

Need and Significance of the Project

Braille literacy and the ability to read and write braille are imperative for students who are blind if they are to be successful in school and as they move forward to college, careers, homes, and communities. Braille literacy is the foundation that ties together education, employment, and financial security for students who are blind and visually impaired and deafblind.

(i) The magnitude of the need for the services to be provided or the activities to be carried out by the proposed project.

According to the Ohio Department of Education (ODE), “The ability to read is the foundation of learning. Research shows that children who are not reading at a third grade level by the end of grade three will likely have trouble learning in all classroom subjects in higher grades.”¹ Seventy-four percent of students who are poor readers in third grade continue to struggle in ninth grade (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996).²

In Ohio, students who need braille instruction are required to learn braille from a Teacher of the Visually Impaired (TVI).³ Quality programs for students who are visually impaired focus on standards of practice and accountability. Texas School for the Blind and Visually Impaired developed *Typical Roles and Responsibilities of VI Professionals*, which included (1) meeting the unique educational needs of students who are visually impaired and (2) possessing the skills and abilities necessary to provide and coordinate specialized instruction.⁴ For a student who is blind, this specialized instruction includes instruction in braille. During the last ten years of providing braille courses through the Braille Excellence for Students and Teachers

(BEST) Grant (2004-2014), the Center for Instructional Supports and Accessible Materials (CISAM) documented that educators (TVIs, rehabilitation specialists, paraprofessionals, and administrators) at the pre-service level and at the certificated levels required additional training, and in some cases ongoing training, to teach braille to their students who were blind. During that time, over 300 educators attended the BEST braille courses. The Ohio State University (OSU) interns refined their braille skills alongside TVIs and students during Braille Camps and Braille Immersion Weekends. The increase in numbers of educators attending the braille classes indicates that educators still need braille instruction to aid them in providing this specialized instruction to their students who are blind and visually impaired and deafblind. In the years BEST did not provide a Basic Nemeth or Advanced Nemeth Course, educators contacted CISAM about the courses and inquired when BEST would be hosting the next class. On yearly evaluations, educators and transcribers reported the need for more professional development training on Duxbury braille translation software to produce quality braille materials for their students. In the last BEST Grant, BEST hosted one Duxbury professional development training per year with enough educators on a waiting list to host a second class. To meet educators' and transcribers' needs, in this BEST Grant, BEST will host two Duxbury trainings yearly to accommodate all of the educators who want initial training, provide follow-up Duxbury training, and support participants with online technical assistance. At the end of the classes, participants will submit portfolios of their work to demonstrate skill mastery.

Who will this grant serve? The BEST Grant will be a partnership of four agencies: American Council of the Blind of Ohio (ACBO), CISAM, the Ohio Center for Deafblind Education (OCDBE), and the Ohio State School for the Blind (OSSB). The BEST Grant is designed to improve the capacity of educators from 93 school districts who support their braille-using students as identified through the Federal Quota Program. ODE identified 233 TVIs with active Ohio licenses.

The goals, objectives, and activities of the BEST Grant are:

Goal 1: Increase the braille competency of Ohio's educators through the provision of high quality professional development and technical assistance that focus on results-driven outcomes.

Objective 1:1: Provide professional development to educators.

Activities:

- A. Braille Immersion Camp under the leadership of two experienced TVIs who are blind with support from OSU Interns.
- B. Follow-up monthly online class/support for educators/TVIs of students who attended the Braille Immersion Camp taught by an experienced TVI who is blind with support from OSU interns.
- C. Weeklong Summer Basic Braille Course for educators.
- D. Weeklong Summer Advanced Braille Course for educators.
- E. Weeklong Summer Basic Nemeth Course for educators.
- F. Weeklong Summer Advanced Nemeth Course for educators.

G. Follow-up Blended Basic Braille Course (face-to-face and online) to the summer weeklong Basic Braille Course participants taught by Certified Reading Specialist who is an experienced TVI who is blind.

Objective 1:2: Provide technical assistance and support to educators.

Activities:

- A. Email and telephone technical assistance for educators/TVIs of students who attended the Braille Immersion Camp provided by an experienced TVI who is blind with support from OSU interns.
- B. Follow-up email and technical support to summer braille course participants.
- C. Technical assistance services regarding assistive technology (AT) hardware and software in the areas of braille literacy, braille production, and technology.

Objective 1:3: Provide avenues to communicate information and support to educators.

Activities:

- A. Listserv posts with braille initiatives such as Braille Challenge and Leaders to Leaders sent to CISAM listservs to Ohio educators.
- B. BEST/CISAM Facebook, Twitter, and Flickr accounts to post announcements, updates, and grant information.
- C. Links on BEST website to post resources to AT.

Goal 2: Increase the knowledge and use/implementation of braille and state-of-the-art technologies of Ohio educators through high quality professional development and technical assistance that focus on results-driven outcomes.

Objective 2:1: Provide high quality professional development training to educators to increase their knowledge and use/implementation of braille and state-of-the-art technologies.

Activities:

- A. One-day AT conference including families in collaboration with ACBO, State Support Team 2, CISAM, OCDBE, and OSSB including AT vendor exhibits.
- B. Follow-up professional development training with vendors from the AT Conference.

Objective 2:2: Provide technical assistance and support relating to state-of-the-art technologies to educators in school districts by adults who are blind and technology experts.

Activities:

- A. Email, telephone, and onsite support from collaborative partners regarding technology displayed at AT Conference.
- B. Technical assistance relating to AT and computer hardware and software by CISAM technical assistance consultants.

Goal 3: Increase the competency of personnel providing quality braille materials for Ohio students who require braille through the provision of high quality professional development training and technical assistance support.

Objective 3.1: Provide high quality professional development to educators related to the production of braille.

Activities:

- A. Professional development activities on the production of braille.

- B. Follow-up training to the initial professional development activity.
- C. Participant portfolios at the end of the series of professional development activities.

Objective 3.2: Provide technical assistance to Ohio school districts that produce braille.

