies*. National Alternate Assessment Center, Human Development Institute, University of Kentucky, Lexington. Can be retrieved at <http://www.naacpartners.org/Products/products.htm>.

Kearns, J.F., Burdge, M., Kleinert, H.K. (2005). Alternate assessments and standards based instruction: practical strategies for teachers. (In Wehmeyer & Agran (ED) *Mental Retardation and Intellectual Disabilities*. Boston, MA: Pearson Educational Measurement.

Kearns, J., Burdge, M., Clayton, J., Denham, A., & Kleinert, H. (2006). How students demonstrate academic performance in portfolio assessment. In D. Browder & F. Spooner (Eds.) *Teaching language arts, math, and science to students with significant cognitive disabilities*, (pp. 277-293). Baltimore, MD: Paul H. Brookes.

Kearns, J., Towles-Reeves, J., Kleinert, H., & Kleinert, J. (2006). *Learning*

Characteristics Inventory Report. Lexington, KY: Human Development Institute, National Alternate Assessment Center.

Kleinert, H.K. & **Kearns, J.F.** (2002). Alternate assessments a transdisciplinary approach (In Silberman, R. (Ed) (in press). Educating Children with Multiple Disabilities: A Transdisciplinary Approach (4th edition). Baltimore: Paul Brookes.

Clayton, J., Burdge, M., Denham, A., Kleinert, H., & **Kearns, J.** (2006). A four-step process for accessing the general curriculum for students with significant cognitive disabilities. *Teaching Exceptional Children*, 38(5), 20-27.

Horvath, L., Kampher-Bohach, S., **Kearns, J.F.** (2005). The use of accommodations among students with deafblindness in large-scale assessments systems. Implications for practice and teacher preparation. Journal of Disability Policy Studies.

White, M., Garrett, B., **Kearns, J. F.**, Grisham-Brown, J. (2003). Instruction and Assessments: How Students with Deaf-blindness fare in Large-Scale Assessments. Research and Practice for Persons with Severe Disabilities. 28, (4), 194-204.

Kleinert, H. L., and **Kearns, J.F.** (2001) Alternate Assessment: Measuring Outcomes and Supports for Students with Disabilities. Baltimore: Paul Brookes.

Kampfer, S., Horvath, L., Kleinert, H., & **Kearns, J.** (2001). Teachers' perceptions of one state's alternate assessment portfolio program: Implications for practice and teacher preparation. Exceptional Children, 67(3), 361-374.

Kleinert, H., Haigh, J., **Kearns, J.**, & Kennedy, S. (2000). Alternate assessments: Lessons learned and roads to be taken. Exceptional Children, 67 (1), 51-66.

Hall, M., Kleinert, H., & **Kearns, J.** (2000). College connection: New directions in post-secondary programs for students with moderate and severe disabilities. Teaching Exceptional Children, 32 (3), 58-65.

Kleinert, H.L., Haigh, J., **Kearns, J.F.**, Sarah, K. (2000). Alternate assessments for students with disabilities and Idea 97: Lessons learned and roads not taken. Exceptional Children 67 (1), 51-66.

Turner, M., Baldwin, L., Kleinert, H.L., & **Kearns, J.F.** (2000). Consequential Validity of Kentucky's Alternate Portfolio Assessment. Journal of Special Education. 34(2), 69-76

Kearns, J.F., Kleinert, H. L., Kennedy, S. (1999). Assessment and Accountability Systems: We need not exclude anyone. Educational Leadership, 56(6) p. 33-38.

Kleinert, H.L., Kennedy, S., **Kearns, J.F.** (1999). The impact of the alternate assessment: A statewide teacher survey. Journal of Special Education 33(2), 93-102.

Kleinert, H.L. and **Kearns, J.F.** (1999). A validation study of the performance indicators and learner outcomes of Kentucky's alternate assessment for students with moderate and severe disabilities. The Journal of the Association for Persons with Severe Handicaps 24 (2), 100-110.

Kearns, J.F., Kleinert, H.K., Clayton, J., Burdge, M., Williams, R. (1998). Inclusive educational assessments: Perspectives from Kentucky. Teaching Exceptional Children 31(2), 16-24.

Fisher, D., Roach, V. **Kearns, J.F.** (1998). Statewide assessment systems: Who's in and who's out. Consortium on Inclusive Schooling Practices Issue Brief, 3(1).

Kleinert, H.K., **Kearns, J.F.**, Kennedy, S. (1997). Accountability for all students, Kentucky's alternate portfolio assessment for students with moderate and severe disabilities. Journal of the Association for Persons with Severe Handicaps, 22(2) 88-101.

Kleinert, H.K., **Kearns, J.F.**, Kennedy, S. (1997). Accountability for all students: A brief response to Elliot and Sailor. Journal of the Association of Persons with Severe Handicaps, 22(2) 107-108.

Kearns, J. F. (1997). The role of the principal in the professional development of teachers: A multiple case study. (Unpublished dissertation).

Farmer, J. A., Justice, T. & Hales, R. (1993). Special education participation in extended school programs. Human Development Institute (Unpublished manuscript).

Farmer, J. A. & Kleinert, H.K. (1992). Kentucky Alternate Portfolio Teacher's Guide. Human Development Institute, University of Kentucky.

Doyle, P., Gast, D., Wolery, M., Ault, M.J. & **Farmer, J. A.** (1992). Assessing the acquisition of incidental information by secondary-aged students with mental retardation: A comparison of response prompting procedures. American Journal of Mental Retardation.

Winterling, V., Gast, D., Wolery, M. & **Farmer, J. A.** (1992). Teaching first aid skills to students with moderate and severe handicaps in small group instruction. Education and Treatment of Children, 15(20) 101-124.

Farmer, J.A., Gast, D., Wolery, M. & Winterling, V. (1991). Small group instruction for students with severe handicaps: A study of observational learning. Education and Training in Mental Retardation, 26(2) 190-201.

Doyle, P., Gast, D., Wolery, M., Ault, M.J. & **Farmer, J.** (1990) Use of constant time delay in small group instruction: A study of observational learning. The Journal of Special Education, 23(4) 369-385.



Jessica Masters, Ph.D.
Senior Research Scientist: Innovation Lab

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| Summary of Qualifications | <p>Dr. Jessica Masters has 10 years of experience developing and evaluating educational technology. As the co-Principal Investigator of a federally funded grant, she led the efforts to develop a computer-based, diagnostic, formative assessment system targeting geometric misconceptions in the middle grades. In this role, she also developed, evaluated, and published results related to the automated scoring of technology-enhanced items.</p> |
| Education | <p>Ph.D., Computer Science, University of California, Santa Cruz, CA M.S., Computer Science, University of California, Santa Cruz, CA B.A., Computer Science and Mathematics, Magna Cum Laude, Colgate University, Hamilton, NY</p> |
| Professional Experience | <p>2011–present Adjunct Faculty, City College of San Francisco, San Francisco, CA As adjunct faculty, teaching introductory programming course, Fundamentals of Java, to approximately 45 students.</p> <p>2010–present Senior Research Scientist, Innovation Lab, Measured Progress, Inc., Dover, NH Co-PI for the Diagnostic Geometry Assessment project, funded by the Institute of Education Sciences (~\$1.7M). Leading this project to develop, validate, and evaluate online, formative, cognitively diagnostic assessments of middle-school misconceptions in geometry.</p> <p>2005–2010 Senior Research Associate, Boston College, Chestnut Hill, MA Initially a Research Associate on the e-Learning for Educators Initiative, a federally funded Ready to Teach grant. In this capacity, worked to evaluate the effect of online professional development on teacher and student knowledge and practices through a large-scale randomized controlled trial across multiple states. Was promoted in 2008 to Senior Research Associate when her proposal for Diagnostic Geometry Assessment Project was funded (see above). This grant was transferred to Measured Progress in 2010.</p> <p>2001–2005 Graduate Research Assistant University of California, Santa Cruz, CA Designed, developed, and evaluated ExplaNet, a web-based educational tool that allows students to access peer-authored explanations to instructor-provided questions. Reviewing peer-authored answers with this framework helped students develop a deeper understanding and greater retention of difficult concepts. I also created several educational Java applets that are interactive simulations of physical phenomena. The applets appealed to students with varied science backgrounds and learning preferences, and helped students understand critical but complex concepts. The applets are currently used each quarter in Electrical Engineering 145 at UCSC, as well as at other universities.</p> <p>2007–2009 Adjunct Faculty, MassBay Community College, Wellesley, MA As adjunct faculty, taught multiple sections of CS100: Computers and Technology and CS104: Microcomputer Applications for Business to classes of approximately 30 students. Average student evaluation rating was 4.69/5.00.</p> |
| Professional Experience | <p>2006–2009 Substitute/Guest Lecturer Boston College, Chestnut Hill, MA Served as a substitute lecturer in the undergraduate course Research Methods and Analyses. Lectures included material related to measures of central tendency and variation, correlation, regression, and tests of significance. Also gave lectures in the graduate class Technology-Enhanced Assessment.</p> |

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| | <p>2003 Teaching Assistant and Role Model, ETR Associates, Santa Cruz, CA</p> <p>Volunteered for Girls Creating Games, an afterschool program run by Education, Training and Research Associates and funded by the National Science Foundation. Twice weekly for two semesters, assisted in teaching Flash programming, computer confidence, and teamwork skills to middle-school girls.</p> <p>2000–2001 Teaching Assistant, University of California, Santa Cruz, CA</p> <p>Taught weekly sections and programming labs, graded homework and exams, monitored online discussions, worked with individual students, and conducted help sessions in Applied Discrete Mathematics (Fall 2000 and Spring 2001) and Introduction to Programming (Winter 2001).</p> <p>2000 Teacher Aide, BOCES Center, East Aurora, NY</p> <p>Assisted in a summer program for developmentally disabled students, ages 14–18. Taught lessons and monitored progress in a class of twelve.</p> <p>1999–2000 Math Clinic Tutor, Colgate University, Hamilton, NY</p> <p>Available two nights a week for walk-in help to math students in all levels of undergraduate courses. Also graded homework.</p> |
| <p>Relevant Publications and Presentations</p> | <p>Masters, J. (2012). Eighth grade in-service teachers’ knowledge of proportional reasoning and functions: A secondary data analysis. <i>International Journal for Mathematics Teaching and Learning</i>, Feb. 3.</p> <p>Masters, J. (2012). The Validity of Concurrently Measuring Students’ Knowledge and Misconception related to Shape Properties. <i>Annual Meeting of the American Educational Research Association.</i> Vancouver, BC.</p> <p>Masters, J. (2012). Reasoning Based Solely on Concept Images: Middle-School Students and Parallelograms. <i>Annual Meeting of the National Council of Teachers of Mathematics.</i> Philadelphia, PA.</p> <p>Masters, J., Magidin de Kramer, R., O’Dwyer, L., Dash, S., & Russell, M. (2012). The effects of online teacher professional development on fourth grade students’ knowledge and practices in English Language Arts. <i>The Journal of Technology and Teacher Education</i>, 20(1), 21–46.</p> <p>Masters, J. & Chapman, L. (2011). Measuring Geometric Measurement Ability and Misconception with a Single Scale. <i>Annual Meeting of the American Educational Research Association.</i> New Orleans, LA.</p> <p>Masters, J. & Chapman, L. (2011). Measuring Geometric Measurement Ability and Misconception with a Single Scale. Annual Meeting of the American Educational Research Association. New Orleans, LA.</p> |
| <p>Relevant Publications and Presentations</p> | <p>O’Dwyer, L., Masters, J., Dash, S., Magidin, R., & Russell, M. (2011). The Effects of Online Professional Development on ELA Outcomes: Results from Two Randomized Controlled Trials. Annual Meeting of the American Educational Research Association. New Orleans, LA.</p> <p>O’Dwyer, L., Masters, J., Dash, S., Magidin, R., & Russell, M. (2011). The Effects of Online Professional Development on Math Outcomes: Results from Two Randomized Controlled Trials. Annual Meeting of the American Educational Research Association. New Orleans, LA.</p> |

Dash, S., Magidin de Kramer, R., O'Dwyer, L., Masters, J., & Russell, M. (2011 in press) **Impact of online professional development on teacher quality and student achievement in fifth grade mathematics.** *Journal of Research on Technology in Education.*

Magidin de Kramer, R., Masters, J., O'Dwyer, L., Dash, S., & Russell, M. (2010 in press). **The effects of online teacher professional development on seventh grade teachers' and students' knowledge and practices in English language arts.** *The Teacher Educator.*

Masters, J., Magidin de Kramer, R., Dash, S., O'Dwyer, L., & Russell, M. (2010). **The effects of online professional development on fourth grade English language arts teachers' knowledge and instructional practices.** *Journal of Educational Computing Research, 43*(3), 355-375.

Masters, J. (2010). **Automated scoring of an interactive geometry item: A proof-of-concept.** *Journal of Technology, Learning and Assessment, 8*(7), 1-39.

Chapman, L., Masters, J., & Pedulla, J. (2010). **Do digital divisions still persist in schools? Access to technology and technical skills of teachers in high needs schools in the United States.** *Journal of Education for Teaching, 36*(2), 239-249.

Masters, J. (2010). **Automatic Scoring of an Interactive Geometry Item.** International Society for Technology in Education Annual Conference and Exposition. Denver, CO.

Masters, J., Wing DiMatteo, R., Nikula, J., Humez, A., Russell, M., & Driscoll, M. (2010). **Representations of Geometric Misconceptions.** Annual Meeting of the American Educational Research Association. Denver, CO.

Russell, M. & Masters, J. (2010). **Diagnostic Assessment in Mathematics: Evaluating the Utility of Three Approaches.** Pacific Coast Research Conference. San Diego, CA.

Chapman, L., Masters, J., & Pedulla, J. (2009). **Do Digital Divisions Still Persist in our Schools? Evaluating the Access to Technology and Technical Skills of High-Needs Teachers Participating in Online Professional Development.** e-Learn World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education. Vancouver, BC, Canada.

Masters, J., Nikula, J., Wing DiMatteo, R., & Driscoll, M. (2009). **Open-Response Items to Assess Geometric Understanding.** Regional Conference of the National Council for Teachers of Mathematics. Boston, MA.

Russell, M., & Masters, J. (2009). **Formative Assessment Tools for Algebra and Geometry.** Annual Meeting of the American Educational Research Association. San Diego, CA.

Relevant
Publications and
Presentations

Russell, M. & Masters, J. (2009). **A Formative Instructional Approach for Algebra and Geometry.** Annual Meeting of the American Educational Research Association. San Diego, CA.

Masters, J. & Madhyastha, J. (2009). **ExplaNet: Promoting Cognitive Change in a Web-Based and Anonymous Environment.** Annual Meeting of the American Educational Research Association. San Diego, CA.

Masters, J. (2009). **e-Learning for Educators Project.** Conference of the National Education Telecommunications Association. Tampa, FL.

Masters, J., Madhyastha, T. M., & Shakouri, A. (2008). **ExplaNet: A collaborative learning tool and hybrid recommender system for student-authored explanations.** *Journal of Interactive Learning Research*, 19(1), 51-74.

Masters, J., Madhyastha, T. M., & Shakouri, A. (2005). **Educational applets for active learning in Properties of Electronic Materials.** *IEEE Transactions on Education*, 48(1), 29-336.

Masters, J. & Madhyastha, T. (2003). **ExplaNet: A Framework to Manage and Analyze Student-Authored Course Content.** Conference of the American Association of Engineering Education. Nashville, TN.

Masters, J., Madhyastha, T., & Shakouri, A. (2002). **Educational Applets for Active Learning in Properties of Materials.** ASEE/IEEE Frontiers in Education Conference. Boston, MA.

Honors and Awards

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| 2004 | K. Patricia Cross Future Leaders Awards Semi-Finalist |
| 2001 | Nomination, Outstanding Teaching Assistant |
| 2000 | Upsilon Pi Epsilon Microsoft Scholarship Award |
| 2000 | Upsilon Pi Epsilon Honor Society (Computer Science Honor Society) |
| 2000 | Phi Beta Kappa Honor Society |
| 2000 | Award for Excellence in Computer Science |
| 2000 | Honors in Computer Science |
| 1996-2000 | Dean's List for outstanding GPA |
| 1996 | Phi Eta Sigma Honor Society (First-Year Honor Society) |

MADELEINE A. ROTHBERG

WGBH National Center for Accessible Media (NCAM)

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Education

HARVARD GRADUATE SCHOOL OF EDUCATION, Cambridge, MA

Ed.M. in Technology in Education

1993

HARVARD COLLEGE, Cambridge, MA

A.B. in Biology, Cum Laude

1990

Professional Experience

PROJECT DIRECTOR

1997-present

WGBH National Center for Accessible Media, WGBH Educational Foundation

SENIOR CONTENT DEVELOPER and CONTENT MANAGER

1994-1996

Learningways, a division of Davidson & Associates, Cambridge MA

APPLICATIONS PROGRAMMER/ANALYST

1990-1994

Epidemiology and Nutrition Departments, Harvard School of Public Health

HEAD TEACHING FELLOW

1989-1990

Quantitative Reasoning Requirement, Harvard College

Publications

O'Connell, T., Freed, G. & Rothberg, M. Apple White Paper. "Using Apple Technology to Support Learning for Students with Sensory and Learning Disabilities." WGBH National Center for Accessible Media. 2010. Available online at: <http://www.apple.com/education/resources/>

Gould, B. and Rothberg, M. Accessible Digital Library: WGBH's Teachers' Domain, AER Journal: Research and Practice in Visual Impairment and Blindness. Winter 2009: vol. 2 no. 1, pg. 44

Ely, R., Wall Emerson, R., Maggiore, T., Rothberg, M., O'Connell, T., & Hudson, L. Extended descriptions increase content knowledge in students with visual impairments. Journal of Special Education Technology, Summer 2006; vol. 21 no. 3, pg. 31.

