months. *International Congress Series, 1282,* 293–297.
Summers, S., Leigh, L., & Arnold, J. (2006). Personnel shortage and caseload management of students with visual impairments: Children at risk. *Journal of Visual Impairment & Blindness, 100*(10), 593–594.
Tröster, H., & Brambring, M. (1992). Early social-emotional development in blind infants. *Child: Care, health and development*, *18*(4), 207–227.
Warren, D. (1977). *Blindness and early childhood development*. New York, NY: American Foundation for the Blind.
Warren, D. (1984). *Blindness and early childhood development* (2nd ed.). New York, NY: American Foundation for the Blind.
Western Illinois University. (2016). *Provider connections*: *The Center for Best Practices in Early Childhood Education at Western Illinois University*. Retrieved from http://www.wiu.edu/ProviderConnections

Olaya Landa-Vialard, Ph.D., *assistant professor and co-principal investigator for EL VISTA, Department of Special Education, Illinois State University, 250 North University Street, DeGarmo Hall, Suite 533, Normal, IL 61790; e-mail: oalanda@ilstu.edu.* ***Mindy S. Ely, M.S.Ed.,*** *doctoral candidate, Department of Special Education, University of Illinois Urbana-Champaign; assistant professor, Department of Special Education, Low Vision Blindness Programs and EL VISTA project coordinator and instructor, Illinois State University, Normal, IL; e-mail: msely@ilstu.edu.* ***Maribeth Nelson Lartz, Ph.D.,*** *professor and co-principal investigator for EL VISTA, Department of Special Education, Illinois State University, Normal, IL; e-mail: mnlartz@ilstu.edu.*

Personnel Preparation in Visual Impairment: A Responsive, Individualized Model

Laura A. Bozeman, Callie M. Brusegaard, and Robert M. McCulley

The following excerpt from the vision statement created by the developers of the National Plan for Training Personnel (NPTP) to Serve Children with Blindness and Low Vision embraces positive outcomes for individuals with visual impairments.

> We envision a future world in which each individual is valued by society. In this society, the needs of each individual are respected and addressed. Individuals from diverse language, cultural, ethnic, and disability backgrounds are perceived and see themselves as contributing members of society. They have high expectations for leading fulfilling lives. (Mason, Davidson, & McNerney, 2000, p. 11)

A key factor in promoting the outcomes described in this mission statement is the teacher. Specifically, knowledge of subject matter tied to national standards along with effective pedagogy can positively influence student learning (Blankenship, 2004). Certainly, university preparation is the foundation for effective teachers. For aspiring teachers in the vision profession, access to personnel preparation programs can be a challenge (Ambrose-Zaken & Bozeman, 2010; Bozeman & Zebehazy, 2014).

NPTP (Mason et al., 2000) was formed through the visionary work of a national community of highly regarded professionals to address the critical shortage of personnel necessary to improve the educational outcomes of children who are visually impaired (that is, those who are blind or have low vision). To the new and ambitious leadership at the University of Massachusetts Boston (UMB), NPTP became a blueprint for everything the vision studies program wanted to accomplish in designing a program for the six New England states (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont).

This report examines the 25-year evolution and outcomes of UMB's Vision Studies program and the Northeast Resource

Note: The authors offer a special thanks to Libin Zhang for supporting this article.

Center for Vision Education (NERCVE) based on interpretation and implementation of NPTP recommendations:

1. regional model,
2. diversified funding,
3. engaged community,
4. accessible distance education based on national standards,
5. community-based field experiences,
6. increased diversity,
7. university collaboration, and
8. new university program support.

Early days: transformation

The UMB Vision Studies program was created within the College of Education and Human Development through a multistate, community effort supported by the Institute for Community Inclusion (ICI) and the University Center for Excellence in Developmental Disabilities. The program began with six students in 1993 as an on-campus, graduate certificate in orientation and mobility (O&M) in response to the 1990 closing of Boston College's O&M program. In 2002, ICI established the Northeast Regional Center for Vision Education (NERCVE) to design and support a coordinated plan to best meet the needs of the six-state New England community. A master's degree program for teacher of students with visual impairments was added in 2003, followed by master's and certificate options in vision rehabilitation therapy in 2011 (see, for example, Northeast Resource Center for Vision Education [NERCVE], 2017). A certificate in low vision therapy is currently in preparation.

ICI's research, policy, and practice support the full inclusion of individuals with disabilities and served as a catalyst to develop a new college within the university. The School for Global Inclusion and Social Development (SGISD) was established in part to foster national and global collaboration, with vision studies as the first program (see, for example, UMB, 2017). The SGISD doctoral program in global inclusion and social development, also supported by the National Leadership Consortium in Sensory Disabilities, expanded the Vision Studies program at UMB to include doctoral leadership. Today, the Northeast Regional Center for Vision Education is itself being transformed to the Northeast Resource Center for Vision Education, with expanding state educational agency (SEA) partnerships.

With the success of the regional distance education model for New England, UMB continues to further NPTP by partnering with other universities, sharing curriculum, and supporting areas that have critical needs. These collaborations offered expanded state resources and were integrated into federal grants to provide tuition support for all scholars. All partnering states and collaborating universities were encouraged and supported whenever possible to consider growth and expansion to relieve unmet national and international needs.