Activities:

- A. Technical assistance to educators after the initial professional development activity.
- B. Onsite technical assistance to Local Braille Production Centers (LBPCs) already established in Ohio.

Objective 3.3: Expand braille production capacities at the local school district level.

Activities:

- A. Establishment of LBPCs in Ohio school districts.

Objective 3.4: Provide training and support to Grafton Braille Service Center (GBSC) Prison Braille Program.

Activities:

- A. Professional development training at GBSC Prison Braille Program.
- B. Technical assistance and support to GBSC.

(ii) The importance or magnitude of the results or outcomes likely to be attained by the proposed project, especially improvements in teaching and student achievement.

ODE is moving from an activities-based system to an outcomes-oriented approach. In alignment with ODE, the BEST Grant, through an outcomes-oriented

approach, will focus on participant outcomes and achievements that result from the activities, by identifying needs, planning and implementing activities, and evaluating the results.

Goal 1 Overall Outcomes: Educators in the general education classroom serving students who are blind and visually impaired and deafblind will improve their braille competency skills through high quality professional development classes with follow-up online class support and technical assistance provided by experienced TVIs who are blind with support from OSU interns. Competency will be demonstrated through pre- and post-assessments of direct measurement of educators' braille reading and writing skills.

Goal 2 Overall Outcomes: Educators serving students who are blind and visually impaired and deafblind will have increased awareness of current assistive technology devices for producing and accessing braille, a deeper knowledge and ability to use assistive technology devices and software after training, and ongoing technical assistance and support from an experienced TVI and consumers who are blind to facilitate retention and continued growth.

Goal 3 Overall Outcomes: Educators and transcribers will receive high quality professional development for producing quality braille. Educators will attend an initial training such as Duxbury (both a Basic and Advanced Duxbury to meet educator needs). After the initial training, participants will have phone, email, and onsite (if required) technical support. Participants will be brought back for a second training to ensure mastery of skills. Increased competency will be demonstrated through portfolios and indirect self-reporting measures.

Quality of Project Design

(i) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

The BEST Grant activities target educators who serve students who are blind and visually impaired and deafblind in Ohio school districts. Through three main goals that address braille competency (Goal 1), knowledge and use/implementation of braille and state-of-the-art technologies (Goal 2), and braille production by Ohio educators (Goal 3), the BEST Grant will address the challenges and needs of the targeted population. By providing educators with high quality professional development and targeted technical assistance, the collaborative partners of the grant expect that student achievement will be positively impacted.

The first, most pressing, need of the targeted population is that of braille competency. The National Federation of the Blind Jernigan Institute is so passionate about braille competency that they identified a set of objectives that can increase braille literacy and outcomes for students who are blind and visually impaired upon entry into the workforce. On that list, braille competency of professionals is mentioned five times – (1) increasing access to braille instruction; (2) expanding braille mentoring and outreach; (3) requiring national certification in literary braille among all special education teachers of blind children and to maintain the National Certification in Literary Braille; (4) requiring all braille teachers to pass the National Certification in Literary Braille; and (5) researching new methods of teaching and learning braille.⁵ To address Goal 1, the BEST Grant will provide weeklong summer

braille courses for educators in basic and advanced braille and Nemeth Code. In addition to those courses, a follow-up Blended Basic Braille Course will be provided throughout the school year with follow-up technical assistance and other avenues for communication of information and support on an ongoing, as needed basis. Data collected from the previous BEST Grants support that educators improved their braille skills during the weeklong braille courses. Highly qualified professional development research confirms that the in-person training and online training, coupled with ongoing support throughout the school year, will provide Ohio educators the opportunity to improve their braille competency and the braille literacy of their students.

The initial immersion/professional development opportunities coupled with ongoing provisions of support are what allow the BEST Grant to become a Community of Practice (CoP) and an example of high quality professional development for educators in Ohio.

At the 29th Annual International Technology and Persons with Disabilities Conference at California State University, Northridge, Center on Disabilities, Yue-Ting Siu and Valerie Morash spoke about the challenges of educators in the field of visual impairments and how a CoP can address those challenges.⁶ The challenges experienced by itinerant teachers include teaching in isolation, lack of a professional learning community, and lack of access to relevant professional development. They also listed challenges of implementing AT in the field: modification of mainstream technology to suit specific student needs, requirement of ongoing professional development to keep up to date on constantly changing technology, and using AT as

a tool for learning. These challenges will be addressed through the implementation of the BEST Grant CoP. A CoP addresses a shared interest through a group of professionals that meet on a regular basis and provides each member with a toolkit of resources, networking opportunities, ideas, opportunities to practice and reflect upon what has been learned, and ongoing support in the field.

Providing online support to educators of students who attend the Braille Immersion Camp and to the educators who attend the summer braille courses (Goal 1) facilitates connections to occur in a way that might not be otherwise possible. Considering the size of the state of Ohio, and the fact that many educators across the state who serve students who are blind and visually impaired and deafblind might be the only ones in their districts, these connections are crucial. Participants in activities related to Goals 2 and 3 will attend face-to-face trainings, receive ongoing online support over a longer period of time to sustain the initial learning, and then develop opportunities for communication with the cohort and interaction that allows for those same levels of connection and ongoing support. The BEST CoP!

In the spring of 2014, CISAM distributed a survey to professionals in the field of visual impairments across Ohio.⁷ CISAM sent the survey to 751 state, district, and school-based teachers, rehabilitation specialists, paraprofessionals, administrators, and consultants. Of the 751 who received the survey, 125 responded. The two preferred formats for the delivery of professional development/learning opportunities by responders was: face-to-face (49.2%) and blended (combination of online and face-to-face) (36.9%). The activities in Goals 1, 2, and 3 reflect this data among Ohio educators in the provision of initial training (summer braille courses, one-day AT

conference, AT vendor trainings, and braille production sessions), online learning (monthly blended braille class/support), follow-up email and technical support, and listserv and social networking posts that also serve as ongoing opportunities for communication.