Freed, Geoff and Rothberg M. Accessible Digital Media, 2006 (<http://ncam.wgbh.org/publications/adm>)

Freed, G., Rothberg M., and Wlodkowski T. Making Educational Software and Websites Accessible:

Design Guidelines Including Math and Science Solutions. The WGBH National Center for Accessible Media, January 2003. On the web at: <http://ncam.wgbh.org/cdrom/guideline>

Barstow C., Nevile L., Rothberg M., and McKell, M., eds. IMS Guidelines for Developing Accessible Learning Applications — Version 1.0, IMS Global Learning Consortium, Inc, July 2002. On the web at: <http://www.imsglobal.org/accessibility/index.html>

Rothberg M., Awerbuch T., and Sandberg S. Educational software for simulating risk of HIV infection. Journal of Science Education and Technology, March 1994; vol. 3, no. 1, pg. 64.

Selected Professional Activities

- Co-chairs the IMS Global Learning Consortium's Accessibility Working Group, currently developing Access for All v3 standards. The working group is integrating Access for All with the Global Public Inclusive Infrastructure (GPII) and with the Accessible Portable Item Profile (APIP) standard, which uses AfA and other IMS specifications to standardize the interoperability and accessibility of test items.
- Leads development and use of accessibility metadata within the central repository of the National Science Digital Library (NSDL). Establishing an NSDL Access For All portal for use by NSDL collections of formal and informal science learning resources.

- Led the NCAM team supporting accessibility solutions within the National Weatherization Training Portal (NWTP) and the National Training and Education Resource (NTERlearning.org), a flexible learning platform developed by the U.S. Department of Energy and subcontractor SRI.
- Led National Science Foundation-funded project to adapt learning resources and implement accessibility specifications (user profiles and resource metadata) in WGBH's Teachers' Domain, a K-12 library of rich-media science resources that support standards-based teaching and learning. This provides teachers or students with disabilities with a search mechanism to filter and prioritize resources that meet their presentation needs (e.g., captions, descriptions, keyboard controls, magnification).
- Led the Specifications for Accessible Learning Technologies (SALT) Partnership, a collaboration with the IMS Global Learning Consortium to develop open technical specifications that enable people with disabilities to have equal access to online learning resources. Supported adoption of IMS Accessibility Specifications within the International Organization for Standardization (ISO) as Access for All (ISO/IEC 24751).
- Directed the Speech Solutions for Home Media Centers Project, incorporating voice recognition and speech output into an open source DVR. The project created a demonstration model of end-user control and navigation via a small-footprint speech interface on a personal communication device.
- Directed National Science Foundation-funded, three-year research and development project to make CD-ROM-based multimedia in the sciences, engineering, mathematics, and technology accessible to blind and visually impaired students. Developed prototypes and produced widely distributed guidelines. Contributed to National Council on Disability's 1998 Report on Access to Multimedia Technology.
- Developed math and science content and production specifications for software products: Silver Burdett Ginn's Science DiscoveryWorks (Grades 3 to 6); Davidson's Geometry Blaster (High school); and Prentice-Hall College Developmental Math (Prototype and Design).

Committee Memberships

- Chair, IMS Global Learning Consortium Accessibility Working Group
- Member of the National File Format Technical Panel, an expert panel convened by the U.S. Department of Education to establish the National Instructional Materials Accessibility Standard (NIMAS), a voluntary standard for accessible digital instructional materials for students with disabilities.
- Texas Task Force on Electronic Textbook Accessibility, Texas Education Agency
- American Foundation for the Blind Textbook Solutions Forum
- New York State Task Force on Post-Secondary Education and Students with Disabilities
- Web Access Initiative, World Wide Web Consortium

Selected Presentations

- International Society for Technology in Education Annual Conference, Universal Design for Learning Playground, June 2010. "Universal Design in the Science Classroom."
- Technology and Persons with Disabilities, California State University, Northridge, March 2010. "Teachers' Domain: An Accessible Digital Library for Education."
- MIND Alliance in Science, Technology, Engineering, and Mathematics Annual Conference, October 2009. "Talking Science, Seeing Science, Enjoying Science: Technologies for STEM Majors with Disabilities."
- Learning Impact Conference, May 2008. "Learning Impact Finalists Showcase" and "Personalized learning and inclusive design" presentation track
- Assistive Technology Industry Association Leadership Forum, February 2008. "eLearning Accessibility: Beyond Disability to Flexibility."
- North American Council on Online Learning Webinar, September 2007. "Accessibility in Online Learning"
- Software and Information Industry Assoc. Ed Tech Industry Summit, May 2006. "eLearning for All."
- Consortium for School Networking Conference, March 2006. "Digital Content Without Barriers" Panel.
- Assistive Technology Industry Association Conference, January 2006. "Accessible E-Learning Demonstrations Using IMS Accessibility Specifications."

Technology and Persons with Disabilities, California State University, Northridge, March 2005. “Accessible E-Learning Demonstrations Using IMS Accessibility Specifications.”
Designing for the 21st Century Conference, December 2004. “Usability as a Mechanism for Universal Design,” “Incorporating Persons with Disabilities into Usability Research: A Practitioner’s Handbook,” and “Supporting Learner-Centric Transformation of Online Educational Content.”

Recent Collaborators

James Allan, School for the Blind and Visually Impaired • Martyn Cooper, Open University (UK) • Richard Jackson, Boston College and CAST • Richard Schwerdtfeger, IBM • Jutta Treviranus, Inclusive Design Research Centre, Ontario College of Art and Design University • Rob Abel, CEO, IMS Global Learning Consortium • JoAnna Hunt, Blackboard Inc.

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| Summary of Qualifications | <p>Dr. Michael Russell is trained in educational measurement and has eighteen years of experience conducting leading edge research and development of innovations to assessment. He has developed strong leadership, communication, and project management skills that support collaborative efforts to improve the quality of educational assessments. This work has resulted in more than 50 scholarly articles and five books on educational assessment. Areas of specialty for Dr. Russell include computer-based testing, accessibility, technology-enhanced assessment, and interoperability standards.</p> |
| Education | <p>Ph.D., Educational Research, Measurement and Evaluation, Boston College, Chestnut Hill, MA M.S., Secondary Education, Boston College, Chestnut Hill, MA B.A., History, Brown University, Providence, RI</p> |
| Professional Experience | <p>2010–present Vice President, INNOVATION LAB, Measured Progress, Inc., Newton, MA</p> <p>Manage and lead research and development projects that focus on enhancing the validity of educational assessments through the use of digital technologies.</p> <p>2005–2010 President and Director of Research, Nimble Assessment System, Inc., Newton, MA</p> <p>SBIR NimbleTools Fast Track, Directed development of NimbleTools, a universally designed test delivery system. Oversaw design of software and several research studies that focus on the usability and efficacy of NimbleTools.</p> <p>SBIR NimblePad Phase I, Directed development of NimblePad, a peripheral device that allows examinees to enter open-response items by hand into a computer-based test. Oversaw design of device and research that focused on usability of the device.</p> <p>New Hampshire Enhanced Assessment Grant, Directed research studies that focused on the feasibility and effect of using NimbleTools to deliver an operational state test.</p> <p>2005–present Principal Investigator, Computer-based Testing and Gap Students Study, Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA</p> <p>Developing a new approach to computer-based testing that probes student performance within a Grade Level Expectation by presenting items that focus on discrete aspects of complex tasks. This work is supported by a \$200,000 sub-contract from the New England Compact.</p> <p>2005–present Associate Professor, Boston College–Lynch School of Education, Chestnut Hill, MA</p> <p>Teach graduate statistics, computers and assessment courses, and undergraduate classroom assessment courses.</p> |
| Professional Experience | <p>2004–present Project Director and Co-Principal Investigator, Developing Diagnostic Algebra Tests, Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA</p> <p>Direct a three year effort to develop adaptive diagnostic algebra tests to be used to inform classroom assessment and to advance the current state of the art of state testing programs. This work is supported by a \$1 million, three grant from the Institute of Education Sciences.</p> |

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| | <p>2003-present Principal Investigator, Optimizing On-Line Professional Development Study, Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA</p> <p>Collaborate with EDC to direct research activities conducted by inTASC for a three year, \$1.8 million study funded by NSF to conduct a series of randomized experiments designed to optimize the effect of on-line professional development on teacher knowledge and practices.</p> <p>2002-present Principal Investigator, Talking Tactile Tablet Test Accommodation Studies, Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA</p> <p>Direct research activities for a two-year study of the use of the TTT as an instructional and test accommodation tool for blind and visually impaired students.</p> <p>2001-present Director, Technology and Assessment Study Collaborative (inTASC), Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA</p> <p>Oversee studies conducted by a team of 10-18 researchers and graduate students that focus on assessment and technology. Studies range from examining impacts of instructional uses of technology to applications of computer-based technologies to the technology of testing.</p> <p>1999-present Advisor, Boston College-Lynch School of Education, Chestnut Hill, MA</p> <p>Professional development seminar for Freshman.</p> <p>2002-2005 Assistant Professor, Boston College-Lynch School of Education, Chestnut Hill, MA</p> <p>2003-2004 Principal Investigator, Computer-based Test Delivery and Accommodation Studies, Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA</p> <p>Directed an 18-month, \$400,000 series of studies conducted for the New England Compact to examine mode of administration effects and validity of accommodations provided via computer-based tests for state testing programs.</p> |
| Professional Experience | <p>2001-2004 Principal Investigator, Use, Support, and Effect of Instructional Technology (USEIT) Study, Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, Chestnut Hill, MA</p> <p>Direct a three year \$1.7 million US DoE funded study conducted across twenty-four districts to examine the relationships among district support of technology, classroom use of technology and impacts on student learning.</p> <p>2001-2002 Adjunct Lecturer, Boston College-Lynch School of Education, Chestnut Hill, MA</p> <p>Taught undergraduate level classroom assessment courses.</p> <p>2000-2002 Assistant Research Professor, Boston College-Lynch School of Education, Chestnut Hill, MA</p> <p>Teach undergraduate classroom assessment and research methods as well as analysis courses.</p> |

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| <p>Relevant Publications and Presentations</p> | <p>1997 Adjunct Lecturer, Boston College–Lynch School of Education, Chestnut Hill, MA</p> <p>Taught undergraduate level classroom assessment courses.</p> <hr/> <p>Madaus, G., Russell, M., & Higgins, J. (2009). <i>The Paradoxes of High-Stakes Testing: How They Affect Students, Their Parents, Teachers, Principals, Schools, and Society</i>. Charlotte, NC: Information Age Publishing.</p> <p>Russell, M., Hoffmann, T., & Higgins, J. (2009). NimbleTools: A Universally Designed Test Delivery System. <i>Teaching Exceptional Children</i>, 42(2).</p> <p>Russell, M., Higgins, J., & Hoffmann, T. (2009). Meeting the Needs of All Students: A Universal Design Approach to Computer-Based Testing. <i>Innovate: Journal of Online Education</i>, 5(4).</p> <p>Russell, M., O’Dwyer, L., & Miranda, H. (2009). Diagnosing students’ misconceptions in algebra: results from an experimental pilot study. <i>Behavior Research Methods</i>, 41(2), 414-424.</p> <p>Russell, M., Douglas, J., Kleiman, G., & Carey, R. (2009). Comparing self-pace and cohort-based online courses for teachers. <i>Journal of Research on Technology in Education</i>, 41(3), 361-384.</p> <p>Carey, R., Kleiman, G., Russell, M., & Venable, J. D. (2008). Online Courses for Math Teachers: Comparing Self-Paced and Facilitated Cohort Approaches. <i>Journal of Technology, Learning, and Assessment</i>, 7(3). Retrieved from http://www.jtla.org.</p> <p>Russell, M. & Famularo, L. (2008). Testing what students in the gap can do. <i>Journal of Applied Testing Technology</i>, 9(4).</p> <p>O’Dwyer, L., Russell, M., Bebell, D., & Tucker-Seeley, K. (2008). Examining the relationship between student’s mathematics test scores and computer use at home and at school. <i>Journal of Technology, Learning and Assessment</i>, 6(5).</p> <p>Airasian, P. W. & Russell, M. (2007). <i>Classroom Assessment: Concepts and Applications</i>, (6th ed.). New York, NY: McGraw-Hill.</p> |
| <p>Relevant Publications and Presentations</p> | <p>Russell M., O’Dwyer, L. M., Bebell, D., & Tao, W. (2007) How Teachers’ Uses of Technology Vary by Tenure and Longevity. <i>Journal of Educational Computing Research</i> 37(4), 393-417.</p> <p>Russell, M. (2006). <i>Technology and Assessment: The Tale of Two Perspectives</i>. Greenwich, CT: Information Age Publishing.</p> <p>Landau, S., Russell, M., & Erin, J. (2006). The use of the Talking Tactile Tablet as a testing accommodation. <i>RE:view: Rehabilitation Education for Blindness and Visual Impairment</i>, 38(1), 7-21.</p> <p>O’Dwyer, L. M., Russell, M., Bebell, D. (2005) Identifying Teacher, School and District Characteristics Associated with Middle and High School Teachers’ Use of Technology: A Multilevel Perspective. <i>Journal of Educational Computing Research</i>, 33(4), 369-393.</p> <p>Higgins, J., Russell, M., & Hoffmann, T. (2005). Examining the effect of computer-based passage presentation on reading test performance. <i>Journal of Technology, Learning, and Assessment</i>, 3(4). Available: http://www.jtla.org.</p> |

Relevant
Publications and
Presentations

O'Dwyer, L. M., Russell, M., Bebell, D., & Tucker-Seeley, K. R. (2005). **Examining the relationship between home and school computer use and students' English/language arts test scores.** *Journal of Technology, Learning, and Assessment*, 3(3). Available: <http://www.jtla.org>.

Russell, M., Bebell, D., & O'Dwyer, L. M. (2005). **Tracking the arc of new teachers technology use.** Book chapter for: *Preparing Teachers to Teach With Technology: Current Perspectives on Applied Information Technologies*. Greenwich, CT: Information Age Publishing, Inc.

Bebell, D., Russell, M., & O'Dwyer, L. M. (2004). **Measuring teachers' technology uses: Why multiple-measures are more revealing.** *Journal of Research on Technology in Education*, 37(1), 45-63.

O'Dwyer, L. M., Russell, M. & Bebell, D. J. (2004). **Identifying teacher, school and district characteristics associated with elementary teachers' use of technology: A multilevel perspective.** *Education Policy Analysis Archives*, 12(48). Retrieved September 14, 2004 from <http://epaa.asu.edu/epaa/v12n48/>.

Russell, M., Cowan, C., & Raczek, S. (2004). **Accountability California style: Counting or accounting for educational impacts.** *Teachers College Record*, 106(11).

Russell, M., Bebell, D. & Higgins, J. (2004). **Laptop learning: A comparison of teaching and learning in upper elementary classrooms equipped with shared carts of laptops and permanent 1:1 laptops.** *Journal of Educational Computing Research*, 31(2), 313-330.

Russell, M. & Abrams, L. (2004). **Instructional uses of computers for writing: How some teachers alter instructional practices in response to state testing.** *Teachers College Record*, 106(6), 1332-1357.

Russell, M. & Tao, W. (2004). **The influence of computer-print on rater scores.** *Practical Assessment, Research, and Evaluation*, 9(10).

Russell, M. & Tao, W. (2004). **Effects of handwriting and computer-print on composition scores: A follow-up to Powers et al.** *Practical Assessment, Research, and Evaluation*, 9(1).

Bebell, D., Russell, M., & O'Dwyer, L. (2004). **Measuring teachers' technology uses: Why multiple-measures are more revealing.** *Journal of Research on Technology in Education*, 37(1), 45-64.

O'Dwyer, L., Russell, M., & Bebell, D. (2004). **Identifying teacher, school and district characteristics associated with teachers' use of technology: A multilevel perspective.** *Educational Policy Analysis Archives*, 12(48). Available: <http://epaa.asu.edu/epaa/v12n48/v12n48.pdf>.

Miranda, H., Russell, M., & Hoffmann, T. (2004). **Examining the feasibility and effect of a computer based read aloud accommodation on mathematics test performance.** Chestnut Hill, MA: Technology and Assessment Study Collaborative, Boston College.

Haney, W., Bebell, D., & Russell, M. (2004). **Drawing on education: using drawings to document schooling and support change.** *Harvard Educational Review*. 74(3), 241-272.

Russell, M., Goldberg, A., & O'Connor, K. (2003). **Computer-based testing and validity: A look back and into the future.** *Assessment in Education*, 10(3), 279-293.

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| | <p>Russell, M., Bebell, D., O'Dwyer, L., & O'Connor, K. (2003). Examining teacher technology use: Implications for pre-service and in-service teacher preparation. <i>Journal of Teacher Education</i>, 54(4), 297-310.</p> <p>Russell, M., Bebell, D., Cowan, J., & Corbelli, M. (2003). An AlphaSmart for each student: Does teaching and learning change with full access to word processors? <i>Computers and Composition</i>, 20(1), 51-76.</p> <p>Landau, S., Russell, M., Gourgey, K., Erin, J., & Cowan, J. (2003). Use of the Talking Tactile Tablet in mathematics testing. <i>Journal of Visual Impairment and Blindness</i>, 97(2), 85-96.</p> <p>Goldberg, A., Russell, M., & Cook, A. (2003). Effects of computers on student writing: A meta-analysis of research 1992-2002. <i>Journal of Technology, Learning and Assessment</i>, 2(1).</p> <p>Russell, M. (2002). Framing technology program evaluations. In W. Heinecke & L. Blasi (Ed.), <i>Methods of Evaluation Educational Technology</i>. Greenwich, CT: Information Age Publishing.</p> <p>Russell, M. & Plati, T. (2002). Does it matter with which I write: Comparing performance on paper, computer and portable writing devices. <i>Current Issues in Education</i>, 5(4). Available: http://cie.ed.asu.edu/volume5/number4/.</p> <p>Russell, M. (2002). It's Time to Upgrade: Tests and administration procedures for the new millennium. <i>Essays in Education</i>, 1(1). Available: http://www.columbiacollegesc.edu/essays/vol.%201%20spring%202002/time_to_upgrade_revised.pdf.</p> <p>Russell, M. & Plati, T. (2001). Effects of computer versus paper administration of a state-mandated writing assessment. <i>Teachers College Record</i>. Available: http://www.tcrecord.org/Content.asp?ContentID=10709.</p> <p>Russell, M. & Haney, W. (2000). Bridging the gap between testing and technology in schools: Four policy options. <i>Educational Policy Analysis Archives</i>, 8(19). Available: http://epaa.asu.edu/epaa/v8n19.html.</p> |
| <p>Relevant Publications and Presentations</p> | <p>Russell, M. (1999). Testing writing on computers: A follow-up study comparing performance on computer and on paper. <i>Educational Policy Analysis Archives</i>, 7(20). Available: http://epaa.asu.edu/epaa/v7n20/.</p> <p>Russell, M. & Haney, W. (1997). Testing writing on computers: An experiment comparing student performance on tests conducted via computer and via paper-and-pencil. <i>Educational Policy Analysis Archives</i>, 5(3). Available: http://epaa.asu.edu/epaa/v5n3.html.</p> |
| <p>Honors and Awards</p> | <p>2009 The da Vinci Awards® winner. Awarded for the development of an assessment system that exceeds federal requirements for accessibility.</p> |

Lynn Shafer Willner, Ph.D.

Senior Research Scientist, GW-CEEE

Education

Ph.D., *George Mason University*: Education: Specializations in Educational Anthropology, Multilingual/Multicultural Education, and Instructional Technology, 2005

M.Ed., *University at Buffalo, The State University of New York*: Elementary Education with Specializations in Bilingual and Early Childhood Education, 1991

B.A., *University of Rochester*: History and Political Science, 1987

Certifications

Virginia Teaching Licensure: Post-professional status (Ph.D.), NK-4 (Early Elementary) and PK-12 English as a Second Language (July 2007- June 2012); renewal pending

District of Columbia Early Childhood Education Trainer (February 2009-present)

Selected Professional Experience

Senior Research Scientist, *The George Washington University Center for Equity and Excellence in Education (GW-CEEE)*, Arlington, Virginia (2008–present)

Research Scientist, *The George Washington University Center for Equity and Excellence in Education (GW-CEEE)*, Arlington, Virginia (2005–2008)

Shafer Willner's work at GW-CEEE has two areas of focus: English language learner (ELL) specialist and Manager of Online Technical Assistance. Most recently, she has provided ELL expertise (and serves as GW-CEEE project manager) for the SMARTER Balanced Assessment Consortium SBAC 06 contract managed by Measured Progress and ETS, which focuses on the development of accessibility and accommodation guidelines. She has contributed analysis of SMARTER Balanced state guidelines for ELL accommodation, management and authorship of a case study on the use of English/Spanish item presentation of the Delaware Comprehensive Assessment System mathematics test, and support in the development of the Smarter Balanced Assessment Consortium Assessment and Accommodation Guidelines. She has provided technical feedback to the Partnership for the Assessment of Readiness for College and Career (PARCC) Accessibility, Accommodations & Fairness Technical Working Group. Supporting GW-CEEE's membership in the CCSSO ELL SCASS, she has provided resources and guidance for the development of the CCSSO ELL Accommodation Manual. She also provided feedback language, bias, and non-verbal support issues for computer-based test items developed as part of the 2012 Online Mathematics Assessment Project (OMAP) Enhanced Assessment Grant.

Dr. Shafer Willner's current technical assistance work with SEAs focuses on helping SEAs develop the readiness for participation in next generation assessment systems by appropriately defining specifications for *ELL-related* data elements in state longitudinal data systems, state accountability reports, and state policy and guidelines. During the past seven years, Dr. Shafer Willner has provided research-based ELL assessment and accommodation support to SEAs in for the Alaska, Appalachia, Mid-Atlantic, North Central, and NorthWest Comprehensive Centers, co-authoring state ELL accommodation guidelines, creating online trainings to support those guidelines, and supporting states in monitoring and analyzing ELL accommodation data. She has served as project manager for two U.S. Department of Education LEP Partnership initiatives, Best Practices for State Content Assessment Policies for ELLs: Guidebook Development Project and Online Database of ELL Accommodations with Supporting Web-based Toolkit and Technical Assistance. The goal of the first project, conducted during 2007-2008, was to create a guidebook for use by SEAs as they align their current state assessment policies with best practices for accommodating ELLs. The second LEP Partnership project provided states with customized support during 2008-2009 as they used the guidebook to refine their state policies. Shafer Willner also served as project manager and lead researcher and writer for the 2006-2007 GW-CEEE study for the National Center for Education Statistics, *Decision-Making Practices of Urban Districts for Including and Accommodating English Language Learners in NAEP -- School-Based Perspectives*. This NCES study described and analyzed school-based decision-making practices relevant to the inclusion and accommodation of ELLs in the 2005 National Assessment of Educational Progress (NAEP), which was administered as part of the Trial Urban District Assessment (TUDA). She has presented numerous times on the topic accommodations and methods of effective instruction and assessment of ELLs.

In her role as Manager of Online Technical Assistance with the Mid-Atlantic Comprehensive Center (MACC), a U.S. Department of Education funded technical assistance project, Shafer Willner designed and delivered a number of virtual events, including Web conferences, listservs, and blog discussions to support interactive discussions with state education agencies on collaborative coaching, accountability systems, school restructuring, and teacher quality. Shafer Willner has also written a white paper on the integration of technology into the classroom and the supporting technical assistance needs for building capacity at state, district, school, and teacher levels.

NCATE/CAEP Reviewer for TESOL programs at Institutes of Higher Education (January 2009 -present)

Editor, *George Mason University, Language Minority Teacher Induction Project (LMTIP) Action Research Projects*, Fairfax, Virginia (2003-2004)

Shafer Willner edited and selected exemplary action research projects completed by over 200 beginning teachers of language minority students in Washington, DC, Arlington, VA, and Fairfax County (VA) public school. <http://gse.gmu.edu/research/lmtip/arp.htm>.

Manager, *Public Broadcasting Service (PBS) TeacherLine, Online Facilitation and Training Team*, Alexandria, Virginia (2000-2002)

Shafer Willner managed the design of 3-stage training model for PBS TeacherLine online facilitators: one-day face-to-face training, 6 weeks online, ongoing community of practice; she created supporting administrative system to support the TeacherLine Online Facilitator Training Program.

University Support Mentor, *George Mason University, Language Minority Teacher Induction Project (LMTIP)*, Fairfax, Virginia (1999-2000)

At Bell Multicultural High School in the District of Columbia Public Schools, Shafer Willner provided face-to-face and online mentoring support to on-site teacher mentors and beginning teachers of Language Minority high school students.

ESOL Teacher, *Bailey's Elementary School for the Arts and Sciences, Kindergarten, Second, and Fifth grades*, Fairfax County Public Schools, Fairfax, Virginia (1992-1998)

Shafer Willner instructed students in nationally-recognized school which served economically, linguistically, ethnically, and racially diverse populations. Shafer Willner planned and implemented developmentally-appropriate curriculum, using conceptual units, a balanced Language Arts approach, Reading Recovery strategies, and best practices in Second Language Acquisition instruction. She also conducted home visits each year for all students and offered parent workshops.

Selected Publications

Shafer Willner, L. (in press). During threaded discussions are non-native English speakers always at a disadvantage? *International Journal on E-Learning (IJEL) - Corporate, Government, Healthcare, & Higher Education*. Available: <http://www.aace.org/pubs/ijel>.

Shafer Willner, L. (2011). The click of contentment: Using the teacher research process to reframe a SIFE student's (and his teacher's) understanding about reading. *Greater Washington Reading Council Journal*, 26, 14-21.

Shafer Willner, L. & Rivera, C. (2011). Are EL needs being defined appropriately for the next generation of computer-based tests? Prepared for the National Clearinghouse of English Language Acquisition (NCELA) AccELerate newsletter. Washington, DC. Available: <http://www.ncela.gwu.edu/accelerate/>.

Shafer Willner, L. & Rivera, C. (2010). State practices for ensuring meaningful participation of English language learners in state mathematics, reading/language arts, and science assessments. Prepared for the National Clearinghouse of English Language Acquisition (NCELA) AccELerate newsletter. Washington, DC. Available: <http://www.ncela.gwu.edu/accelerate/>.

Shafer Willner, L., Rivera, C., & Acosta, B. (2010). Examination of peer review and Title I monitoring feedback regarding the inclusion and accommodation of ELLs in state content assessments. Arlington, VA: The George Washington University Center for Equity and Excellence in Education.

Shafer Willner, L., Rivera, C., & Acosta, B. (May, 2009). Ensuring accommodations used in content assessments are responsive to English language learners. *The Reading Teacher*. International Reading Association.

Rivera, C., Shafer Willner, L., & Acosta, B. (2009). Improving the selection of accommodations for English language learners in content assessments. Prepared for the National Clearinghouse of English Language Acquisition (NCELA) AccELerate newsletter. Washington, DC. Available: www.ncela.gwu.edu/files/uploads/17/Accelerate_1_2.pdf.

- Acosta, B., Rivera, C., & Shafer Willner, L. (2008). Best practices in the accommodation of English language learners: A Delphi study. Prepared for the LEP Partnership, U.S. Department of Education. Arlington, VA: The George Washington University Center for Equity and Excellence in Education. Available: <http://ells.ceee.gwu.edu>.
- Rivera, C., Acosta, B., & Shafer Willner, L. (2008). Guide for the refinement of state assessment policies for accommodating English language learners. Prepared for the LEP Partnership, U.S. Department of Education. Arlington, VA: The George Washington University Center for Equity and Excellence in Education. Available: <http://ells.ceee.gwu.edu>.
- Shafer Willner, L., Rivera, C., & Acosta, B. (2008). Descriptive analysis of state 2006-2007 content area accommodations policies for English language learners. Arlington, VA: The George Washington University Center for Equity and Excellence in Education.
- Shafer Willner, L., Rivera, C. & Acosta, B. (2007). Decision-Making Practices of Urban Districts for Including and Accommodating English Language Learners in NAEP – School-Based Perspectives. Prepared for the National Center for Educational Statistics, U.S. Department of Education. Arlington, VA: The George Washington University Center for Equity and Excellence in Education.
- Shafer Willner, L., Rivera, C. & Acosta, B. (2007). Decision-Making Practices of Urban Districts for Including and Accommodating English Language Learners in NAEP – School-Based Perspectives. Prepared for the National Center for Educational Statistics, U.S. Department of Education. Arlington, VA: The George Washington University Center for Equity and Excellence in Education. Available: <http://ceee.gwu.edu/Projects/TUDA.html>
- Rivera, C., Collum, E., Shafer Willner, L., & Sia, J. (2006). Analysis of State Assessment Policies Regarding the Accommodation of English Language Learners (pp. 1-174) in C. Rivera & E. Collum (Eds.) State Assessment Policy and Practice for English Language Learners: A National Perspective. Lawrence Erlbaum Associates, Inc.
- Levy, J., Shafer, L., & Dunlap, K. (2002). Advancing the Professional Development of Beginning Teachers through Mentoring and Action Research. L. Minaya-Rowe (Ed.) Handbook of Bilingual Education Research. Greenwich, CT: Information Age Publishing.
- Shafer, L. (1999). Assessing ESL students for learning disabilities: Making classroom-based assessments a reliable and valid part of the Special Education referral process. *InterEd*, 26(90), 22-24.
- Shafer, L. (1995). *Anecdotal Record Keeping: Learning From Rosa, Ahmed, and Zhou*. *GWRC Journal*, 19, 16-23.

Selected Presentations

- Shafer Willner, L. (2012). Sustainable SEA support for schools and districts: ELL students. Nashville, TN: Appalachia Regional Comprehensive Center.
- Shafer Willner, L. (2012). Office of the State Superintendent of Education (OSSE) Accommodation Training for Local Education Agencies in the District of Columbia. Washington, DC: Author.
- Shafer Willner, L. (2012). Rethinking the conceptualization of English language learner and Issues impacting ELL data readiness for next generation assessment systems. Assessment and Accountability Mini-Conference on Transitioning to the Common Core State Standards & Consortia Assessments: Making it Happen. Los Angeles, CA: National Center for Research on Evaluation, Standards, and Student Testing (CRESST)/UCLA.
- Rivera, C. and Shafer Willner, L. (2011). Current Issues that Impact SEA Policies and Practices for Accommodating ELLs. Invited presentation to Student Achievement and School Accountability (SASA) Programs staff, U.S. Department of Education. February 9, 2011. Washington, DC.
- Rivera, C. and Shafer Willner, L. (2011). Ensuring English language learner needs are addressed in new assessment systems: Reframing state ELL assessment policies. Presidential Session Presentation at the Annual Meeting of the American Educational Research Association. April 12, 2011. New Orleans, Louisiana.
- Rivera, C. and Shafer Willner, L. (2011). Current issues that impact SEA policies and practices for accommodating ELLs. Invited presentation to Student Achievement and School Accountability (SASA) Programs staff, U.S. Department of Education. February 9, 2011. Washington, DC.
- Shafer Willner, L. and Rivera, C. (2010). How States can improve their practices to ensure ELLs are meaningfully accommodated in state content assessments. Webinar presented July 13, 2010 for the National Clearinghouse on English language acquisition: Washington, DC.
- Shafer Willner, L. and Rivera, C. (2010) An Overview of State Practices for Ensuring Meaningful Participation of ELLs in State Content Assessment. East Coast Organization of Language Testers.
- Shafer Willner, L. and Rivera, C. (June 2010). Testing accommodations for English language learners: Application of resources designed for students with disabilities policy to the design of ELL accommodation policy. Council of Chief State School Officers' National Conference on Student Assessment: Detroit, MI.
- Shafer Willner, L. (2009). Assessing and building on young children's understandings: Training for early childhood educators. Washington, DC: Bright Horizons at GW.

- Shafer Willner, L. (2008). Issues that impact the accommodation of English language learners in large-scale assessments. Invited presentation given at the Council of the Great City Schools Annual Conference. October 25, 2008. Houston, TX.
- Rivera, C., Shafer Willner, L. & Acosta, B. (2008). Guide on LEP accommodations. Invited presentation given at the 2008 LEP Partnership and state Title I and Title III directors meeting. October 16, 2008. Washington, DC.
- Rivera, C and Shafer Willner, L. (2008). Building state assessment policies appropriate for English language learners. Invited presentation given at the Mid-Atlantic Comprehensive Center English Language Learner Institute. January 31, 2008. Nashville, TN.
- Shafer Willner, L., Rivera, C., & Acosta, B. (2008). Decision-making practices of urban districts for including and accommodating English Language Learners in NAEP -- School-based perspectives. Paper presented at American Educational Research Association (AERA) Annual Meeting: New York, NY.
- Shafer Willner, L. (2008). A framework for accommodations. 31st Annual Statewide Conference for Teachers of Linguistically and Culturally Diverse Students: Arlington Heights, IL.
- Acosta, B., Rivera, C., Shafer Willner, L. & Staehr Fenner, D. (2008). Best practices in state assessment policies for the accommodation of English language learners: A Delphi study. Paper presented at American Educational Research Association (AERA) Annual Meeting: New York, NY.
- Rivera, C., Shafer Willner, L., Acosta, B, & Staehr Fenner, D. (2007). Policy considerations for designing valid and appropriate accommodations for state academic content assessments. Invited presentation given at the 2007 OELA Annual Summit: Washington, DC.
- Rivera, C., Shafer Willner, L., Acosta, B, & Staehr Fenner, D. (2007). Descriptive analysis of 2006-07 state assessment policies for English language learners. Invited presentation given at the 2007 U.S. Department of Education LEP Partnership Meeting: Washington, DC.
- Shafer Willner, L. (2006). Modifying assessments to support student learning. 2006 Leadership Institute for Latino Literacy. Presentation/Workshop given to middle and high school teachers at The George Washington, University: Arlington, VA.

Web sites Designed

- George Mason University Graduate School of Education Teacher Research Web site (2001 – present)
<http://gse.gmu.edu/research/tr>. Designed educational Web site for teachers on action research. Featured resource in June 12, 2002 issue of Education Week.

Membership in Professional Associations

- American Education Research Association (AERA)
- Teachers of English to Speakers of Other Languages (TESOL)
- Association for the Advancement of Computing in Education (AACE)
- Virginia Society for Technology in Education (VSTE)
- Fairfax County (VA) Teacher Research Network
- Northern Virginia Writing Project (NVWP)
- Greater Washington Reading Council (GWRC)

STEPHEN G. SIRECI, PhD

(b)(6)

Education

- 1993: Ph.D. in Psychology (Psychometrics), Fordham University, Bronx, NY
Dissertation: *Evaluating test content using cluster analysis and multidimensional scaling*
- 1987: Master of Arts in Psychology, Loyola College, Baltimore, MD
 (Counseling, with a concentration in Employee Assistance Programs)
Thesis: *The effects of aerobic exercise on select psychological variables among the chronic mentally ill.*
- 1985: Bachelor of Arts in Psychology, Loyola College, Baltimore, MD

Professional Experience

September, 1995 to Present:

Professor¹, School of Education, University of Massachusetts Amherst

Director, Center for Educational Assessment, University of Massachusetts Amherst

Adjunct Associate Professor, Psychology Department (11/02), University of Massachusetts Amherst

Teach graduate courses in statistics, scaling methods, test development, educational assessment, validity theory, and research methods (see web site for syllabi). Supervise and mentor doctoral students in ongoing research. Current research activities include evaluating test comparability across languages, assessing test dimensionality, implementing innovative scaling and standard setting methodologies, appraising test validity, designing computer-based tests and performance assessments, estimating the reliability and validity of scores from complex test designs, improving the attitudes of teachers and minority students towards standardized testing, and refining emerging conceptualizations of validity. Acquire, direct, and coordinate research grants and contracts for the Center for Educational Assessment.