(ii) The extent to which the design of the proposed project reflects up-to-date knowledge from research and effective practice.

A priority of the Leadership Team Collaborative Partners of the BEST Grant has been to recruit highly qualified TVIs, certified braille transcribers, and technical assistance providers to support the grant activities through teaching courses and providing follow-up training and technical assistance. This is evident when considering the experience and expertise of the key implementation personnel.

The Braille Immersion Camp (Goal 1) and follow-up support will be provided by three TVIs from OSSB, two of whom are blind and can provide experience as learners in addition to their professional experiences. OSU interns, who are pre-service teachers, will have the opportunity to support OSSB staff, while researching at a credentialed state university and developing their own skills as they relate to current practices on educating students with visual impairments. Dr. Tiffany Wild, Assistant Professor at OSU and Coordinator of the Vision Program, will be supervising the OSU interns.

The braille summer courses will be taught by a Certified Braille Transcriber who is also an experienced TVI. She is attending trainings on the implementation of Unified English Braille (UEB) adoption and will be working on a transition plan for the BEST summer courses in collaboration with CISAM and ODE. The courses will be

taught in accordance with the Braille Authority of North America (BANA) and the National Library Service for the Blind and Physically Handicapped guidelines for braille instruction. Our goal is that current course content provided to educators in braille transcription and braille production will translate to braille literacy and better post-secondary outcomes for their students.

(iii) The quality of the proposed demonstration design and procedures for documenting project activities and results.

The BEST Grant activities were developed and approved by representatives from the collaborative partners. Representatives from these agencies collaborated on the development of the grant activities and will participate in Advisory Board and Leadership Team meetings throughout the grant project year to assess progress and feedback on the activities and their impact on the professional development of Ohio educators.

(iv) The extent to which performance feedback and continuous improvement are integral to the design of the proposed project.

The activities of the BEST Grant are modeled after the standards that define high quality professional development (HQPD) in Ohio.⁸ The first standard states, “High Quality Professional Development is a purposeful, structured, and continuous process that occurs over time.” The activities were designed with the goal of ongoing opportunities for involvement and growth, as opposed to one-time training sessions.

Activities in Goal 1 include a Braille Immersion Camp and four weeklong summer braille courses (Basic and Advanced Braille and Nemeth). Following the Immersion Camp, there will be online monthly support sessions for educators of the

students who attended. These sessions will provide the educators with a network of other professionals in the field, from around the state, and will also provide opportunities for ideas, advice, and resource sharing; feedback on instructional strategies; and an opportunity to ask and answer questions. Following the Basic Braille course, there will be a seven-week Blended Basic Braille Course (face-to-face and online), which will allow the opportunity for a focused, deeper statewide braille training. There will be email and telephone technical assistance offered to participants on an ongoing, as-needed basis to deepen their understanding and growth in braille competency.

Participants of the braille courses will complete pre- and post-tests to show their growth after the weeklong courses. They will also complete evaluations of the weeklong and online classes to provide the grant collaborative partners with feedback on the services provided.

Goal 2's activities begin with a one-day AT conference, which in itself is a strong professional development opportunity for educators, including family involvement and learning. There will be sessions focusing on a variety of AT devices that support students' academic, vocational, and transition needs. In order to ensure continued opportunities for growth, BEST will host face-to-face professional development opportunities with vendors from the conference. Following those face-to-face opportunities, there will be email, telephone, and onsite technical assistance provided to educators on devices demonstrated by the vendors and collaborative partners. Throughout this process, participants will complete evaluations to share

their feedback on how the process is supporting their professional growth and how they plan to use what they learned with their students.

Goal 3's activities will include professional development opportunities in the production of braille. Following initial face-to-face sessions, there will be follow-up trainings to drill down and focus on specific needs identified through evaluations of the initial training. Following the second round of professional development, there will be technical assistance provided by the trainers and technology consultants. Participants will also create portfolios of their work to show progress and growth in braille production.

Another key activity of Goal 3 is that of providing professional development and technical assistance to Grafton Braille Service Center (GBSC), which provides affordable braille textbooks and tactile graphics to Ohio school districts. The model of training will follow in the same way. Based on identified needs by GBSC, a technology consultant will provide training and targeted technical assistance to the program.

(v) The extent to which the results of the proposed project are to be disseminated in ways that will enable others to use the information or strategies.

Results and review of activities, including yearly project reports, will be posted on the CISAM/BEST website and shared on the various social networking outlets (Facebook and Twitter). The feedback and evaluative results will also be shared at BEST Advisory and Leadership meetings for review by the collaborative partners.

Quality of Project Services

(i) The quality and sufficiency of strategies for ensuring equal access and treatment for eligible project participants who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability.

The targeted beneficiaries of this grant are educators of students who are blind and visually impaired and deafblind. All grant activities are focused on providers of these disability groups. All cooperating agencies actively participate to ensure that there is no discrimination and adhere to the Americans with Disabilities Act (ADA).

(ii) The likely impact of the services to be provided by the proposed technical assistance project on the intended recipients of those services.

If we are to maintain students who are blind and visually impaired and deafblind in integrated settings in public school districts, we must provide the same educational opportunities, access to braille materials, and professional development training to address educators' needs related to serving these students. There is a gap between the need for braille services and the availability of trained personnel to provide braille services. Teachers and rehabilitation specialists are challenged to meet the educational needs of students in integrated settings and through the transition ages in preparation for college and/or career, as well as ensuring access to appropriate braille instructional materials, thus supporting the need for appropriate training.

Educators of students who are blind and visually impaired and deafblind work daily with a wide variety of student needs, providing many services from consultation, coordination of instructional materials, to direct braille instruction. It is a challenge to keep braille skills intact and developed. It is an additional challenge to learn how to

operate and teach students to use state-of-the-art technology. This grant addresses the impact of services through high quality professional development and opportunities for ongoing communication and technical assistance.

(iii) The extent to which the training or professional development services to be provided by the proposed project are of sufficient quality, intensity, and duration to lead to improvements in practice among the recipients of those services.