June, 1992 to August, 1995:

Senior Psychometrician, American Council on Education, Washington, D.C.

Directed, supervised, and coordinated research and test development activities related to the Tests of General Educational Development (GED Tests). Psychometric responsibilities included test construction, investigations of score reliability and validity, item analyses, standard setting, IRT research, and equating. Management responsibilities included coordinating norming and equating projects, training professional staff, supervising support staff, and mentoring psychometric fellows. Principal author of GED technical manual. Initiated and directed research linking English and Spanish language versions of the GED Tests. Initiated sensitivity (fairness) review. Directed and coordinated client research projects including statewide norming and GED/high school exit test comparability studies. Provided guidance on psychometric issues related to testing persons with disabilities. Author/co-author of numerous policy and technical reports.

1 Promoted from Assistant Professor, May 2000. Promoted from Associate Professor September 1, 2004.

August, 1990 to July, 1992:

Psychometrician, American Institute of Certified Public Accountants, New York, NY
Responsible for research and psychometric activities related to the Uniform CPA Examination and the Accredited Personal Financial Specialist Examination. Conducted item analyses (including applications of item response theory) and reliability and validity investigations. Trained item writers and Examination Preparation Subcommittees in item development procedures. Provided psychometric expertise to the Board of Examiners, Examination Change Implementation Task Force, and the Grading Subcommittee. Developed computerized item banking system and item analysis reporting package. Project manager for the Grading Methodology and the Standard Setting Task Forces.

June, 1990 to August, 1990:

Predoctoral Fellow, Educational Testing Service, Princeton, NJ
Evaluated reading passages associated with the new version of the SAT. Assessed the differential item functioning (bias) of these passages and determined their reliability. All analyses were conducted using item response theory within a testlet framework.

May, 1989 to June, 1990:

Research Supervisor of Testing, Newark Board of Education, Newark, NJ
(Promoted from Senior Research Assistant in January, 1990). Coordinated district-wide testing programs for over 50,000 students, including proficiency, achievement, and bilingual testing. Aided in the selection and placement of students into instructional programs. Analyzed and reported district-wide test results. Ran workshops for high school test administrators. Performed program evaluations of remedial instructional programs. Established longitudinal student data base. Reported and disseminated test results and results of Chapter I program evaluations. Conducted equating studies, established cutoff scores, and performed item analyses for locally-developed tests. Supervised professional and support staff.

April, 1986 to September, 1986:

Residential Counselor, Omni House, Glen Burnie, MD
Residential counselor in psychosocial rehabilitation center for adults with chronic psychiatric disabilities. Organized activities and provided group and individual counseling.

Selected National Commissions, Blue-Ribbon Panels, and Advisory Committees

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|--------------|---|
| 2010-present | Florida Alternate Assessment Technical Advisory Committee |
| 2004-present | Puerto Rico Technical Advisory Committee (Chair, since 2010) |
| 2004-present | Texas Technical Advisory Committee |
| 2005-2011 | National Center on Educational Outcomes, Research-to-Practice Panel |
| 2006-2011 | National Alternate Assessment Center, Expert Panel |
| 2006-2010 | Psychometric Oversight Committee, American Institute of CPAs |
| 2006-2009 | Assessing multiple sources reading comprehension, Advisory Board |
| 2007-2009 | Massachusetts Teacher Educator Licensure Pass Rate Study Group |
| 2004-2009 | Designing Accessible Reading Assessments Technical Advisory Committee |
| 2004-2009 | Partnership for Accessible Reading Assessment Technical Advisory Committee |
| 2003-2009 | Graduate Management Admissions Council Technical Advisory Committee |
| 2003-2009 | Federation of State Boards of Physical Therapy Technical Advisory Committee |
| 2004-2008 | New Hampshire Assessment Technical Advisory Committee |
| 2004-2008 | New Hampshire Enhanced Assessment Initiative Tech. Advisory Committee |

Selected National Commissions, Blue-Ribbon Panels, and Advisory Committees (continued)

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| 2005-2007 | National Board of Professional Teaching Standards Assessment Certification Advisory Panel (Chair) |
| 2003-2007 | Senior Scientist, The Gallup Organization |
| 2003-2006 | Montana Comprehensive Assessment System Technical Advisory Committee |
| 2003-2006 | Graduate Records Exam Technical Advisory Committee |
| 2005-2006 | Adult ESL Assessment Design Team, Center for Applied Linguistics |
| 2005-2006 | Technical Adequacy of Assessments for Alternate Student Populations, WestEd |
| 2002-2004 | National Assessment of Educational Progress Quality Assurance Panel |
| 2002-2003 | Maine Comprehensive Assessment System Technical Advisory Committee |
| 2003 | Committee on Diagnostic Methodology (The College Board) |
| 2001-2002 | College Board's Blue Ribbon Panel on the Flagging of Test Scores |
| 2001-2002 | Commission on Instructionally Supportive Assessment |
| 2001-2002 | Massachusetts Comprehensive Assessment System Blue Ribbon Panel |

Recent Awards/Honors

Outstanding Teacher Award, School of Education, University of Massachusetts, 2002-2003
 Chancellor's Award, University of Massachusetts Amherst, 2007
 Fellow, Div. of Evaluation, Measurement, and Statistics, American Psychological Association, 2007
 Fellow, American Educational Research Association, 2009
 Outstanding Accomplishments in Research and Creative Activity, UMass Amherst, 2009
 Thomas Donlon Award for Distinguished Mentoring (Northeastern Educ. Research Assoc.), 2010
 Samuel F. Conti Faculty Fellowship Award, University of Massachusetts Amherst, 2012

Selected Funded Research

(Approximately \$8 million since 1995. PI unless otherwise indicated)

| | |
|------|---|
| 2011 | Massachusetts Department of Education: <i>Developing and Validating Assessments for Adult Learners in Massachusetts</i> (4 years, approximately \$900,000) |
| 2010 | Measured Progress: <i>Score Equating and other technical work for the Massachusetts Comprehensive Assessment System</i> (4 years, Co-PI R. Hambleton, approximately \$600,000) |
| 2010 | Educational Testing Service: <i>Improving Educational Assessment through Psychometric Research</i> (5 years, Co-PI R. Hambleton, approximately \$1,200,000) |
| 2010 | World Bank, <i>Developing a World Class Master's Degree Program in Educational and Psychological Measurement at the Higher School of Economics (Moscow)</i> (Co-PI R. Hambleton, approx \$90,000) |
| 2009 | Pearson Educational Measurement: <i>Enhancing the Validity of Educational Achievement Tests</i> (3 years, Co-PI J. Randall, approximately \$210,000) |
| 2008 | American Institute of Certified Public Accountants: <i>Standard Setting Research for the Uniform CPA Exam</i> (Co-PI R. Hambleton, approximately \$45,000) |
| 2007 | Massachusetts Department of Education: <i>Developing and Validating Assessments for Adult Learners in Massachusetts</i> (4 years, approximately \$1,400,000) |
| 2007 | College Board: <i>Calibrating IRT Item Statistics & Equating AP Tests</i> (2 years, Co-PI R. Hambleton, approximately \$250,000) |
| 2007 | Pearson Educational Measurement: <i>Enhancing the Validity of Educational Achievement Tests</i> (Co-PI R. Hambleton, approximately \$52,000) |
| 2007 | National Science Foundation: <i>Electronic Delivery and Criterion-referencing of Assessment Materials for Chemistry</i> (2 years, Co-PIs D. Hart, S. Battisti, approximately \$58,000 for CEA) |

Selected Funded Research (continued)

- 2006 College Board: *Identifying Key Characteristics of Public Postsecondary Institutions Fostering Success for Under-Represented Students* (Co PI K. O'Meara, approximately \$180,000)
- 2005 U.S Department of Education: *Comprehensive Evaluation of NAEP* (3-year subcontract through Buros/University of Nebraska, approximately \$600,000)
- 2003 Massachusetts Department of Education: *Designing Quality Program Monitoring and Evaluation Systems for Massachusetts Adult and Community Learning Services* (5 years, approximately \$1,000,000)
- 2003 All Kinds of Minds of Minds Institute: *Evaluating Student Achievement* (Co-PI Lisa Keller, approximately \$320,000)
- 2001 Educational Testing Service: *Applying/Evaluating Emerging Measurement Models* (Co-PIs R. Hambleton & H. Swaminathan, approximately \$100,000)
- 2001 Evaluation of STEMTEC Program (co-evaluator for NSF-funded grant)
- 2002 Evaluation of STEMTEC-II Program (co-evaluator for NSF-funded grant)
- 1999 American Institute of Certified Public Accountants: *Psychometric research for the Uniform Certified Public Accountants Examination* (5 years, \$240,000)
- 1999 Microsoft Corporation: *Develop and evaluate computerized-adaptive test algorithms and item cloning techniques* (2 years, Co-PI R. Hambleton, approximately \$280,000)
- 1999 The College Board: *Research alternative designs for setting standards on AP examinations.*
- 1998 Massachusetts Department of Education: *Psychometric properties of MCAS exams* (Co-PIs R. Hambleton, H. Swaminathan, approximately \$150,000)
- 1997: Microsoft Corporation: *Study of Computerized-adaptive Test Algorithms and Translation Equivalence of Microsoft exams* (Co-PI R. Hambleton, approximately \$180,000)
- 1996: Novell, Inc.: *Investigate comparability of computer examinations across multiple languages* (approximately, \$18,000)

Consulting

Currently or formerly consulted with a wide variety of national testing organizations, local boards of education, professional licensure organizations, federal government agencies, and other educational research or service organizations since 1987. Current and former clients include the American Institute of Certified Public Accountants, Association of American Medical Colleges, the College Board, Educational Testing Service, Federation of State Medical Boards, the Gallup Organization, the Graduate Management Admissions Council, Microsoft, National Academy of Sciences, Newark (NJ) Board of Education, Novell, and Westfield Public Schools.

Publications

- Allalouf, A., Hambleton, R. K., & Sireci, S. G. (1999). Identifying the sources of differential item functioning in translated verbal items. *Journal of Educational Measurement*, 36, 185-198.
- Brown-Chidsey, R., Boscardin, M. L., & Sireci, S. G. (2001). Computer attitudes and opinions of students with and without learning disabilities. *Journal of Educational Computing Research*, 24, 183-204.
- Chakwera, E., Khembo, D., & Sireci, S. G. (2004). High-stakes testing in the warm heart of Africa: The challenges and successes of the Malawi National Examinations Board. *Education Policy Analysis Archives*, 12(29) (see <http://epaa.asu.edu/epaa/v12n29/>).

Publications (continued)

- Chulu, B. W., & Sireci, S. G. (2011). Importance of equating high-stakes educational measurements. *International Journal of Testing, 11*, 38-52.
- Crotts, K., Sireci, S. G., & Zenisky, A. L. (2012). Evaluating the content quality of a multistage-adaptive test. *Journal of Applied Testing Technology 13(1)*, 1-26.
- Davison, M.L., & Sireci, S. G. (2000). Multidimensional scaling. In H.E.A. Tinsley & S. Brown (Eds.), *Handbook of multivariate statistics and mathematical modeling* (pp. 325-349). Washington, DC: American Psychological Association.
- Green, P., & Sireci, S. G. (1999). Legal and psychometric issues in testing students with disabilities. *Journal of Special Education Leadership, 12(2)*, 21-29.
- Hambleton, R. K., & Sireci, S. G. (1997). Future directions for norm-referenced and criterion-referenced educational assessments. *International Journal of Educational Research, 27 (5)*, 379-393.
- Hambleton, R. K., Sireci, S. G., & Robin, F. (1999). Adapting credentialing exams for use in multiple languages. *CLEAR Exam Review, 10 (2)*, 24-28.
- Hambleton, R. K., Sireci, S. G., & Smith, Z. (2009). Evaluating NAEP achievement levels in the context of international assessments. *Applied Measurement in Education, 22*, 376-393.
- Han, K., Wells, C. S., & Sireci, S. G. (2012). The impact of multidirectional item parameter drift on IRT scaling coefficients and proficiency estimates. *Applied Measurement in Education, 25*, 97-117.
- Hauger, J. B., & Sireci, S. G. (2008). Detecting differential item functioning across examinees tested in their dominant language and examinees tested in a second language. *International Journal of Testing, 8*, 237-250.
- Huff, K. L., & Sireci, S. G. (2001). Validity issues in computer-based testing. *Educational Measurement: Issues and Practice, 20 (3)*, 16-25.
- Huff, K. L., Koenig, J. A., Treptau, M. S., & Sireci, S. G. (1999). Validity of MCAT scores for predicting clerkship performance of medical students grouped by sex and ethnicity. *Academic Medicine, 74 (10, supplement)*, S41-S44.
- Kaira, L. T., & Sireci, S. G. (2010). Evaluating content validity in multistage adaptive testing. *CLEAR Exam Review, 21(2)*, 15-23.
- Kaira, L. T., & Sireci, S. G. (in press). *What are the factors in factor analysis? The Thurstone-Anastasi debate*. In T. Patelis (Ed). *Collection of papers honoring the legacy of Anne Anastasi*. New York: The College Board.
- Karantonis, A., & Sireci, S. G. (2006). The bookmark standard setting method: A literature review. *Educational Measurement: Issues and Practice, 25 (1)*, 4-12.

**Curriculum Vitae
CINDY VOLK**

Office Address

University of Arizona
College of Education
Department of Special Education, Rehabilitation
and School Psychology
P.O. Box 210069
Tucson, AZ 85721

(b)(6)

Home Address

(b)(6)

Education

- Ph.D. Higher Education
Major: Finance
Minor: Organization and Administration
University of Arizona
Tucson, Arizona
May 1995
*Dissertation: Assessing Competing Models of Resource
Allocation at a Public Research University through
Multivariate Analysis of State Financing*
- M.A. Higher Education
University of Arizona
Tucson, Arizona
May 1989
- B.A. Psychology
Kansas State University
Manhattan, Kansas
May 1981

Certifications

Registry of Interpreters for the Deaf: Specialist Certificate: Legal (SC:L) – 2003
Certificate of Interpretation (CI) – 1996
Certificate of Transliteration (CT) – 1996

Cindy Volk, Ph.D.
June, 2012
Curriculum Vitae

Employment

August 1990 - Present Associate Professor of Practice/Project Director
University of Arizona
Tucson, Arizona

Full-time faculty member in Sign Language/Deaf Studies Program. Project Director for Educational Interpreting Emphasis. Responsible for teaching all levels of American Sign Language and Interpreting. Service activities include committee work and community involvement. Advise students regarding application, registration and course work. Supervise 4-6 faculty and graduate students.

January 1986 - September 1990 Project Director
University of Arizona
Tucson, Arizona

Director of federal grant program in interpreter training for regions including Arizona, Nevada, California, Oregon, Idaho, Hawaii and Trust Territories of the South Pacific. Responsible for grant funds and sub-contracts of \$105,000 annually. Developed administrative reports. Coordinator of all in-service training, maintenance, supervision and coordination with key personnel in region served by the grant. Development of materials and curricula for workshops. Conducted workshops and training with consultants. Supervised 4-6 grant employees and 50-60 trainers.

November 1983 - January 1986 Coordinator of Support Services
Resource Center for the Deaf
Maricopa Community Colleges
Phoenix, Arizona

Responsible for the development of an interpreter for the deaf selection, referral and evaluation system for the ten-campus community college district; developed and presented workshops to upgrade interpreter skills; social, personal, academic and career counseling with hearing-impaired students. Assisted students with admissions, registration and financial aid. Supervised 40 interpreters.

October 1982 - November 1983 Interpreter/Relay Coordinator
Valley Center for the Deaf
Phoenix, Arizona

Accepted requests for interpreter assignments, coordinated interpreter skill levels with situations and needs of clients. Supervised and evaluated interpreters and telephone relay operators. Prepared monthly billing reports and quarterly reports. Worked with local, state and national Registry of Interpreters for the Deaf to assist in developing skills, evaluations and community relations.

Cindy Volk, Ph.D.
June, 2012
Curriculum Vitae

Teaching

October 1987 - Present Associate Professor of Practice
College of Education
University of Arizona
Tucson, Arizona

Taught courses in American Sign Language levels I, II, III, IV; Interpreting; Educational Interpreting, History of Deafness, Language and Culture of Deaf Communities, Practicum.

August 1985 - December 1985 Instructor
Phoenix College
Interpreter Training Program
Phoenix, Arizona

Taught expressive and receptive interpreting skills to Interpreting students.

August 1982 - May 1985 Faculty Associate
Arizona State University
Tempe, Arizona

Taught a varied level of courses on American Sign Language.