The activities of the BEST Grant are modeled after the standards that define high quality professional development (HQPD) in Ohio.⁹ By adhering to the following six standards, the BEST Grant activities provide sufficient quality, intensity, and duration to lead to improvements in professional practice of the participants. In turn, those professionals will be better able to support the students they serve.

The activities in alignment with the six standards of HQPD:

- **Are purposeful, structured, and continuous processes.** Each goal includes an initial, face-to-face training or immersion opportunity followed by blended learning opportunities with added online, email, telephone, and/or onsite technical assistance.
- **Are informed by multiple sources of data.** The structure of the BEST Grant activities was planned with the research in mind of what constitutes HQPD and based on evaluation results of past professional development opportunities where the attendees asked for more follow-up support. As mentioned previously, CISAM conducted a survey in the spring of 2014 and the results are reiterated in this grant's targeted population.¹⁰

- **Are collaborative.** Representatives from four collaborative partners and agencies serving educators and students/individuals who are blind and visually impaired and deafblind throughout Ohio will work together to provide HQPD and follow-up technical assistance to the participants of each activity. The implementation of each activity relies on collaboration between multiple stakeholders in the field of visual impairments.
- **Include varied learning experiences that accommodate individual educator's knowledge and skills.** Each goal is addressed through the planning of activities that provide face-to-face professional development opportunities in a variety of skill sets (supervision and instruction of students, networking with professionals in the field of visual impairments, braille transcription, working with access technology for input and output, and braille production).
- **Are evaluated by short- and long-term impact on professional practice and student achievement.** The initial face-to-face trainings offer opportunities for assessment of skills and evaluation of the services provided. Beyond that, each participant has additional opportunities for assessment and reflection of growth through follow-up face-to-face/online trainings, and email/phone/onsite technical assistance. Participants will have opportunities to provide feedback regarding impact through rating forms and interviews. Forms will be used to rate all professional development activities. Secondly, staff will conduct phone interviews with a selection of random participants to gain understanding of the impact of their learning.

- **Result in the acquisition, enhancement, or refinement of skills and knowledge.** Again, the initial face-to-face trainings, supported by the follow-up opportunities provide participants with multiple opportunities for practice, reflection, and development of skills. The opportunities for communication with presenters, consultants, and professionals in the field and networking with colleagues across the state provide even further development of skills and knowledge.

(iv) The likelihood that the services to be provided by the proposed project will lead to improvements in the achievement of students as measured against rigorous academic standards.

“Recent extensive research has highlighted the shortcomings of the one-off workshops that many school districts tend to provide and has also found that the ongoing, job-embedded, collaborative, professional learning that is proven to be highly effective overseas is not widely used across the United States.” A white paper distributed by Generation Ready, “Raising Student Achievement Through Professional Development,” outlines several critical points that support the impact of high quality professional development on student achievement of rigorous academic standards.¹¹

Much like ODE’s standards for high quality professional development, Generation Ready defines effective professional development as planned over time, sustained, rigorous, embedded within the context of the school, fosters collaboration within schools and across districts, and is differentiated and ensures an intensive focus on the teaching-learning relationship. The activities of the BEST Grant (Goals

1, 2, and 3) follow this model by providing initial face-to-face learning opportunities, face-to-face or online follow-ups, and targeted technical assistance that differentiates based on the needs of the professionals being served and the needs of the students and young adults they serve. According to the Generation Ready report's collection of research, this level of professional development increases student achievement. The writers of the report state that ongoing, intensive professional development, "has a greater chance of influencing teacher practice and in turn, raising student achievement."

In a comparison between two groups of blind individuals, Dr. Ruby Ryles, director of the orientation and mobility master's program at Louisiana Tech University, found that students who were taught braille as soon as possible based on their instructional needs were better educated and more financially self-sufficient, and spent more time engaged in leisure and other reading than blind readers who relied on print alone.¹² Thirty percent of the braille group had an advanced degree compared to only 13% for the print group. Based on those post-secondary outcomes, it can be hypothesized that those braille readers would be more likely to achieve rigorous academic standards while still in the PK-12 educational setting.

In, "The Braille Literacy Crisis in America: Facing the Truth, Reversing the Trend, Empowering the Blind," a report to the nation by the National Federation of the Blind Jernigan Institute (2009), the point is clearly made that schools must require that every child who is blind will have the right to be taught braille by someone who is competent in its use.¹³ The activities of the BEST Grant address that standard of increasing braille competency among educators who serve students who are blind

and visually impaired and deafblind. Through the provision of high quality professional development for personnel, students will benefit, leading them to be much more likely to land in the group of braille readers mentioned above who experienced greater post-secondary success than their peers who were blind and only learned to use print.

Quality of Project Evaluation

(i) The extent to which the methods of evaluation are thorough, feasible, and appropriate to the goals, objectives, and outcomes of the proposed project.

The BEST Grant will focus on the quality of BEST products, services, and outcomes. The evaluation will provide staff with information on a quarterly basis in order to gauge progress toward accomplishing intended outcomes. The evaluation plan will address information on the: (1) relevance of the evaluation methods, (2) technical quality of the evaluation tools, (3) variety of evaluation methods used to contribute to the validity of the evaluation, (4) reporting schedule and timelines to ensure formative and summative types of feedback, and (5) capacity of the evaluation team.

(ii) The extent to which the methods of evaluation will provide valid and reliable performance data on relevant outcomes.

Relevance of the Evaluation Methods

All three of the project's goals address competency with braille of Ohio educators. The goals (and the specific objectives keyed to them) implicate outcomes relating to improved performance of the participants to whom the BEST project provides training. In addition, participants' perceptions of the quality of project

activities and their usefulness are also significant indicators of the project's effectiveness. Ensuring quality and usefulness of activities also relies on the judgment of experts. Taken together, then, experts' ratings, participants' ratings, and changes in participants' levels of performance represent a comprehensive set of indicators of the effectiveness of the project.

To ascertain experts' ratings of proposed activities, project staff will impanel an advisory board to vet training materials in advance of their use. The evaluation team will prepare a rating protocol keyed to indicators of high-quality professional development (e.g., Trivette, Dunst, Hamby, & O'Herin, 2009)¹⁴ as the basis for the evaluation of materials. Training materials that meet a high-level of quality (e.g., 8 or above on a 10-point scale) will be used; those that do not will be improved and reevaluated.

The evaluation team will assess participants' ratings of training activities in two ways—written rating forms and interviews. First, the team will develop evaluation forms with items keyed to the constructs of quality and usefulness that adult participants will use to rate all training sessions. Second, the team will conduct phone interviews with a random selection of participants to gain deeper understanding of how those participants' used what they learned in the training session.

To assess increases in learning, the evaluation team will work with trainers to develop pre- and post-assessments for all training activities. Some of these assessments will include self-report items (e.g., "On a scale from 1-5, how much do you know about ...?") and others will involve items directly measuring knowledge and skills. For example, pre- and post-assessments of trainings that focus on braille

reading and writing will make use of direct measurements whereas workshops on the use of various technologies for accessing or writing braille will make use of indirect, self-report measures. Because training sequences will include both didactic activities and follow-up coaching, all post-assessments will be administered twice, once at the end of the didactic part of the training and once at the end of the follow-up coaching.

(iii) The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible.

Technical Quality of the Evaluation Tools

To ensure the validity and reliability of assessments, the evaluation team will use several well-established practices. First, the team will draw on high-quality research literature as the basis for developing assessment instruments (e.g., the plan to base expert ratings of training activities on the work of Trivette and Associates). Second, the team will assist trainers in using test specifications to develop pre- and post-assessments with appropriate content coverage and sufficient scope—from test floor to test ceiling). Finally, the team will use data from one of the larger training sessions in project-year one to test the internal consistency reliability of the items used to collect participants' ratings of the quality and usefulness of training sessions.

Mixed-Method Design

As indicated above, the evaluation team will use written rating forms and interview methods as the primary ways to collect data supporting insights about the quality, usefulness, and impact of the BEST project's training activities. The use of

more than one method for collecting and analyzing data will contribute to the validity of the evaluation by permitting triangulation across data sources. For example, quantitative measures of the quality of training sessions can be compared to findings from content analyses of interview data, and data from participants' self-report ratings can be interpreted in light of the magnitude of their learning gains.

(iv) The extent to which the evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

Reporting of Evaluation Findings

The lead evaluator will schedule monthly phone conversations with project staff to identify evaluation needs and offer informal reports based on accumulating data about project activities, participant satisfaction, and participant learning. In addition, the evaluation team will submit four written reports annually—three reports describing quality indicators and performance outcomes relating to specific project activities and one annual report synthesizing quality and performance on a year-by-year basis. The quarterly reports will focus primarily on feedback of a formative nature, while the annual reports will include both formative and summative types of feedback.

Capacity of the Evaluation Team

WordFarmers Associates is a consulting company headed by Dr. Aimee Howley and staffed with part-time researchers and research assistants. Dr. Howley is an emeritus faculty member with more than 30 years of experience as a teacher and administrator in K-12 and higher education settings. Her teaching fields include specific learning disabilities and gifted education (in K-12) and education research

and evaluation, special education, and educational leadership (in higher education). Dr. Howley has led evaluation efforts for projects funded by state, federal, and local agencies. She has conducted both funded and unfunded research resulting in the publication of seven books, 12 book chapters, and more than 60 peer-reviewed articles.

The associates who help with WordFarmers' evaluation projects include retired and current faculty members from Ohio University, Marshall University, and the University of North Florida. Research assistants include educators with masters and doctoral level training.

Evaluation Timeline

The timeline below indicates the evaluation activities that the WordFarmers' team will perform across the five-year term of the proposed project.

Project Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
One	Report about training material quality	Report about assessment development work	Report of ratings and interviews	Report of reliability analysis; ratings, interviews, and pre-and post-

Project Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
				assessments; annual performance report
Two	Report about training material quality	Report of ratings and interviews	Report of ratings and interviews	Report of ratings, interviews, and pre- and post- assessments; annual performance report
Three	Report about training material quality	Report of ratings and interviews	Report of ratings and interviews	Report of ratings, interviews, and pre- and post- assessments; annual

Project Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
				performance report
Four	Report about training material quality	Report of ratings and interviews	Report of ratings and interviews	Report of ratings, interviews, and pre- and post-assessments; annual performance report
Five	Report about training material quality	Report of ratings and interviews	Report of ratings and interviews	Report of ratings, interviews, and pre- and post-assessments; annual performance report

Quality and Adequacy of Personnel and Resources

The BEST Project demonstrates the power and synergy of partnerships. BEST reflects the commitment of four agencies: ACBO, CISAM, OCDBE, and OSSB to improve the braille literacy of students who are blind, visually impaired or deafblind by preparing Ohio's educators to provide quality braille instruction and quality braille materials. Combined with the guidance and leadership of consumers who are blind and visually impaired and deafblind, advocates for blindness and deafblindness, TVIs who are blind, and technology experts who are blind, BEST will strive to support TVIs/educators with follow-up and technical assistance to solidify the mastery of skills. Students learn braille from TVIs so they can improve their literacy skills. TVIs take additional braille training to become more competent to teach braille to their students. Transcribers receive training on braille software translation programs to produce quality braille in order to increase the student's literacy skills. Braille excellence for students and teachers (BEST)!

CISAM is a statewide project funded by ODE, Office for Exceptional Children (OEC), under the OSSB Outreach Department. CISAM's mission is to promote excellence in educational opportunities for students with print disabilities, including students with visual impairments and their families and teachers by providing access to quality accessible instructional materials (AIM), professional development, and technical assistance.

OSSB is a publicly funded educational facility dedicated to the intellectual, social, physical, and emotional growth of students with visual impairments, including those with multiple disabilities. Their mission is to work cooperatively with students,

families, and the community to provide an effective, enjoyable educational experience through specialized curriculum, equipment, materials, and individualized disability-specific instruction to develop each student's unique potential.