Grants Received

Federal

Educational Interpreter Emphasis
Funding Agency: U.S. Department of Education
Date: 2011-2014
Amount: \$1,190,688

Educational Interpreter Emphasis
Funding Agency: U.S. Department of Education
Date: 2008-2011
Amount: \$799,954

Educational Interpreter Emphasis
Funding Agency: U.S. Department of Education
Date: 2004-2007
Amount: \$1,489,069

Cindy Volk, Ph.D.
June, 2012
Curriculum Vitae

Federal

Educational Interpreter Emphasis
Funding Agency: U.S. Department of Education
Date: 2000 - 2003
Amount: \$753,649

Regional Interpreter Training Center
Funding Agency: Rehabilitation Services Administration
Date: 1986-1990
Amount: \$525,000

State

Professional Development
Funding Agency: Arizona Commission for the Deaf and Hard of Hearing
Date: 2009
Amount: \$39,081

Interpreter Training Laboratory
Funding Agency: Arizona Commission for the Deaf and Hard of Hearing
Date: 2004 - 2007
Amount: \$152,243

Statewide Legal Interpreter Training
Funding Agency: Arizona Commission for the Deaf and Hard of Hearing
Date: 2005
Amount: \$30,544

Statewide Educational Interpreter Training
Fiscal Agent: Arizona School for the Deaf and Blind
Funding Agency: Arizona Department of Education
Date: 1999 - 2004
Amount: \$250,000

Local

Building Community Program
Funding Agency: Rotary Club of Tucson
Date: 2006-2008
Amount: \$9,000

Donna Marie Watts

(b)(6)

EDUCATION

- 1989** Loyola College
Master of Education in Instruction
- 1971 - 1975** Millersville University
Millersville, Pennsylvania
BS in Secondary Education: Mathematics

CERTIFICATION

- Current** Maryland State Department of Education
Advanced Professional Certificate
Mathematics 5 - 12

PROFESSIONAL CAREER

- 2006 – Present** **Maryland State Department of Education**
State Coordinator for Mathematics and STEM Initiatives
Expanded responsibilities include: oversight of science, technology, engineering and mathematics (STEM) education initiatives and annual grants of two million dollars including the design, training, and evaluation of grant applications; acting as the State Superintendent’s direct representative in related STEM meetings with higher education and the business world; and representing MSDE and the State Superintendent at various statewide STEM functions.
- 2002 – 2006** **Maryland State Department of Education**
State Coordinator for the Office of Mathematics
General responsibilities: provide mathematics leadership and oversight to all state educational programs, projects, and initiatives in mathematics; provide direct supervision to all staff specialists in mathematics working on content standards, state curriculum, professional development, state assessments, and technical assistance; provide fiscal accountability for all programs, projects, and initiatives from the Office of Mathematics; prioritize the workloads and timelines of all projects within the Office of Mathematics including creating and managing annual budgets of approximately five hundred thousand dollars; and represent MSDE at federal, state, and local meetings in areas related to mathematics content specific programs, projects, and initiatives.
- 1998 – 2002** **Maryland State Department of Education**
State Specialist in Mathematics
General responsibilities: provide expertise and guidance to the department on mathematics education issues; coordinate the mathematics team by assigning projects and monitoring the work of the team; monitor the mathematics

development in Maryland School Performance Program, High School Assessment, and the Bridge Goals; provide technical assistance to the school systems on issues in mathematics; respond to public requests for information about mathematics education in Maryland; facilitate the work of the Maryland Mathematics Commission; meet regularly with the mathematics supervisors in each of the 24 systems to promote mathematics

Title II Coordinator

General responsibilities: administer the Title II Grant Program for the 24 local school systems; design the Request for Proposal(RFP); create a spreadsheet to determine the local allocations; coordinate the work of the four monitors who evaluate the completed RFP, authorize the release of funds, and make site visits

Title VI Coordinator

General responsibilities: administer the Title VI Grant Program for the 24 local school systems; design the RFP; create a spreadsheet to determine the local allocations; evaluate the completed RFP; approve the RFP for the release of funds; provide technical assistance to the local school systems and the non-public schools seeking funds

- 1992 -1998** **Maryland State Department of Education
Facilitator of Mathematics for the Maryland School Performance
Assessment Program and Title II Monitor**
- 1986 - 1992** **Holabird Middle School Baltimore County Public Schools
Mathematics Department Chairperson/Team Leader**
- 1975 - 1986** **Golden Ring Junior High/Middle School/ Baltimore County Public
Schools**

PROFESSIONAL ACTIVITIES

- 1975 - Present** Maryland State Teachers Association
National Education Association
- 1985 - Present** National Council of Teachers of Mathematics
1991 – 1996 Conference Speaker
- 1985 - Present** Maryland Council of Teachers of Mathematics
2000- Present State Representative on the Executive Board
1998 - 2000 Executive Director
- 1986 - 1988** Loyola College and Baltimore County Public Schools
Graduate Course Instructor - “Mathematics in the Middle School”
- 1986 - Present** Association for Supervision and Curriculum Development
- 1990** U.S/ U.S.S.R. Emerging Leaders Conference
Moscow - Education Delegate
- 1993 - Present** Maryland Association of Mathematics Supervisors

| | |
|-----------------------|---|
| 1995 - Present | National Council of Mathematics Supervisors |
| 1995 - Present | Association of State Supervisors of Mathematics |
| 1998 - Present | National Council Accreditation on Teacher Education Certification State Evaluation Team Member |

CURRICULUM VITAE
for
Lisa Wright

(b)(6)

EDUCATION AND CREDENTIALS

Certification: Administrative I, Goucher College, Baltimore, MD 2003

M.S., Special Education - Visually Impaired, Johns Hopkins University, Baltimore, MD, 1987

B.S., Elementary Education/Special Education - Visually Impaired, Kutztown University of PA, Kutztown, PA, 1984

CERTIFICATION

Maryland State Teaching Certificate: Advanced Professional
Elementary Education K-6; Special Education K-12; Visually Impaired K-12;
Administration/Supervision

PROFESSIONAL EXPERIENCE

Statewide Blind/Visually Impaired/Low Incidence Specialist, 2003-present
Maryland School for the Blind, Baltimore, MD 21236

Provides statewide leadership for the services, program coordination, and staff development for programs for children with visual impairments and other low incidence disabilities. Provides technical assistance, resources, advocacy and support to families, teachers, and school staff. Coordinates higher education teacher training programs and monitors grants for these programs. Coordinates with the Division of Accountability, Assessment, and Data throughout the test development process to provide appropriate instructional and testing accommodations for students with visual impairments: facilitates bias/sensitivity groups for Maryland teachers of the visually impaired, assists with instructional and testing accommodations, reviews/edits test items for Braille and large print, develops support materials for Braille tests, and proofreads Braille/large print tests. Serves as Maryland's Goal Leader for the National Agenda for Students with Visual Impairments. Serves as the Maryland Coordinator to the National Instructional Materials Access Center (NIMAC) and the National Accessible Instructional Materials Access Center (AIM).

Adjunct Professor, 2003-2006

Johns Hopkins University, Graduate School of Education, Baltimore, MD

Taught classes in *Introduction to Braille* and *Advanced Braille for Math and Science* for graduate level teacher certification program.

Consultant, 1996 - 2003

Maryland State Department of Education, Baltimore, MD

Consultant and test editor for all state high-stakes tests including the High School Assessments, Maryland School Assessment Program, the Maryland Functional Tests and the Maryland School Performance Assessment Program. Reviewed/proofread tests prior to and throughout all phases of the Braille production process. Consult with MSDE, test publishers, and braillists regarding the appropriate adaptation of tests for visually impaired students, including computer-assisted testing.

Central Office Resource Specialist for the Visually Impaired, 1999 - 2003

Anne Arundel County Public Schools, Annapolis, MD 21401

Provided support to teachers, schools and families with placement, service delivery, IEP development, instructional strategies and legal issues. Managed Vision Program including staffing, budget, staff development, program facilitation, Federal Quota Blind and Deaf-Blind Census reporting, and acquisition of textbooks, equipment and instructional materials. Trained and supervised staff.

Teacher of the Visually Impaired, 1984 - 1999

Anne Arundel County Schools, Annapolis, MD 21401

Provided service to visually impaired students birth-21 in itinerant program. Included direct instructional service to students in the all areas of the Expanded Core Curriculum including Braille, low vision utilization, computer skills, and adaptive skills. Provided consultative service regarding the impact of students' visual impairment. Conducted student assessments, participated in the IEP team, and provided training and supervision of instructional assistants.

PROFESSIONAL ACCOMPLISHMENTS

- Consultant for American Printing House for the Blind in the development of mathematics materials, 2012
- Consultant for Pearson in the development of items for bias/sensitivity for GED test, 2010
- Consultant for American Council on Education to review large print, braille, and audio tests
- Planned/presented at State Conference for Teachers of the Visually Impaired (Spring, 2008) - "Improving Math Outcomes for Students with Visual Impairments."
- Planned/presented at State Conference for Teachers of the Visually Impaired (Spring, 2008) - "Improving Math Outcomes for Students with Visual Impairments."
- Published article: "The Skills of Blindness: What Should Students Know and When Should They Know It?," Future Reflections, National Parents of Blind Children, Fall, 2007. <http://www.nfb.org/images/nfb/Publications/fr/fr26/Issue3/fr260304.htm>
- Trained as a Test Editor for adapting tests into alternate formats (Braille, large print, audio) for visually impaired learners - the American Printing House for the Blind (2002).
- Planned/Presented at State Conference for Teachers of the Visually Impaired (Fall 1997) - "Instructional Strategies for Implementing the Maryland Learning Outcomes and Improving Test Performance for Blind and Visually Impaired Students".
- Completed American Foundation for the Blind leadership training as a national mentor in Braille literacy. (Seattle, Washington - July 1997).

RECENT PRESENTATION TOPICS

- "Accessible Instructional Materials" - various groups, September, 2008 through present
- "Braille Formats" - teachers of the visually impaired, paraprofessionals, braille transcribers, 2006-present
- "Switch on to Reading through Technology" - MD/DC AER, March 2003

- "Collaborative Strategies for Serving Blind and Visually Impaired Preschoolers" - AACPS
- "Differentiated Instruction in the Mixed Ability Classroom" - AACPS
- "Empowering All Learners with Accessible Technology-Based Instructional Products" - AACPS
- "Transition Planning for Visually Impaired Students" - AACPS
- "Students with Visual Impairments - Who They Are and What They Need" - AACPS

QUALIFICATIONS AND SKILLS

- Strong organizational, interpersonal and leadership skills.
- Twenty eight years of experience in field of education of students with visual impairments
- Knowledge of accountability and assessment programs
- Attended numerous professional development workshops and courses in: assessment, Braille literacy, literary Braille code, Braille Nemeth Code for Science and Mathematics, Braille formatting, and Braille translation software.

PROFESSIONAL ORGANIZATIONS/AFFILIATIONS/COMMITTEES

- MD State Steering Committee for Programs for the Visually Impaired - member, past officer
- Association for the Education and Rehabilitation of the Visually Impaired (AER)
- National Braille Association
- Council of Exceptional Children
- Connections Beyond Sight and Sound Advisory Board
- Maryland Technology Assistance Program Advisory Board
- Maryland State Department of Education Vision Plus Task Force

Memoranda of Understandings



State of Arizona
Department of Education

MEMORANDUM

Guidelines for Accessible Assessment Project Memorandum of Understanding

The Arizona Department of Education and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project (GAAP)* for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a research state, the Arizona Department of Education agrees to

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- provide assistance in recruiting schools to participate in the research components of the project
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The Arizona Department of Education understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Department of Education also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the Arizona Department of Education to act as a research state in GAAP and binds the Arizona Department of Education to the activities presented above.

(b)(6)



(b)(6)



Leila Williams, Ph.D.

Roberta Alley

Director of Alternate Assessments
(602) 364-2811
AlternateAssessment@azed.gov

Associate Superintendent of Assessment & Accountability
(602)-364-1164
www.azed.gov

**Guidelines for Accessible Assessment Project
Memorandum of Understanding**

The Colorado Department of Education and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project* (GAAP) for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

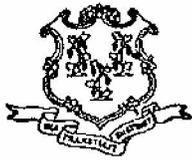
As a partner state, the Colorado Department of Education agrees to

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The Colorado Department of Education understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Colorado Department of Education also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the Colorado Department of Education to act as a partner state in GAAP and binds the Colorado Department of Education to the activities presented above.

Signature (b)(6) Date: 6-11-12
Robert K. Hammond, Commissioner of Education
Colorado Department of Education



STATE OF CONNECTICUT
DEPARTMENT OF EDUCATION



Friday, June 08, 2012

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

The Connecticut Department of Education and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project (GAAP)* for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a partner state, the Connecticut Department of Education agrees to

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The Connecticut Department of Education understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Connecticut Department of Education also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the Connecticut Department of Education to act as a partner state in GAAP and binds the Connecticut Department of Education to the activities presented above.

(b)(6)

Charlene Russell-Tucker,
Chief Operating Officer
Connecticut State Department of Education



STATE DEPARTMENT OF EDUCATION

062006

P.O. BOX 83720
BOISE, IDAHO 83720-0027

TOM LUNA
STATE SUPERINTENDENT
PUBLIC INSTRUCTION

June 05, 2012

RE: Guidelines for Accessible Assessment Project
Memorandum of Understanding

The Idaho State Department of Education (ISDE) and the Maryland State Department of Education (MSDE) are establishing this Memorandum of Understanding (MOU) to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners.

The MSDE is developing a project titled Guidelines for Accessible Assessments Project (GAAP) for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA).

As a partner state, the ISDE agrees to:

- participate in face-to-face project meetings;
participate in conference calls/Webex sessions; and
review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The ISDE understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The ISDE also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

Sincerely,

(b)(6)

Superintendent of Public Instruction
Idaho State Department of Education

Handwritten initials/signature



Special Education Services

785-291-3097 or 1-800-203-9462
785-296-6715 (fax)

120 SE 10th Avenue • Topeka, KS 66612-1182 • www.ksde.org

Guidelines for Accessible Assessment Project Memorandum of Understanding

The Kansas State Department of Education and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project (GAAP)* for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a partner state, the Kansas State Department of Education agrees to

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The Kansas State Department of Education understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Kansas State Department of Education also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the Kansas State Department of Education to act as a partner state in GAAP and binds the Kansas State Department of Education to the activities presented above.

(b)(6)

Dr. Diane DeBacker
Kansas Commission of Education

Date



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF EDUCATION
23 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0023

STEPHEN L. BOWEN
COMMISSIONER

May 15, 2012

Memorandum of Agreement

RE: Guidelines for Accessible Assessments Project

As described in the full proposal, titled Guidelines for Accessible Assessments Project (GAAP), a consortium of states will work together to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English Language Learners. As also described in the full proposal, the development of the guidelines will be guided by best practices and emerging research and will use a collaborative and iterative development process including multiple stages of research and input from national leaders in accessibility and CCSS content.

As stated in the full proposal, Maryland is designated as the Lead State for GAAP and is responsible for directing all work performed on the project. As a partner state, The Maine Department of Education agrees to participate in face to face project meetings, participate in conference calls/webex sessions, review guideline drafts and materials, and implement the guidelines in state testing programs where appropriate.

As described in the full proposal, we understand that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. We also understand that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds our state to act as a partner state in GAAP and binds us to the activities presented above and described more fully in the full proposal submitted by Maryland on behalf of this consortium.

Sincerely,

(b)(6)

Dan Hupp
Director of Standards & Assessment

**Guidelines for Accessible Assessment Project
Memorandum of Understanding**

The Michigan Department of Education and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project* (GAAP) for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a partner state, the Michigan Department of Education agrees to

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The Michigan Department of Education understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Michigan Department of Education also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the Michigan Department of Education to act as a partner state in GAAP and binds the Michigan Department of Education to the activities presented above.

In the event of unforeseen circumstances that prevent Michigan Department of Education from fully participating in the project as described above, Michigan Department of Education may withdraw from the Consortium by providing written notification to MSDE.

(b)(6)

Joseph Martineau, Ph.D.
Executive Director
Bureau of Assessment & Accountability
Michigan Department of Education

6-11-12
Date

**Guidelines for Accessible Assessments Project
Memorandum of Agreement**

As described in the full Enhanced Assessment Grant proposal, *Guidelines for Accessible Assessments Project (GAAP)*, a consortium of states will work together to develop research-based guidelines for the representation of assessment content in audio and sign for students with disabilities and for English Language Learners. As also described in the full proposal, the development of the guidelines will be guided by best practices and emerging research and will use a collaborative and iterative development process including multiple stages of research and input from national leaders in accessibility and subject-area content.

As stated in the full proposal, Maryland is designated as the Lead State for GAAP and is responsible for directing all work performed on the project. As a partner state, Minnesota agrees to participate in face-to-face project meetings, participate in conference calls/webinar sessions, review guideline drafts and materials, and implement the guidelines in state testing programs where appropriate.

As described in the full proposal, we understand that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortium. We also understand that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds our state to act as a partner state in GAAP and binds us to the activities presented above and described more fully in the full proposal submitted by Maryland on behalf of this consortium.

(b)(6)

Jessie Montano, Deputy Commissioner
Minnesota Department of Education

May 21, 2012
Date



May 25, 2012

**Guidelines for Accessible Assessment Project
Memorandum of Understanding**

The Montana Office of Public Instruction and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project (GAAP)* for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a partner state, the Montana Office of Public Instruction agrees to

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The Montana Office of Public Instruction understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Montana Office of Public Instruction also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the Montana Office of Public Instruction to act as a partner state in GAAP and binds the Montana Office of Public Instruction to the activities presented above.

(b)(6)

Madalyn Quinn, OPI Chief of Staff

5/24/2012

Date



Virginia M. Barry, Ph.D.
Commissioner of Education
Tel. 603-271-3144

Paul Leather
Deputy Commissioner of Education
Tel. 603-271-3801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF EDUCATION
101 Pleasant Street
Concord, N.H. 03301
FAX 603-271-1953
Citizens Services Line 1-800-339-9900

**Guidelines for Accessible Assessments Project
Memorandum of Agreement**

As described in the full proposal, titled Guidelines for Accessible Assessments Project (GAAP), a consortium of states will work together to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English Language Learners. As also described in the full proposal, the development of the guidelines will be guided by best practices and emerging research and will use a collaborative and iterative development process including multiple stages of research and input from national leaders in accessibility and CCSS content.

As stated in our letter of commitment and described in the full proposal, Maryland is designated as the Lead State for GAAP and is responsible for directing all work performed on the project. As a research state, we agree to participate in face to face project meetings, participate in conference calls/webex sessions, review guideline drafts and materials, provide assistance in recruiting schools to participate in the research components of the project, and implement the guidelines in state testing programs no later than the end of the project period (September 2014) where appropriate.

As described in the full proposal, we understand that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. We also understand that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds our state to act as a research state in GAAP and binds us to the activities presented above and described more fully in the full proposal submitted by Maryland on behalf of this consortium.

Respectfully Submitted,

(b)(6)

6/1/12

Timothy D. Kurtz
Director of Assessment
NH Department of Education

(b)(6)

5/31/12

Gaye V. Fedorchak
Director of Alternate Assessments
NH Department of Education



PUBLIC SCHOOLS OF NORTH CAROLINA

DEPARTMENT OF PUBLIC INSTRUCTION | June St. Clair Atkinson, Ed.D., *State Superintendent*

WWW.NCPUBLICSCHOOLS.ORG

Memorandum of Understanding Guidelines for Accessible Assessment Project

The North Carolina Department of Public Instruction and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project* (GAAP) for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a partner state, the North Carolina Department of Public Instruction agrees to

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate.