OCDBE is a grant-funded project providing services in Ohio for individuals, birth through 21 years, with deafblindness. Project services include collaborative technical assistance to families, educational personnel and service providers through training and information dissemination.

ACBO is a non-profit organization dedicated to improving the quality of life for Ohioans who are blind or visually impaired.

Co-Directors

Paula Mauro is the Project Director of CISAM and the BEST Grant. For 32 years, she has coordinated professional development activities for parents and educators serving students who are blind and visually impaired; serves as the Ex-Officio Trustee to the American Printing House for the Blind (APH) including chairing the 2014 Educational Products Advisory Committee; manages the Federal Quota Program serving 1,772 students who are blind and visually impaired and the CISAM collection of over 56,000 audio, braille, digital, and large print textbooks and educational aids; has coordinated the establishment of 17 local braille production centers and the CISAM Accessible Materials Production Center (AMPC); and was the past president of the Association for Education and Rehabilitation of the Blind and Visually Impaired of Ohio. Ms. Mauro has a M.A. in Special Education Administration with an emphasis in Deafblind from the National Leadership Training

Program, California State University, Northridge; and a B.S. in Special Education from Indiana University.

Nicole Morris will be Co-Director working on the BEST Grant. Ms. Morris is the NIMAS Coordinator for Ohio and coordinates the CISAM AMPC, which produces accessible instructional materials (AIM) for Ohio school districts. She ensures that students with visual impairments in Ohio receive their textbooks in accessible formats, including braille. Ms. Morris worked on the implementation of the fifth year of the last BEST Grant. Ms. Morris has a M.A. in Elementary Education and a B.A. in Multi-Disciplinary Studies from West Virginia University. Ms. Morris has a strong background in developing online courses and the use of technology and developed two online modules for CISAM during 2013-2014. She is currently working on a third module in collaboration with the Northwest Ohio Educational Technology Foundation, Ohio Center for Autism and Low Incidence, State Support Team Region 2, and other collaborative partners. She coordinates the statewide Professional Development, Data Collection, and Marketing Subcommittees of the Targeted Technical Assistance Project with the National Center on AIM at Center for Applied Special Technology.

Lead Agency Administrators: BEST Co- Directors: Paula Mauro and Nicole Morris; Cynthia Johnson, Superintendent, OSSB; Heather Herbster, Project Coordinator, OCDBE; Kathryn Frederick, Executive Director, ACBO. These individuals will be responsible for coordinating the grant activities that are the responsibility of their projects.

Leadership Team Collaborative Partners

Kathryn Frederick is the Executive Director of ACBO. She works as an Accounting Technician for the Defense Finance and Accounting Service. Ms. Frederick is a mentor for high school students attending OSSB. Ms. Frederick has a Bachelor of Arts in Communication. Ms. Frederick is blind.

Heather Herbster is the Project Coordinator for OCDBE. Ms. Herbster provides supports in identified areas of need to improve outcomes for students at the state and national level. Ms. Herbster has Masters' Degrees in Educational Leadership and Orientation and Mobility; a Bachelor's Degree in Speech and Hearing Science; and is completing her doctoral work as a fellow with the National Leadership Consortium in Sensory Disabilities.

Cynthia Johnson is the Superintendent of OSSB. She began her career as a special education teacher, and then worked as a consultant for ODE, Office for Exceptional Children (OEC). Prior to going into administration at OSSB, Ms. Johnson worked as the school psychologist. She is a nationally certified school psychologist. Ms. Johnson has been on the BEST Leadership Teams for both previous grants.

Advisory Board Members

Lauri Kaplan has been a Parent Mentor at OSSB since 2003. Using her experience as the parent of a son who is blind, she provides families with the support and special education resources needed to effectively work with their local school district. Ms. Kaplan has been on the planning committee for the BEST Assistive Technology Family Conference for the past five years.

Sakui Malakpa is a Professor at the University of Toledo in early childhood education, physical and special education. Dr. Malakpa teaches all vision courses as

well as other courses at the graduate and undergraduate level and has published extensively in the areas of special education and international studies. Dr. Malakpa is blind.

Bonnie Nelson is an Educational Consultant for ODE-OEC in the Department of Supports and Services for Diverse Learners and is the the liaison to the department for visual impairments. Ms. Nelson has been a strong supporter of the BEST Grant for the last 10 years, serving on the Advisory Board and attending professional development activities.

Ann Pilewskie has been the Transition Coordinator at OSSB for seven years. She was the Director of Autism Services for the Ohio Center for Autism and Low Incidence; a Special Education Teacher for Columbus City Schools; and a Special Education Consultant for Columbus City Schools serving both students with visual impairments and multiple disabilities.

Tiffany Wild is an Assistant Professor in the Department of Teaching and Learning in the College of Education and Human Ecology at OSU and the Coordinator of the Visual Impairment Program. Dr. Wild's research focuses on science education for students with visual impairments.

(ii) The qualifications, including relevant training and experience, of key project personnel.

These contracted individuals would be responsible for planning, organizing, and teaching classes for Ohio educators. Additional responsibilities would include technical assistance and support.

Robin Finley will be the instructor of the follow-up Blended Basic Braille Course for educators after the Basic Braille weeklong summer course and provide online follow-up technical assistance. Ms. Finley has been a Teacher of the Visually Impaired and Certified Reading Specialist (including braille instruction for middle and high school students) at OSSB since 2007. Ms. Finley has a M.A. in Special Education. She served on the committee at APH to revise/rewrite the PATTERNS Braille Reading Series. Ms. Finley is blind.

Aimee Howley will be the External Evaluator for the BEST Grant. Dr. Howley has an Ed.D. from West Virginia University; a M.A. from West Virginia College of Graduate Studies, and an A.B. from Barnard College, Columbia University. Dr. Howley is the Principal Investigator for WordFarmers Associates and Professor Emerita, Ohio University, Athens, Ohio. She was a Professor of Educational Studies, Ohio University; Athens, Ohio and Senior Associate Dean for Research & Graduate Studies, Patton College of Education and Human Services, Ohio University; Athens, Ohio. Dr. Howley was the External Evaluator for the fourth and fifth years of the last BEST Grant.

Dan Kelley will be the instructor of the online follow-up course for educators after the summer Braille Immersion Camp and provide online follow-up technical assistance, and provide technical assistance after the AT Conference. Since 2005, Mr. Kelley has been the OSSB Adaptive Technology Course Instructor and summer course planner. He has a Master's in Visual Impairments. Mr. Kelley has presented at the BEST Family AT Conference for several years, and is a member of the

Technology for the Visually Impaired Computer Users Group, the OSSB Assistant Wrestling Coach, and OSSB Goalball Coach. Mr. Kelley is blind.

Shelley Mack will be the instructor for the four braille weeklong summer courses. Ms. Mack is a Library of Congress Certified Braille Transcriber and Teacher of the Visually Impaired with a M.Ed. in Visual Impairments and a B.S. in Special Education. Ms. Mack is a private contractor Teacher of the Visually Impaired and Braille Transcriber (literary, textbook and Nemeth) for nine Ohio school districts and the Cleveland Sight Center. She wrote and implemented 12 grants totaling over \$33,000 through the Assistive Technology Infusion Project for students with visual impairments; trains braille providers in use of braille translation software, scanning techniques, and embossing procedures; and has been a course instructor for the BEST Grants for nine years.

Julie Pashovich will be the Administrative Professional working on the BEST Grant. Ms. Pashovich has been the Administrative Professional for the last BEST Grant for the past four years. She plans and coordinates all the professional development activities including the budget and ordering of supplies with the Director. She was a Youth Leader at OSSB and an Administrative Assistant at OSSB. Ms. Pashovich has a B.A. in Psychology.

Kathryn Robinson will be providing technical assistance (email, phone, and onsite) relating to assistive technology and computer hardware and software to educators and providing AT training as needed. Ms. Robinson has an Associate Degree of Science in Computer Networking Systems Administration from DeVry University and is a Certified Literary Braille Transcriber. Ms. Robinson is an

Accessible Materials Production Specialist in AMPC at CISAM; Technical Writer for the IDEAL Group; and provides training on AT (iPads, BrailleNotes, and other devices) for students with visual impairments statewide. Ms. Robinson is blind.

Jerry Whittaker will be providing technical assistance (email, phone, and onsite) relating to AT and computer hardware and software to educators and Ohio school districts; training and support to GBSC Prison Program; onsite and online follow up support to educators after the AT conference as needed; and guidance in the establishment of LBPCs in school districts. Mr. Whittaker has been a consultant with CISAM in the first two BEST Grants. Mr. Whittaker is an AT consultant and audiologist. He set up 17 LBPCs, AMPC in CISAM, and provided extensive professional development training in Ohio during the last ten years on AT, accessible materials production, braille production, and device integration with computers for students with visual impairments.

iii) The adequacy of support, including facilities, equipment, supplies, and other resources, from the applicant organization or the lead applicant organization.

CISAM is located on the campus of OSSB in Columbus Ohio. CISAM is a statewide project funded by ODE-OEC and serves students with print disabilities (0-21), families, and educators. CISAM conducts the annual Federal Quota Registration of Legally Blind Students; maintains a collection of over 56,000 audio, braille, digital, and large print textbooks which circulate to students with print disabilities including students with visual impairments in Ohio; coordinates AMPC, which serves the state of Ohio with accessible formats; participates with ten other states with the National

AIM Center in targeted technical assistance; provides statewide professional development and technical assistance to educators of students with print disabilities, including students with visual impairments; maintains a CISAM and BEST website for posting brochures, professional development announcements, inservice handouts, registration forms, and grant information; works collaboratively with school districts and agencies statewide; and participates on ODE initiatives and task forces. CISAM plans to hire an additional consultant to coordinate professional development activities who would also coordinate the BEST Grant activities.

(iv) The extent to which time commitments of the project director and principal investigator and other key project personnel are appropriate and adequate to meet the objectives of the proposed project.

Approximately 25% of Paula Mauro's time and 25% of Nicole Morris' time will be spent on the BEST Project activities and ten percent of Cynthia Johnson's, Kathryn Frederick's, and Heather Herbster's time. The Administrative Leadership Team would be responsible for planning, scheduling, and organizing project activities. BEST has had 10 years of implementing activities, with a high degree of success and completion. The Director and Key Implementation Personnel from the last BEST Grant planned, implemented, collected data, and now the Co-Directors of this grant will use the results of that data to modify goals, objectives, and activities for this BEST Grant to meet the current needs of students who are blind and visually impaired and deafblind and the educators who serve them. The inclusion of multiple collaborative partners affords the expansion of activities to accomplish outcomes and achievements. The BEST Grant Leadership Team will meet five times during the year

to provide guidance to the Co-Directors and Key Implementation Personnel. The Advisory Board will meet two times a year to provide further guidance. The BEST Co-Directors and staff developed a document which includes Project Goals, Objectives, Activities, Timelines, and Agency Responsibility. To promote efficiency and timeliness, the document will be updated yearly to assist all partners in completing goals, activities, and achieving outcomes.