The North Carolina Department of Public Instruction understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The North Carolina Department of Public Instruction also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the North Carolina Department of Public Instruction to act as a partner state in GAAP and binds the North Carolina Department of Public Instruction to the activities presented above.

Entered into this 6th day of June, 2012.

Accepted on behalf of the North Carolina Department of Public Instruction

(b)(6)

By

June St. Clair Atkinson, State Superintendent
North Carolina Department of Public Instruction

Accepted on behalf of Maryland State Department of Education (MSDE)

(b)(6)

By

Authorized Representative

OFFICE OF THE STATE SUPERINTENDENT

June St. Clair Atkinson, Ed.D., *State Superintendent* | june.atkinson@dpi.nc.gov
6301 Mail Service Center, Raleigh, North Carolina 27699-6301 | (919) 807-3430 | Fax (919) 807-3445

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Memorandum of Understanding

Guidelines for Accessible Assessment Project

This Memorandum of Understanding (MOU) is entered into as of June 11, 2012, by and between the State of Oregon, acting by and through its Department of Education (ODE) and the Maryland State Department of Education (MSDE).

This MOU terminates when work performance, as outline in the MOU, is complete or on 09/30/2014. (1g)

Purpose:

ODE and MSDE agree to work together with a consortium of states to develop research-based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners.

The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled Guidelines for Accessible Assessments Project (GAAP) for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA).

The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

Oregon Department of Education, as a partner state, agrees to:

- 1. participate in face to face project meetings,
2. participate in conference calls/Webex sessions,
3. review guideline drafts materials, and
4. implement guidelines in state testing programs where appropriate.

The Oregon Department of Education understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Oregon Department of Education also understands the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

By execution of this MOU, ODE acknowledges they have read the document and agree to act as a partner state in GAAP and to participate in the activities as outlined above.

Maryland Department of Education

By: Bernard J. Sadusky, Title: Interim State Superintendent of Schools, Date: 6-13-12, Email Address: bsadusky@msde.state.md.us

Oregon Department of Education

Authorized Signature: (b)(6), Title: Procurement Officer Procurement Services, Date: June 11, 2012, ODE # 9422



State of Rhode Island and Providence Plantations
DEPARTMENT OF EDUCATION
Shepard Building
255 Westminster Street
Providence, Rhode Island 02903-3400

Deborah A. Gist
Commissioner

June 4, 2012

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Dear Ms. Bowman,

The Rhode Island Department of Education and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled Guidelines for Accessible Assessments Project (GAAP) for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a *partner* state, Rhode Island agrees to attend face-to-face meetings, review guideline drafts and materials, and implement guidelines in state testing programs where appropriate.

The Rhode Island Department of Education understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Department of Education also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds our state to act as a partner state in GAAP and binds us to the activities presented above and described more fully in the full proposal submitted by Maryland on behalf of this consortium.

(b)(6)

Mary Ann Snider, *Chief*
Division of Educator Excellence and Instructional Effectiveness
Rhode Island Department of Education

Memorandum of Agreement

**The South Carolina Department of Education
and the Maryland State Department of Education**

The South Carolina Department of Education (SCDE) and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research-based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign language for students with disabilities and English Language Learners.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project* (GAAP) for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a partner state, the SCDE agrees to

- participate in face-to-face project meetings;
- participate in conference calls/Web Ex sessions; and
- review guideline drafts and materials and implement the guidelines in state testing programs where appropriate.

The SCDE understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The SCDE also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the SCDE to act as a partner state in GAAP and to participate in the activities presented above.

(b)(6)

June 12, 2012

Mick Zais, Ph.D.
South Carolina State Superintendent of Education

Date

(b)(6)

6-12-12

Bernard J. Sadusky, Ed.D.
Interim Maryland State Superintendent of Education

Date



Leadership, Service, Accountability

**Guidelines for Accessible Assessments Project
Memorandum of Agreement**

As described in the full proposal, titled Guidelines for Accessible Assessments Project (GAAP), a consortium of states will work together to develop research based guidelines for assessment content in audio and sign for students with disabilities and English Language Learners. As also described in the full proposal, the development of the guidelines will be guided by best practices and emerging research and will use a collaborative and iterative development process including multiple stages of research and input from national leaders in accessibility and content.

As stated in the full proposal, Maryland is designated as the Lead State for GAAP and is responsible for directing all work performed on the project. As a partner state, we agree to participate in face to face project meetings, participate in conference calls/webex sessions, review guideline drafts and materials, and implement the guidelines in state testing programs where appropriate.

As described in the full proposal, we understand that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. We also understand that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds our state to act as a partner state in GAAP and binds us to the activities presented above and described more fully in the full proposal submitted by Maryland on behalf of this consortium.

Associate Superintendent of Student Services
and Federal Programs (b)(6)

Judy W. Park

(b)(6)

Signature of Associate Superintendent

5-10-13

Date

Chief State School Officer

Larry Ke Shumway

(b)(6)

Signature of Chief State School Officer

5-10-13

Date

**Guidelines for Accessible Assessments Project
Memorandum of Agreement**

As described in the full proposal, titled Guidelines for Accessible Assessments Project (GAAP), a consortium of states will work together to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English Language Learners. As also described in the full proposal, the development of the guidelines will be guided by best practices and emerging research and will use a collaborative and iterative development process including multiple stages of research and input from national leaders in accessibility and CCSS content.

As stated in our letter of commitment and described in the full proposal, Maryland is designated as the Lead State for GAAP and is responsible for directing all work performed on the project. As a research state, we agree to participate in face to face project meetings, participate in conference calls/webex sessions, review guideline drafts and materials, provide assistance in recruiting schools to participate in the research components of the project, and implement the guidelines in state testing programs no later than the end of the project period (September 2014) where appropriate.

As described in the full proposal, we understand that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. We also understand that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds our state to act as a research state in GAAP and binds us to the activities presented above and described more fully in the full proposal submitted by Maryland on behalf of this consortium.

On Behalf of Vermont, I agree to the above.

(b)(6)

Michael Hock
Director of Educational Assessment
Vermont Department of Education



SUPERINTENDENT OF PUBLIC INSTRUCTION

Randy I. Dorn Old Capitol Building · PO BOX 47200 · Olympia, WA 98504-7200 · <http://www.k12.wa.us>

June 7, 2012

Ms. Trinell Bowman
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Dear Ms. Bowman:

As Chief of Staff at the Washington State Office of the Superintendent of Public Instruction (OSPI), I am pleased to offer our state's commitment to the proposed project: Guidelines for Accessible Assessment Project.

As part of this collaboration with the Maryland State Department of Education and other states, I look forward to gaining the important knowledge from this project's proposed activities in order to assist in the development of research-based guidelines for the representation of Common Core State Standards assessment content in audio and sign for students with disabilities and English language learners.

As a partner state, OSPI will have the following responsibilities to the project: (1) participate in face to face project meetings; (2) participate in conference calls/Webex sessions; (3) review guideline drafts and materials; and (4) implement the guidelines in state testing programs where appropriate.

Our state's participation on this project is encouraged by the value we see in the collaborative nature of the project as well as the project deliverables. I believe that from our work together, this collaboration led by the Maryland Department of Education will yield these proposed deliverables, which will improve outcomes for students with disabilities, including ELLs with disabilities in our state, as well as be a great benefit to the field as a whole.

Sincerely,

(b)(6)

Ken Kanikeberg
Chief of Staff

**Guidelines for Accessible Assessment Project
Memorandum of Understanding**

The Washington State Office of Superintendent of Public Instruction and the Maryland State Department of Education (MSDE) are establishing this memorandum of agreement to work together with a consortium of states to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign for students with disabilities and English language learners. The project will focus specifically on 1) audio representation of alphanumeric, graphic, and image based content and 2) signed representation of alphanumeric content.

The MSDE is developing a proposal titled *Guidelines for Accessible Assessments Project (GAAP)* for funding through an Accessibility Enhanced Assessment Grant supported by the United States Department of Education (USED) through the Elementary and Secondary Education Act (ESEA). The MSDE will serve as the lead state and fiscal agent and will be responsible for directing all work on the project.

As a partner state, the Washington State Office of Superintendent of Public Instruction agrees to:

- participate in face to face project meetings
- participate in conference calls/Webex sessions
- review guideline drafts materials, and implement the guidelines in state testing programs where appropriate

The Washington State Office of Superintendent of Public Instruction understands that upon completion of GAAP, the guidelines will be freely available for use by any state assessment program or consortia. The Washington State Office of Superintendent of Public Instruction also understands that the sample item audio and sign representations will be freely available for use by the assessment community or by educators to create audio and signed representations of assessment content at a school or district level.

This agreement binds the Washington State Office of Superintendent of Public Instruction to act as a partner state in GAAP and binds the Washington State Office of Superintendent of Public Instruction to the activities presented above.

(b)(6)

Ken Kanikeberg
Chief of Staff

Assurance Regarding “Managed Partner”

Assurance Regarding Management Partner

Directions: In the box below identify the proposed project "management partner". Check the box to provide the assurance.

Consortium's proposed project "management partner":

Medicaid Program

Check the box:

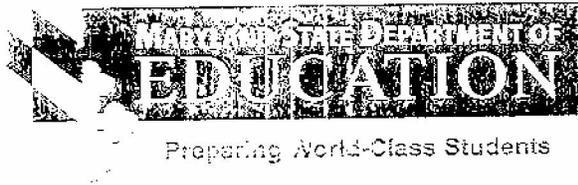


The applicant assures that the proposed project management partner is not partnered with other eligible applicants.

[Optional: Enter additional information]

NOTE: You must upload any narrative sections and all other attachments to your application, including the Assurance Regarding "Management Partner," as files in a .PDF (Portable Document) format only. You must print, complete, and save in .PDF format the Assurance Regarding "Management Partner," for your application before uploading this attachment to your application.

Copy of Indirect Cost Rate Agreement



Bernard J. Sadusky, Ed.D.
Interim State Superintendent of Schools

200 West Baltimore Street • Baltimore, MD 21201 • 410-767-0100 • 410-333-6442 TDD • MarylandPublicSchools.org

February 14, 2012

U. S. Department of Education
OCFO/FIPAO/ICG
Attn: Mary Gougisha, Rm. 6059
550 12th Street, SW
Washington, DC 20202-4450

Dear Ms. Gougisha:

Enclosed please find the original Indirect Cost Rate Agreement signed on February 14, 2012. Thank you very much for your assistance in finalizing the FY12 rates.

Please let me know if I can be of further assistance. I may be reached at 410-767-0011 or steve.brooks@msde.state.md.us.

Sincerely,

(b)(6)

Stephen A. Brooks
Deputy State Superintendent
Office of Finance

SAB/km

Enclosure

COPY

INDIRECT COST RATE AGREEMENT
STATE EDUCATION AGENCY

ORGANIZATION:

DATE: 7/17/2011

Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201

AGREEMENT NO. 2011-165

FILING REFERENCE: This replaces previous
Agreement No. 2010-151(A)
dated July 7, 2011

The purpose of this Agreement is to establish indirect cost rates for use in awarding and managing of Federal contracts, grants, and other assistance arrangements to which Office of Management and Budget (OMB) Circular A-87 applies. The rates were negotiated by the U.S. Department of Education pursuant to the authority cited in Attachment A of OMB Circular A-87.

This agreement consists of four parts: Section I - Rates and Bases; Section II - Particulars; Section III - Special Remarks; and, Section IV - Approvals

Section I - Rate(s) and Base(s)

| TYPE | Effective Period | | Rate | Base | Location | Coverage |
|-------|------------------|----------|-------|-----------|----------|------------------------|
| | From | To | | | | Applicability |
| Fixed | 07-01-10 | 06-30-11 | 14.4% | <u>1/</u> | All | Disability <u>2/</u> |
| Fixed | 07-01-10 | 06-30-11 | 13.8% | <u>1/</u> | All | Unrestricted <u>3/</u> |
| Fixed | 07-01-10 | 06-30-11 | 13.1% | <u>1/</u> | All | Restricted <u>4/</u> |
| Fixed | 07-01-11 | 06-30-12 | 12.4% | <u>1/</u> | All | Disability <u>2/</u> |
| Fixed | 07-01-11 | 06-30-12 | 12.5% | <u>1/</u> | All | Unrestricted <u>3/</u> |
| Fixed | 07-01-11 | 06-30-12 | 11.3% | <u>1/</u> | All | Restricted <u>4/</u> |

1/ Total direct cost less: medical payments, alterations, renovations, pass-through funds, and subcontracts with administrative fees. Items of equipment are capitalized if the initial acquisition cost is at least \$50 (sensitive items) or \$100 (non-sensitive items).

2/ For use on Disability Determination Services programs.

3/ For use on Federal programs which do not require the use of a restricted rate as defined by 34 CFR 75.563 and 34 CFR 76.563.

4/ For use on Federal programs which require use of a restricted rate as defined by 34 CFR 75.563 and 34 CFR 76.563.

Treatment of Fringe Benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs. In accordance with Office of Management and Budget Circular A-87, Attachment B, 8.d.(3), payments to separating employees for unused leave are treated as indirect costs.

Section II - Particulars

SCOPE: The indirect cost rate(s) contained herein are for use with grants, contracts, and other financial assistance agreements awarded by the Federal Government to the Maryland Department of Education and subject to OMB Circular A-87.

LIMITATIONS: Application of the rate(s) contained in this agreement is subject to all statutory or administrative limitations on the use of funds, and payment of costs hereunder is subject to the availability of appropriations applicable to a given grant or contract. Acceptance of the rate(s) agreed to herein is predicated on the conditions: (A) that no costs other than those incurred by the State Education Agency were included in indirect cost pools as finally accepted, and that such costs are legal obligations of the State Education Agency and applicable under the governing cost principles; (B) that the same costs that have been treated as indirect costs are not claimed as direct costs; (C) that similar types of information which are provided by the State Education Agency, and which were used as a basis for acceptance of rates agreed to herein, are not subsequently found to be materially incomplete or inaccurate; and (D) that similar types of costs have accorded consistent accounting treatment.

ACCOUNTING CHANGES: Fixed or predetermined rates contained in this agreement are based on the accounting system in effect at the time the agreement was negotiated. When changes to the method of accounting for cost affect the amount of reimbursement resulting from the use of these rates, the changes will require the prior approval of the authorized representative of the cognizant negotiation agency. Such changes include, but are not limited to, changing a particular type of cost from an indirect to a direct charge. Failure to obtain such approval may result in subsequent cost disallowances.

FIXED RATE: The negotiated rate is based on an estimate of the costs which will be incurred during the period to which the rate applies. When the actual costs for such period have been determined, an adjustment will be made in a subsequent negotiation to compensate for the difference between the cost used to establish the fixed rate and the actual costs.

NOTIFICATION TO OTHER FEDERAL AGENCIES: Copies of this document may be provided to other Federal agencies as a means of notifying them of the agreement contained herein.

Section III - Special Remarks

1. This agreement is effective on the date of approval by the Federal Government.
2. Questions regarding this Agreement should be directed to the Negotiator.
3. Approval of the rates(s) contained herein does not establish acceptance of the Organization's total methodology for the computation of indirect cost rates for years other than the year(s) herein cited.

Section IV - Approvals

For the State Education Agency:

Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201

(b)(6)

Signature

Deputy State Superintendent
Name

Deputy State Superintendent
Title

February 14, 2012
Date

For the Federal Government:

U.S. Department of Education
OCFO/FIPAO/ICG
550 12th Street, SW
Washington, DC 20202-4450

(b)(6)

Signature

Mary Gougisha
Name

Director, Indirect Cost Group
Title

February 14, 2012
Date

Mary Gougisha
Negotiator

(202) 245-8035
Telephone Number



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE CHIEF FINANCIAL OFFICER

FEB 03 2012

Mr. Stephen A. Brooks
Deputy State Superintendent
Division of Business Services
Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201

Reference: Indirect Cost Rate Agreement No. 2011-165

Dear Mr. Brooks:

The original and one copy of an Indirect Cost Rate Agreement are enclosed. These documents reflect an understanding reached by your organization and the U.S. Department of Education. The rates agreed upon should be used to compute indirect cost for grants, contracts, and applications funded by this Department and other Federal Agencies.

After reviewing the Rate Agreement, please confirm acceptance by having the original signed by a duly authorized representative of your organization and returned within thirty (30) calendar days from the date of this letter to:

U.S. Department of Education
OCFO/FIPAO/ICG
Attn: Mary Gougisha, Rm. 6059
550 12th Street, SW
Washington, DC 20202-4450

The enclosed copy of this agreement should be retained for your files. If there are any questions concerning this agreement, please contact me at (202) 245-8035.

Sincerely, *l*

(b)(6)

Mary Gougisha
Director, Indirect Cost Group
Financial Improvement and Post Audit Operations

Enclosures

400 MARYLAND AVENUE, S.W., WASHINGTON, DC 20202
www.ed.gov

Our mission is to ensure equal access to education and to promote educational excellence throughout the nation.

PR/Award # S368A120006

Page e177

There was a problem attaching a file(s).

The file was missing in the application package
submitted through Grants.Gov

Budget Narrative File(s)

* Mandatory Budget Narrative Filename:

To add more Budget Narrative attachments, please use the attachment buttons below.

Information for Form 524

SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS

| Budget Categories | Project Year 1 | Project Year 2 |
|-----------------------------------|-----------------------|-----------------------|
| 1. Personnel | | |
| 2. Fringe Benefits | | |
| 3. Travel | | |
| 4. Equipment | | |
| 5. Supplies | | |
| 6. Contractual ¹ | \$1,048,678 | \$924,097 |
| 7. Construction | | |
| 8. Other | | |
| 9. Total Direct Costs (lines 1-8) | \$1,048,678 | \$924,097 |
| 10. Indirect Costs | \$2,825 | \$2,825 |
| 11. Training Stipends | | |
| 12. Total Costs (lines 9-11) | \$1,051,503 | \$926,922 |

¹ Contractual budget detail provided in separate document.

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

The salary and benefits of the Maryland State Department of Education staff members who are contributing 'in-kind' work hours to this grant should be listed below – the staff salaries are not paid for by EAG federal funds.

- Trinell Bowman and Dale Cornelius (co-Principal Investigators on GAAP)
- Donna Watts, Mathematics Coordinator and Sylvia Edwards, Specialist in Reading/English Language Arts (GAAP working group members).
-

| Budget Categories | Project Year 1 | Project Year 2 |
|-----------------------------------|-----------------------|-----------------------|
| 1. Personnel | \$18,445 | \$18,445 |
| 2. Fringe Benefits | | |
| 3. Travel | | |
| 4. Equipment | | |
| 5. Supplies | | |
| 6. Contractual | | |
| 7. Construction | | |
| 8. Other | | |
| 9. Total Direct Costs (lines 1-8) | \$18,445 | \$18,445 |
| 10. Indirect Costs | | |
| 11. Training Stipends | | |
| 12. Total Costs (lines 9-11) | \$18,445 | \$18,445 |

Primary Contractor Budget

| Budget Categories | Project Year 1 | Project Year 2 |
|------------------------------------|----------------|----------------|
| 13. Personnel | 282,504 | 225,138 |
| 14. Fringe Benefits | 124,302 | 99,061 |
| 15. Travel | 56,640 | 67,530 |
| 16. Equipment | 300 | 0 |
| 17. Supplies | 0 | 0 |
| 18. Contractual | 273,565 | 268,831 |
| 19. Construction | 0 | 0 |
| 20. Other | 14,250 | 11,250 |
| 21. Total Direct Costs (lines 1-8) | 751,561 | 671,810 |
| 22. Indirect Costs | 297,117 | 252,287 |
| 23. Training Stipends | 0 | 0 |
| 24. Total Costs (lines 9-11) | 1,048,678 | 924,097 |

Primary Contractor Budget Narrative

The Guidelines for Accessible Assessment Project (GAAP) requires a team with expertise in a variety of areas. All project activities will be directed by Trinell Bowman, Program Manager for the Maryland State Department of Education and Dale Cornelius, Program Manager, Online Testing, for the Maryland State Department of Education. The guidelines will be developed by a working group with expertise in the field of audio and sign accessibility as well as mathematics and ELA CCSS experts. WGBH's National Center for Accessible Materials (NCAM), a non-profit research and development organization dedicated

to achieving media access equality for people with disabilities, has played a lead role in developing audio descriptions of educational materials and will lend expertise in the development of audio guidelines. An advisory board whose members have expertise in students with cognitive disabilities, print disabilities, vision disabilities, hearing disabilities, measurement and English Language Learners will provide critical review of the audio and sign guidelines and sample item representations generated from the guidelines. Evaluation activities will be conducted by experts in accessibility and evaluation at the National Center for Educational Outcomes. The Measured Progress Innovation Lab will serve as the project management partner and facilitate all development and research activities. To reduce the burden on the Maryland State Department of Education for managing contracts and payments, the Innovation Lab will be established as the primary contractor and will sub-contract with WGBH, NCEO and consultants on the working and advisory groups. For this reason, the budget narrative details direct expenses to the Maryland State Department of Education and all expenses incurred through the primary sub-contract with the Innovation Lab.

Year One Expenditures

Personnel

Trinell Bowman and Dale Cornelius, co-Principal Investigators, will be responsible for all project activities. Ms. Bowman and Mr. Cornelius will communicate on at least a monthly basis with the primary contractor to assure that all project activities are proceeding in timely manner, to identify any challenges to the project success, and to develop strategies to overcome those challenges. Ms. Bowman and Mr. Cornelius will be responsible for submitting all project reports and for disseminating project products and findings through conference presentations. The Project Evaluators will also report directly to Ms. Bowman and Mr. Cornelius. (b)(4)

(b)(4)

Travel

All travel associated with the project is incorporated in the Travel budget for the primary contractor.

Contracts

The Innovation Lab, a division of Measured Progress, Inc. will be contracted as the primary contractor.

As such, the Innovation Lab will facilitate all development and research activities. The Innovation Lab will also manage contracting and payment of all contractors and consultants who work on the project.

As described in the Project Narrative, the project includes three, over-lapping nine-month cycles of development and research of audio and sign guidelines. Cycle 1, which focuses on guidelines for grades 3-5, will be completed in year 1. Cycle 2, which focuses on guidelines for grades 6-8, will begin in year 1 and conclude in year 2. Cycle 3, which focuses on guidelines for high school grades, will be completed in year 2. Dissemination will occur in year 2.

Personnel

Lisa Famularo will serve as Project Director and will oversee all work conducted by the Innovation Lab for GAAP. Dr. Famularo will work 20% on GAAP.

Jennifer Higgins will serve Guideline Development Project Manager. Ms. Higgins will be responsible for conducting the literature review and review of current and best practices, developing draft guidelines, working with working group members to create draft sign and audio guidelines with sample items, and working with advisory board members to collect and

incorporate their feedback on the draft audio and sign guidelines and the sample item representations generated from the guidelines. Ms. Higgins will work 50% on GAAP.

Jessica Masters will serve as Research Project Manager. Dr. Masters will be responsible for conducting all research activities including working with research states to recruit schools to participate in the research components of the project; conducting the cognitive labs; managing the production of test content for online administration to students for cognitive labs and validity studies including developing digital voice recordings for audio items and videos of signed items; analyzing the validity study data; and co-authoring the validity report. Dr. Masters will work 50% on GAAP.

Michael Katz will serve as a Research Assistant and will be responsible for assisting Ms. Higgins with all tasks conducted by the Guidelines Development Team. Mr. Katz will work 40% on GAAP.

Rachel Hall will serve as Research Assistant and will be responsible for assisting Dr. Masters with all tasks conducted by the Research Team. Ms. Hall will work 60% on GAAP.

Dr. Michael Russell will serve as an advisor to both the Guideline Development and Research Teams. He will work 5 days on GAAP in year 1.

Mark Johnson will serve as a Content Specialist on the working group. During year 1, he will participate in 4 days of working group meetings and spend up to 7 additional days reviewing draft guidelines and items. He will work 11 days on GAAP in year 1.

Thomas Hoffmann will serve as serve as a technical and user interface advisor on the project and work 10% on GAAP in year 1.

Two programmers will prepare the test forms for operational test delivery for the cognitive labs and validity studies, provide technical support during the testing windows, and prepare and

deliver the test data to the researchers after testing is complete. One programmer will work 60% on the project in year 1 and be responsible for development, database management and data delivery. A second programmer will be responsible for quality control and technical support and will work 60% on the project in year 1.

An Administrative Assistant will be responsible for planning in-person meetings and conference calls including booking conference space, ordering food, and processing expense reports for project travel. The Administrative Assistant will also provide administrative support to the Guideline Development and Research Teams, as needed. The Administrative Assistant will work 20% on the project.

Item production will be performed by a graphic designer, voice talent and a sign language interpreter. A graphic designer will be responsible for preparing test items for transfer to the online testing program and will work 20% on GAAP. In year 1, \$14,400 was budgeted for voice talent and \$24,000 was budgeted for a sign language interpreter.

Fringe

A fringe rate of 44% is applied to all salaries.

Travel

In year 1, travel for the co-PIs, each member of the working group and each member of the advisory board to the cycle 1 and cycle 2 working group meetings (18 trips per cycle) is included in the budget.

Local and long distance travel for trips to 30 schools to conduct cycle 1 cognitive labs is included.

Contractual (within primary contractor's budget)

Eight advisory board members will be contracted as project consultants at a rate of \$1200 per day. In year 1, the advisory board members will attend a one-day face-to-face meeting during cycle 1 and a one-day face-to-face meeting during cycle 2. They will provide five additional days of service to review and provide feedback on draft audio and sign guidelines and sample item representations generated from the guidelines.

Four working group members will be contracted as project consultants at a rate of \$850 per day. In year 1, the working group members will attend a two-day face-to-face meeting during cycle 1 and a two-day face-to-face meeting during cycle 2. They will provide eight additional days of service to review and provide feedback on draft audio and sign guidelines and sample item representations generated from the guidelines.

Bryan Gould, Madeleine Rothberg, and Larry Goldberg from WGBH's National Center for Accessible Materials (NCAM) will be contracted to participate in the development of audio guidelines. Year 1 activities are budgeted at \$37,769 including travel to the cycle 1 and cycle 2 face-to-face working group meetings.

Laurene Christensen, Christopher Rogers, Jim Hatten, and Yi-Chen Wu from the National Center for Educational Outcomes, will be contracted to conduct all evaluation activities. Year 1 activities are budgeted at \$74,796 including travel to the cycle 1 and cycle 2 face-to-face working group meetings.

A stipend of \$50 will be provided to each of 30 teachers who will assist with the cycle 1 cognitive labs. A stipend of \$20 will be provided to each of the 30 students who participate in the cycle 1 cognitive labs. A stipend of \$50 will be provided to each of 250 teachers who will assist with the cycle 1 validity studies.

Equipment

One video camera will be purchased to be used by project personnel to record working group meetings and cognitive labs.

Other

\$250 is budgeted for mailing/federal expressing materials to project team members.

\$6,500 is budgeted for meeting facilities and meals during the face-to-face project meeting.

\$7,500 is budgeted for server fees required for development and delivery of test during cognitive labs and validity studies.

Indirect

Measured Progress Innovation Lab's indirect rate of 60% is applied to all direct expenses and to the first \$25,000 of sub-contracts.

Indirect

The Maryland State Department of Education federally approved indirect rate is 11.3%. Maryland is claiming only those indirect costs related to the first \$25,000 of sub-contracts.

Year Two Expenditures

Personnel

Trinell Bowman and Dale Cornelius, co-Principal Investigators, will be responsible for all project activities. The responsibilities of Ms. Bowman and Mr. Cornelius will be the same as those in year 1.

(b)(4)

(b)(4)

Travel

All travel associated with the project is incorporated in the Travel budget for the primary contractor.

Contracts

The Innovation Lab, a division of Measured Progress, Inc. will be contracted as the primary contractor.

As such, the Innovation Lab will facilitate all development and research activities. The Innovation Lab will also manage contracting and payment of all contractors and consultants who work on the project.

Personnel

Lisa Famularo will serve as Project Director and will oversee all work conducted by the Innovation Lab for GAAP. Dr. Famularo will also participate in authoring reports and dissemination activities for the project. Dr. Famularo will work 20% on GAAP.

Jennifer Higgins will serve Guideline Development Project Manager. In year 2, Ms. Higgins will be responsible for developing draft guidelines, working with working group members to create draft sign and audio guidelines with sample items, and working with advisory board members to collect and incorporate their feedback on the draft audio and sign guidelines and the sample item representations generated from the guidelines. Ms. Higgins will also assist in dissemination activities. Ms. Higgins will work 50% on GAAP.

Jessica Masters will serve as Research Project Manager. Dr. Masters will be responsible for conducting all research activities including working with research states to recruit schools to participate in the research components of the project; conducting the cognitive labs; managing the production of test content for online administration to students for cognitive labs and validity studies including developing digital voice recordings for audio items and videos of signed

items; analyzing the validity study data; and co-authoring the validity report. Dr. Masters will also assist in dissemination activities. Dr. Masters will work 50% on GAAP.

Michael Katz will serve as a Research Assistant and will be responsible for assisting Ms. Higgins with all tasks conducted by the Guidelines Development Team. Mr. Katz will work 40% on GAAP.

Rachel Hall will serve as Research Assistant and will be responsible for assisting Dr. Masters with all tasks conducted by the Research Team. Ms. Hall will work 60% on GAAP.

Dr. Michael Russell will serve as an advisor to both the Guideline Development and Research Teams. He will work 5 days on GAAP in year 2.

Mark Johnson will serve as a Content Specialist on the working group. During year 2, he will participate in 2 days of working group meetings and spend up to 3 additional days reviewing draft guidelines and items. He will work 5 days on GAAP in year 1.

Two programmers will prepare the test forms for operational test delivery for the cognitive labs and validity studies, provide technical support during the testing windows, and prepare and deliver the test data to the researchers after testing is complete. They will also create the website that will house the guidelines and other project materials after the grant has ended. One programmer will work 20% on the project in year 2 and be responsible for development, database management and data delivery. A second programmer will be responsible for quality control and technical support and will work 20% on the project in year 2.

An Administrative Assistant will be responsible for planning in-person meetings and conference calls including booking conference space, ordering food, and processing expense reports for project travel. The Administrative Assistant will also provide administrative support to the

Guideline Development and Research Teams, as needed. The Administrative Assistant will work 20% on the project.

Item production will be performed by a graphic designer, voice talent and a sign language interpreter. A graphic designer will be responsible for preparing test items for transfer to the online testing program and will work 20% on GAAP. In year 2, \$28,000 was budgeted for voice talent and \$48,000 was budgeted for a sign language interpreter.

Fringe

A fringe rate of 44% is applied to all salaries.

Travel

In year 2, travel for five people to the CCSSO Student Assessment Conference, at which project activities will be disseminated, is provided for the co-PIs Ms. Bowman and Mr. Cornelius, the Project Director (Dr. Famularo), Guideline Development Project Manager (Ms. Higgins) and Research Project Manager (Dr. Masters.)

In year 2, travel for the co-PIs, each member of the working group and each member of the advisory board to the cycle 2 working group meetings (18 trips) is included in the budget.

Local and long distance travel for trips to 60 schools to conduct cycle 2 and cycle 3 cognitive labs is included.

Contractual (within primary contractor's budget)

Eight advisory board members will be contracted as project consultants at a rate of \$1200 per day. In year 2, the advisory board members will attend a one-day face-to-face meeting during

cycle 3. They will provide three additional days of service to review and provide feedback on draft audio and sign guidelines and sample item representations generated from the guidelines.

Four working group members will be contracted as project consultants at a rate of \$850 per day.

In year 2, the working group members will attend a two-day face-to-face meeting during cycle 3.

They will provide three additional days of service to review and provide feedback on draft audio and sign guidelines and sample item representations generated from the guidelines.

Bryan Gould, Madeleine Rothberg, and Larry Goldberg from WGBH's National Center for Accessible Materials (NCAM) will be contracted to participate in the development of audio guidelines. Year 2 activities are budgeted at \$18,603 including travel to the cycle 3 face-to-face working group meeting.

Laurene Christensen, Christopher Rogers, Jim Hatten, and Yi-Chen Wu from the National Center for Educational Outcomes, will be contracted to conduct all evaluation activities. Year 1 activities are budgeted at \$ \$82,028 including travel to the cycle 3 face-to-face working group meeting.

A stipend of \$50 will be provided to each of 60 teachers who will assist with the cycle 1 and cycle 2 cognitive labs. A stipend of \$20 will be provided to each of the 60 students who participate in the cycle 2 and cycle 3 cognitive labs. A stipend of \$50 will be provided to each of 500 teachers who will assist with the cycle 2 and cycle 3 validity studies.

Other

\$250 is budgeted for mailing/federal expressing materials to project team members.

\$3,500 is budgeted for meeting facilities and meals during the face-to-face project meeting.

\$7,500 is budgeted for server fees required for development and delivery of test during cognitive labs and validity studies.

Indirect

Measured Progress Innovation Lab's indirect rate of 60% is applied to all direct expenses and to the first \$25,000 of sub-contracts.

Indirect

The Maryland State Department of Education federally approved indirect rate is 11.3%. Maryland is claiming only those indirect costs related to the first \$25,000 of sub-contracts.

**U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS**

OMB Number: 1894-0008
Expiration Date: 02/28/2011

Name of Institution/Organization

Maryland State Department of Education

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

**SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS**

| Budget Categories | Project Year 1 (a) | Project Year 2 (b) | Project Year 3 (c) | Project Year 4 (d) | Project Year 5 (e) | Total (f) |
|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| 1. Personnel | 0.00 | 0.00 | | | | 0.00 |
| 2. Fringe Benefits | 0.00 | 0.00 | | | | 0.00 |
| 3. Travel | 0.00 | 0.00 | | | | 0.00 |
| 4. Equipment | 0.00 | 0.00 | | | | 0.00 |
| 5. Supplies | 0.00 | 0.00 | | | | 0.00 |
| 6. Contractual | 1,048,678.00 | 924,097.00 | | | | 1,972,775.00 |
| 7. Construction | 0.00 | 0.00 | | | | 0.00 |
| 8. Other | 0.00 | 0.00 | | | | 0.00 |
| 9. Total Direct Costs (lines 1-8) | 1,048,678.00 | 924,097.00 | | | | 1,972,775.00 |
| 10. Indirect Costs* | 2,825.00 | 2,825.00 | | | | 5,650.00 |
| 11. Training Stipends | | | | | | |
| 12. Total Costs (lines 9-11) | 1,051,503.00 | 926,922.00 | | | | 1,978,425.00 |

***Indirect Cost Information (To Be Completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? Yes No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: To: (mm/dd/yyyy)

Approving Federal agency: ED Other (please specify):

The Indirect Cost Rate is %.