Project Activities, Timelines, and Agency Responsibility 2014 – 2015 (Year 1)						
Goal 1: Increase the braille competency of Ohio’s educators through the provision of high quality professional development and technical assistance that focus on results-driven outcomes.						
Objective 1.1 Provide professional development to educators.						
Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. Braille Immersion Camp taught by TVIs with support from OSU Interns	June	June	June	June	June	OSSB OSU CISAM
B. Follow-up monthly online class/support	Aug-Sept	Oct-Sept	Oct-Sept	Oct-Sept	Oct-Sept	OSSB

for educators/TVIs of students who attended the Braille Immersion Camp						OSU CISAM
C. Weeklong Summer Basic Braille Course for educators	June- July	June- July	June- July	June- July	June- July	CISAM
D. Weeklong Summer Advanced Braille Course for educators	June- July	June- July	June- July	June- July	June- July	CISAM
E. Weeklong Summer Basic Nemeth Course for educators	June- July	June- July	June- July	June- July	June- July	CISAM
F. Weeklong Summer Advanced Nemeth Course for educators	June- July	June- July	June- July	June- July	June- July	CISAM
G. Follow-up Blended Basic Braille Course	Fall	Spring Fall	Spring Fall	Spring Fall	Spring Fall	
Objective 1.2 Provide technical assistance and support to educators.						
Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible

						Entity
A. Email and telephone technical assistance for educators/TVIs of students who attended the Braille Immersion Camp provided by TVI and OSU interns	Aug- May	Aug- May	Aug- May	Aug- May	Aug- May	CISAM OCDBE
B. Follow-up email and telephone technical assistance to Basic Braille Course participants	Aug- May	Aug- May	Aug- May	Aug- May	Aug- May	CISAM OCDBE
C. Technical assistance services regarding AT hardware and software in the areas of braille literacy, braille production, and technology to educators	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM OCDBE

Objective 1.3 Provide avenues to communicate information and support to educators.

Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. Listserv posts with braille initiatives such as Braille Challenge and Leaders to Leaders	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM OCDBE OSSB
B. BEST/CISAM Facebook, Twitter, and Flickr accounts to post announcement and updates	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM All partners
C. Links on BEST website to post resources to AT	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM

Goal 2: Increase the knowledge and use/implementation of braille and state-of-the-art technologies of educators through high quality professional development and technical assistance that focus on result-driven outcomes.

Objective 2.1 Provide high quality professional development training to educators to increase their knowledge and use/implementation of braille and state-of-the-art technologies.

Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. One-day AT conference, including families, in collaboration with ACBO, State Support Team 2, CISAM, OCDBE, and OSSB including AT vendor exhibits	April	April	April	April	April	CISAM ACB OSSB SST2
B. Follow-up professional development training with AT vendors from the AT Conference	May- Sept	May- Sept	May- Sept	May- Sept	May- Sept	CISAM Vendors

Objective 2.2 Provide technical assistance and support relating to state-of-the art

technologies to educators in school districts by adults who are blind and technology experts.

Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. Email, telephone, and onsite support from collaborative partners regarding technology displayed at AT Conference	May- Sept	May- Sept	May- Sept	May- Sept	May- Sept	Partners Vendors
B. Technical assistance relating to AT and computer hardware and software by CISAM technical assistance consultants	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM

Goal 3: Increase the competency of personnel providing quality braille materials for Ohio students who require braille through the provision of high quality professional development training and technical assistance support.

Objective 3.1 Provide high quality professional development to educators related

to the production of braille.

Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. Professional development activities on the production of braille	Fall	Fall	Fall	Fall	Fall	CISAM
B. Follow-up training to the initial training	Winter	Winter	Winter	Winter	Winter	All partners
C. Participant portfolios at the end of the series of training	Spring	Spring	Spring	Spring	Spring	CISAM

Objective 3.2 Provide technical assistance to Ohio school districts that produce braille.

Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. Technical assistance to educators after the initial training	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM
B. Onsite technical	Oct-	Oct-	Oct-	Oct-	Oct-	CISAM

assistance to LBPCs	Sept	Sept	Sept	Sept	Sept	
Objective 3.3 Expand braille production capacities at the local school district level.						
Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. Establishment of LBPCs in Ohio school districts	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM
Objective 3.4 Provide training and support to Grafton Braille Service Center (GBSC) Prison Braille Program.						
Activity	Year 1	Year 2	Year 3	Year 4	Year 5	Primary Responsible Entity
A. Professional Development training at GBSC Prison Braille Program	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM
B. Technical assistance and support to GBSC	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	Oct- Sept	CISAM

(v) The extent to which the costs are reasonable in relation to the number of persons to be served and to the anticipated results and benefits.

With a growing population of unemployed and illiterate adults in the United States, we must be concerned with our students with visual impairments being able to read and write. According to the American Community Survey of 2012, the prevalence of visual disability among children and youth between the ages of 5-20 years of age in Ohio was an average of 6.2%. Approximately 39% of persons with a visual disability ages 21-64 have a high school diploma, 28% have some college or an Associate's degree, and 8.4% have a Bachelor's degree or more. Of the 21- 64 age group, only 21.3% are employed full-time.¹⁵ If students who are blind and visually impaired and deafblind become literate, their prospects for employment and independent living will become more attainable.

Our educators who provide braille instruction must be highly qualified and may require additional training to retain mastery of their braille skills. Some TVIs may have caseloads for several years that do not include any braille readers. Like most skills, if educators/TVIs do not practice braille, retention will not occur. BEST will be providing multiple experiences for educators to refine their braille skills: follow-up online class to the Braille Immersion Camp; four summer weeklong braille courses – Basic Braille with follow-up Blended Basic Braille Course, Advanced Braille Course, Basic Nemeth Course, Advanced Nemeth Course; and online technical support. Collaborative partners will share in the costs to support the activities of the grant. Approximately 233 TVIs were identified by the ODE licensure. Over 300 educators attended just the braille courses in our last BEST Grant Project. Over 200 participants attended the Family AT Conference in the last three years and over 150 participants attended the Duxbury trainings in the last 10 years (Duxbury trainings

were limited to 15 participants per training due to the nature of the lab training). We plan to have four times the number of Duxbury trainings and an expanded AT Conference in collaboration with ACBO and State Support Team 2 in addition to OCDBE, CISAM, and OSSB. After the AT Conference, we will plan follow-up inservice with individual AT vendors and then follow-up technical support. In reviewing the outcomes and benefits of our proposed BEST Grant, the costs are extremely low in comparison to the benefits for Ohio educators and students who are blind and visually impaired and deafblind.