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

Is included in your approved Indirect Cost Rate Agreement? or, Complies with 34 CFR 76.564(c)(2)? The Restricted Indirect Cost Rate is %.

| | | |
|--|---|--|
| Name of Institution/Organization Maryland State Department of Education | Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form. | |
|--|---|--|

**SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS**

| Budget Categories | Project Year 1 (a) | Project Year 2 (b) | Project Year 3 (c) | Project Year 4 (d) | Project Year 5 (e) | Total (f) |
|--------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------|
| 1. Personnel | (b)(4) | | | | | 36,890.00 |
| 2. Fringe Benefits | | | | | | 0.00 |
| 3. Travel | | | | | | 0.00 |
| 4. Equipment | | | | | | 0.00 |
| 5. Supplies | | | | | | 0.00 |
| 6. Contractual | | | | | | 0.00 |
| 7. Construction | | | | | | 0.00 |
| 8. Other | | | | | | 0.00 |
| 9. Total Direct Costs (lines 1-8) | | | | | | 36,890.00 |
| 10. Indirect Costs | | | | | | 0.00 |
| 11. Training Stipends | | | | | | 0.00 |
| 12. Total Costs (lines 9-11) | | | | | | 36,890.00 |

SECTION C - BUDGET NARRATIVE (see instructions)

Letters of Commitment & Support



AMERICAN SCHOOL FOR THE DEAF

Edward F. Peltier, Executive Director

May 23, 2012

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Dear Mr. Bowman,

I am writing to express my support for your proposal titled *Guidelines for Accessible Assessments Project* (GAAP) to the Accessibility Enhanced Assessment Grant competition to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign. Considering the requirements for standardized achievement testing for all students under NCLB and IDEA legislation and the move of the PARCC and Smarter Balanced Assessment Consortia to computer based testing, the need for guidelines that can be used to represent digital assessment content in sign is essential.

The American School for the Deaf (West Hartford, CT) fully supports the work being proposed by the Maryland State Department of Education. We are pleased by the consortium of states that have been assembled for the project and delighted to see Measured Progress's Nimble Innovation Lab as the project management partner organization. We understand that the project involves the development of guidelines in multiple phases and will collect research-based evidence on the impact of implementing the guidelines with students who normally receive audio or sign support during assessment. Should this project be funded, we are willing to assist in your data collection efforts with eligible students in our school for your proposed research.

We are excited that the Maryland State Department of Education is proposing to develop, pilot, and validate content based signing guidelines for students who communicate in sign language and believe this study will be important to improve the validity of state assessments for students who are deaf or hard of hearing.

Sincerely,

(b)(6)

Fern S. Reisinger
Director of Education

c: Edward F. Peltier, Executive Director
Jeffrey S. Bravin, Assistant Executive Director

139 North Main Street, West Hartford, Connecticut 06107-1269
860-570-2300 (Voice) • 860-570-2222 (TTY) • 860-570-2301 (Fax)
www.asd-1817.org



THE UNIVERSITY
OF ARIZONA

Department of Disability and
Psychoeducational Studies
College of Education

P.O. Box 210069
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Tel: (520)621-7822
Fax: (520) 621-3821

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

May 24, 2012

Ms. Bowman,

I am writing to provide my support and commitment to participate as an Advisory Board Member in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project* (GAAP). There is a real need for research-based guidelines to assess children using auditory and visual modes of communication; thus the representation of assessment content in audio and sign is important. The GAAP is a project that is designed to address this need. If awarded funding, I am confident that this project will create valid digital assessments for students with special needs and English Language Learners who require audio and sign supports.

As an Advisory Board member, I agree to participate in three in-person meetings and three conference calls that will focus on providing input on draft audio and sign guidelines. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, it is important that we develop audio and sign supports for assessment in a timely manner. Even more important, we need information about the validity and reliability of this approach, which the GAAP project is posed to answer. I am pleased to be a consultant for this grant. I have over 30 years of experience preparing teachers of Deaf and Hard of Hearing students, and have completed research projects requiring assessment of these students. I am familiar with the need for enhanced assessments with this population, and also with other populations of special needs students.

Sincerely

(b)(6)

Shirin D. Antia, Ph.D.
Professor,
Co-ordinator Education of Deaf/Hard of Hearing students



COLLEGE OF EDUCATION
THE UNIVERSITY OF TEXAS AT AUSTIN

Department of Educational Psychology • George I. Sánchez Building 504 • Austin, Texas 78712-1296
(512) 471-4155 • FAX (512) 471-1288 • Campus Mail Code D5800 • <http://www.edb.utexas.edu/coe/depts/ledp>

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

I am writing to provide my support and commitment to participate as a consultant in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project* (GAAP). I have been active in research and policy in this area for over 15 years and am acutely aware of the need for research-based guidelines for the representation of assessment content in audio and sign. I believe GAAP is a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

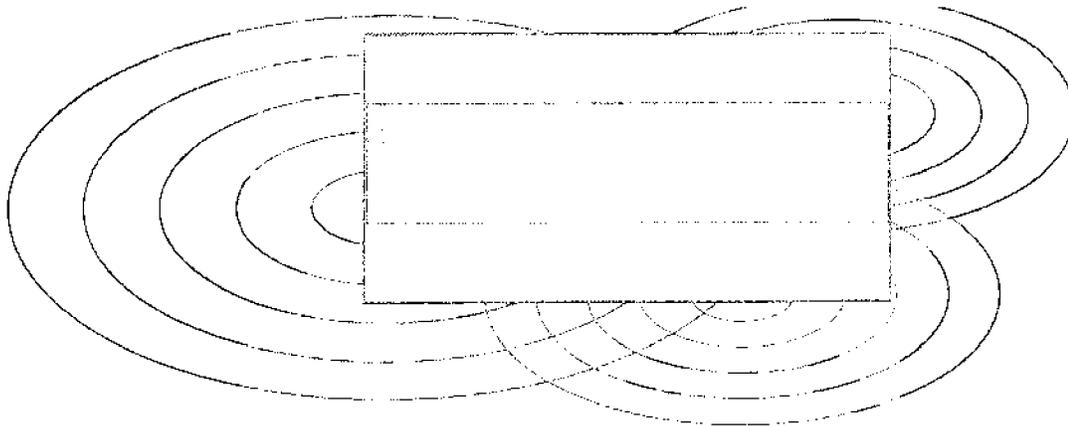
As a consultant, I agree to participate in three in-person meetings and provide 15-20 days of time for review and feedback of guidelines over the two-year period. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

Sincerely,

(b)(6)

Stephanie W. Cawthon, PhD



29 May 2012
Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

I am writing to express my support for your proposal titled *Guidelines for Accessible Assessments Project (GAAP)* to the Accessibility Enhanced Assessment Grant competition to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign. Considering the requirements for standardized achievement testing for all students under NCLB and IDEA legislation and the move of the PARCC and Smarter Balanced Assessment Consortia to computer based testing, the need for guidelines that can be used to represent digital assessment content in sign is essential.

The California School for the Deaf (Riverside) fully supports the work being proposed by the Maryland State Department of Education. We are pleased by the consortium of states that have been assembled for the project and delighted to see Measured Progress's Nimble Innovation Lab as the project management partner organization. We understand that the project involves the development of guidelines in multiple phases and will collect research-based evidence on the impact of implementing the guidelines with students who normally receive audio or sign support during assessment. Should this project be funded, we are willing to assist in your data collection efforts with eligible students in our school for your proposed research.

We are excited that the Maryland State Department of Education is proposing to develop, pilot, and validate content based signing guidelines for students who communicate in sign language and believe this study will be important to improve the validity of state assessments for students who are deaf or hard of hearing.

Betty M. Colonos, Director

9012 51st Avenue College Park, MD 20740
Phone: 3013453303 Fax: 3012204357 E-Mail: visithmc@verizon.net

Trinell M. Bowman
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Dear Ms. Bowman,

I am writing to provide my support and commitment to participate as a consultant in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project* (GAAP). I am aware of the need for research based guidelines for the representation of assessment content in audio and sign and I believe GAAP is a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

As a consultant, I agree to participate in three in-person meetings and provide 15-20 days of time for review and feedback of guidelines over the two-year period. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

I have been deaf my entire life, and I am a fluent American Sign Language (ASL) user. I will begin my tenure as a faculty member in Boston University's School of Education in July, and I will teach in the Deaf Education program. Prior to my PhD studies at the University of Texas at Austin, I was a principal at the Texas School for the Deaf. In addition to my educational leadership experience, I was a middle school and high school teacher of the deaf in which mathematics was one of the content areas I taught. One of my responsibilities as a principal at the Texas School for the Deaf was supervising and leading the mathematics and science programs. I typically used English Language Learners teaching strategies in teaching deaf students. I have co-authored a journal article on the role of sign language as an assessment accommodation for students who are deaf.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

Sincerely yours,

(b)(6)

Mark Gobble

(b)(6)



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FOR THE BLIND, INC.



Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

June 5, 2012

Dear Ms. Bowman,

This letter is written to confirm the support and commitment of the American Printing House for the Blind (APH) , for Barbara Henderson's participation as an Advisory Board Member in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project (GAAP)*. We are aware of the need for research based guidelines for providing assessment content in audio and sign. If funded, GAAP is a project that will directly address this need. We are confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and for English Language Learners who require audio and sign supports.

As an Advisory Board member, Barbara will participate in three in-person meetings and three conference calls that will focus on providing input on draft audio and sign guidelines. She will also be available to provide input on the validity report. We understand that travel to attend each of these meetings, as well as a stipend, will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are currently transitioning to computer-based test delivery, this work of developing research based accessibility guidelines is crucial. Evidence for the validity of using sign and audio

supports for assessment is undoubtedly needed. We agree that technology will provide new opportunities for increasing accessibilities for students with access needs, and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

Sincerely,

(b)(6)

Barbara W. Henderson
Test & Assessment Project Leader

(b)(6)

Ralph E. Bartley, Ph.D.
Director of Research

(b)(6)

Bob Brasher
Vice President of Advisory Services and
Research



Indiana School for the Deaf

1200 East 42nd Street
Indianapolis, IN 46205-2099

Dr. David Geeslin
Superintendent/CEO
1200 East 42nd Street
Indianapolis, IN 46205-2099
www.deafhoosiers.com
317.550.4807 V
317.550.1983 V/P
317.644.1841 Fax

May 22, 2012

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Dear Ms. Bowman,

I am writing to express my support for your proposal titled *Guidelines for Accessible Assessments Project* (GAAP) to the Accessibility Enhanced Assessment Grant competition to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign. Considering the requirements for standardized achievement testing for all students under NCLB and IDEA legislation and the move of the PARCC and Smarter Balanced Assessment Consortia to computer based testing, the need for guidelines that can be used to represent digital assessment content in sign is essential.

The Indiana School for the Deaf fully supports the work being proposed by the Maryland State Department of Education. We are pleased by the consortium of states that have been assembled for the project and delighted to see Measured Progress's Nimble Innovation Lab as the project management partner organization. We understand that the project involves the development of guidelines in multiple phases and will collect research-based evidence on the impact of implementing the guidelines with students who normally receive audio or sign support during assessment. Should this project be funded, we are willing to assist in your data collection efforts with eligible students in our school for your proposed research.

We are excited that the Maryland State Department of Education is proposing to develop, pilot, and validate content based signing guidelines for students who communicate in sign language and believe this study will be important to improve the validity of state assessments for students who are deaf or hard of hearing.

Sincerely,
(b)(6)

A rectangular box redacting the signature of Dr. David Geeslin. The text "(b)(6)" is written above the box.

Dr. David Geeslin
Superintendent / CEO

UK UNIVERSITY OF KENTUCKY
Interdisciplinary Human Development Institute
University Center for Excellence in Developmental Disabilities

June 4, 2012

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

I am pleased to provide this letter of support and commitment to participate as an Advisory Board Member in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project* (GAAP). I am aware of the need for research based guidelines for the representation of assessment content in audio-linguistic and sign-language accommodations. GAAP appears to be a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio-linguistic and sign-language support accommodations.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign-language and audio-linguistic supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio-linguistic and sign-language support accommodations.

As an Advisory Board member, I agree to participate in three in-person meetings and three conference calls that will focus on providing input on draft audio-linguistic and sign-language guidelines. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided with grant funds.

Sincerely,

(b)(6)

Jacqueline F. Kearns, Ed.D.
University of Kentucky
Human Development Institute



Cara Laitusis
Director Research
Research & Development
Phone: 609-734-1347
Fax: 609-734-1755
E-mail: claitusis@ets.org

May 23, 2012

Trinell M. Bowman, Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

I am writing to provide my support and commitment to participate as an Advisory Board Member in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project* (GAAP). I am aware of the need for research based guidelines for the representation of assessment content in audio and sign and I believe GAAP is a well thought out project to address this need. The research we are conducting at ETS on audio presentation of mathematics and ASL translation for mathematics have much to contribute. This project will allow research in this area to be communicated effectively and impact assessment at a large scale. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

As an Advisory Board member, I agree to participate in three in-person meetings and three conference calls that will focus on providing input on draft audio and sign guidelines. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

Sincerely,

(b)(6)

Cara Laitusis
Director Research
Center for Foundational & Validity Research

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

I am writing to provide my support and commitment to participate as a consultant in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project (GAAP)*. I am aware of the need for research based guidelines for the representation of assessment content in audio and sign and I believe GAAP is a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

As a consultant, I agree to participate in three in-person meetings and provide 15-20 days of time for review and feedback of guidelines over the two-year period. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer based assessment for students requiring audio and sign support.

Sincerely,

(b)(6)

Lori Moers, Assistant Principal
Family Education and Early Childhood Department
Maryland School for the Deaf

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

June 4, 2012

Ms. Bowman,

I am writing to provide my support and commitment to participate as an Advisory Board Member in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project (GAAP)*. I am aware of the need for research based guidelines for the representation of assessment content in audio and sign and I believe GAAP is a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

As an Advisory Board member, I agree to participate in three in-person meetings and three conference calls that will focus on providing input on draft audio and sign guidelines. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

As the Partnership for Assessment of Readiness for College and Careers (PARCC), SMARTER Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

I look forward to working with you on this important project.

Best regards,

(b)(6)

Lynn Shafer Willner, Ph.D.
ELL Specialist
Senior Research Scientist



DEPARTMENT OF EDUCATION

Division of Accountability and Assessment
200 W. Baltimore Street
Baltimore, MD 21201-2595

June 6, 2012

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

I am writing to provide my support and commitment to participate as an Advisory Board Member in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project (GAAP)*. I am aware of the need for research based guidelines for the representation of assessment content in audio and sign and I believe GAAP is a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

As an Advisory Board member, I agree to participate in three in-person meetings and three conference calls that will focus on providing input on draft audio and sign guidelines. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

Sincerely, (b)(6)
(b)(6)

Alan Sheinker, Ed.D.
Associate Director
Dynamic Learning Maps



UNIVERSITY OF MASSACHUSETTS AMHERST

Center for Educational Assessment

152 Hills House South
University of Massachusetts Amherst
111 Infirmary Way
Amherst, MA 01003-9329

telephone: 413-545-0262
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Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Dear Ms. Bowman,

I am writing to provide my support and commitment to participate as an Advisory Board Member in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project (GAAP)*. I am aware of the need for research-based guidelines for the representation of assessment content in audio and sign and I believe GAAP is a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

As an Advisory Board member, I agree to participate in three in-person meetings and three conference calls that will focus on providing input on draft audio and sign guidelines. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

Sincerely

(b)(6)

Stephen G. Sireci, Ph.D.
Professor of Education Policy, Research, & Administration
Director, Center for Educational Assessment

June 5, 2011

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595



EDUCATIONAL RESOURCE
CENTER ON DEAFNESS

Ms. Bowman,

I am writing to express my support for your proposal titled *Guidelines for Accessible Assessments Project (GAAP)* to the Accessibility Enhanced Assessment Grant competition to develop research based guidelines for the representation of Common Core State Standards (CCSS) assessment content in audio and sign. Considering the requirements for standardized achievement testing for all students under NCLB and IDEA legislation and the move of the PARCC and Smarter Balanced Assessment Consortia to computer based testing, the need for guidelines that can be used to represent digital assessment content in sign is essential.

The Texas School for the Deaf fully supports the work being proposed by the Maryland State Department of Education. We are pleased by the consortium of states that have been assembled for the project and delighted to see Measured Progress's Nimble Innovation Lab as the project management partner organization. We understand that the project involves the development of guidelines in multiple phases and will collect research-based evidence on the impact of implementing the guidelines with students who normally receive audio or sign support during assessment. Should this project be funded and approved by our Superintendent, we would be eager to assist in your data collection efforts with eligible students in our school for your proposed research.

We are excited that the Maryland State Department of Education is proposing to develop, pilot, and validate content based signing guidelines for students who communicate in sign language and believe this study will be important to improve the validity of state assessments for students who are deaf or hard of hearing.

Sincerely,

(b)(6)
David Coco, Ph.D. (b)(6)
External Research Coordinator (b)(6)

Trinell M. Bowman
Program Manager
Division of Accountability and Assessment
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201-2595

Ms. Bowman,

I am writing to provide my support and commitment to participate as a consultant in the proposed Enhanced Assessment Grant project titled *Guidelines for Accessible Assessments Project* (GAAP). I am aware of the need for research based guidelines for the representation of assessment content in audio and sign and I believe GAAP is a well thought out project to address this need. If awarded funding, I am confident that this project will take an important step in advancing the validity of digitally based assessments for students with special needs and English Language Learners who require audio and sign supports.

As a consultant, I agree to participate in three in-person meetings and provide 15-20 days of time for review and feedback of guidelines over the two-year period. I also agree to provide input on the validity report. I understand that travel to attend each of these meetings and a stipend will be provided through the grant.

Because PARCC, Smarter Balanced Assessment Consortia, and states are transitioning to computer-based test delivery, this work of developing research based accessibility guidelines and providing evidence for the validity of using sign and audio supports for assessment comes at a critical time. I believe that technology provides new opportunities for increasing accessibilities for students with access needs and this project promises to increase the validity of computer-based assessment for students requiring audio and sign support.

I understand that I will serve in the interpreter role in this project. I have been a nationally certified American Sign Language Interpreter for more than 30 years. I have my CI, CT and SC:L national interpreter certifications. I am also a professor at the University of Arizona teaching students to become interpreters. In addition, American Sign Language is my first language, because both of my parents were deaf.

If you have any further questions, feel free to contact me at cvolk@u.arizona.edu or at

(b)(6). Thank you.

Sincerely,
(b)(6)

Cindy Volk, Ph.D.