NPTP recommendations and the Northeast Resource Center and Vision Studies model

The NPTP study covered the two-year period from 1997 to 1999, and it determined that a minimum of 5,000 additional teachers of visually impaired students and 10,000 additional O&M specialists were needed to meet the need in the United States at the time. In 2007, Ferrell reported that university programs were preparing approximately 250 vision professionals per year, which was still not enough to meet the need, and this requisite remained a theme to be addressed (Ambrose-Zaken & Bozeman, 2010; Bozeman & Zebehazy, 2014; Ferrell, 2007).

NPTP research led the developing vision program at UMB to:

1. conceptualize a regional model based on an expanded geography that would increase enrollments;
2. broker national, state, and local resources to contribute to the financial cost of the expanded program design;
3. engage a regional professional community to support local cohorts of scholars enrolling at a distance;
4. deliver a regionally accessible distance education curriculum founded on national standards-based instruction;
5. integrate local community-based field experience throughout the program of study;
6. incorporate strategies to increase the diversity of vision professionals;
7. establish collaboration between universities; and
8. offer technical assistance and support to new and developing programs.

Conceptualize a regional model based on an expanded geography that would increase enrollments

For decades, the vision profession attempted to have more university personnel preparation programs, striving for at least one in each state. The low incidence of visual impairment made that approach unworkable for most states and U.S. territories, since there are often not enough students in the individual programs to sustain university support. Also, potential students in rural areas and applicants who may have problems traveling could still have difficulty accessing a program (Ambrose-Zaken & Bozeman, 2010).

A broader approach, recruiting across a wider geographic area, allows a sufficient number of candidates for the program to have credibility. There are a variety of ways to implement this type of program. The UMB Vision Studies program initially implemented a regional model across the six New England states. The developers established partnerships with each department of education in New England for across-the-board commitment and collaboration. Expanding the geographical reach of the UMB Vision Studies program changed a low-incidence program in danger of economic collapse into a sustainable program that exceeded the enrollments of moderate special education.

Broker national, state, and local resources to contribute to the financial cost of the expanded program design

NPTP recognized the problem of overreliance of individual states on limited federal resources with little or no state contributions. The dependency on federal funds fostered increased competition across the United States with little incentive to support new or developing programs. Each SEA was asked to participate in a strategic planning process to identify individual state needs, licensure requirements, and available state resources that might be contributed to a collaborative cost-savings design. The numbers of students served provided the formula for support based on each state's resources. Today, each state continues to provide monetary or in-kind support covering recruitment, retention, and induction. SEA contributions not only fostered consistent, positive responses from grant reviewers, but served to gain the attention of university administrations in leveraging internal operational budgets.

The Vision Studies program receives grant monies from the Office of Special Education Programs (OSEP) and Rehabilitation Services Administration (RSA), Departments of Education-State Personnel Development Grants (SPDG), and other SEA discretionary funding through an internally approved operational formula based on a percentage of the revenue generated through tuition. The diversified supports of multiple stakeholders are designed to improve sustainability when partnerships or grants are interrupted.

Engage a regional professional community to support local cohorts of scholars enrolling at a distance

The UMB Vision Studies model incorporates state liaisons in each area of geographic outreach. These liaisons provide needs assessments for SEA and recruit new students based on those identified needs. The liaisons represent the scholars' link to the statewide professional community, offering guidance and support from the time of recruitment through the first year of teaching and beyond as supported by the state. The liaisons also connect the students with observational opportunities and other assignments that are required throughout the program of study. The liaisons engage scholars in statewide meetings and planning events, ensuring that each graduate is well prepared to participate throughout the two-year program.

Deliver a regionally accessible distance education curriculum founded on national standards–based instruction

UMB's Vision Studies program integrates national standards for all specialties. The teacher of visually impaired students master's degree incorporates professional standards from the Division on Visual Impairments and Deafblindness, Council for Exceptional Children, as well as state standards required by the Massachusetts Department of Elementary and Secondary Education. The O&M and vocational rehabilitation master's degree and certificates are built upon the national standards of the Academy for Certification of Vision Rehabilitation and Education Professionals. The vision program holds national accreditation through the Teacher Education Accreditation Council, national approval through the professional organization Association for Education and Rehabilitation of the Blind and Visually Impaired, and regional accreditation by the New England Association of Schools and Colleges.

The Vision Studies curriculum is delivered through an accessible online learning platform that is continuously available to the student. Presentations, videos, interactive threaded discussions, and research, for example, are presented through the Internet-based learning platform. Accompanying in-person classes allow students to integrate theory into practice and to have hands-on experiences with technology, devices, and physical skills.

Integrate local community-based field experience throughout the program of study

University programs recognize the essential role of community experience and active learning. A unique feature of the UMB regional model is the opportunity for faculty and state liaisons to work together with the scholars and their mentors to integrate relevant community experiences with the content provided online. Local support—for example, in braille literacy and instruction—offers scholars rich opportunities to observe braille homework assignments. A visit to a local low vision clinic offers an opportunity for the scholar to observe each piece of equipment and explain its purpose and function in order to integrate online content and promote active learning. The concept of integrating community experiences throughout the curriculum begins with foundation courses and culminates with the practicum. This relationship further expands the community's active participation as an integral part of the preservice experience.

Incorporate strategies to increase the diversity of vision professionals

NPTP acknowledges that the field must "find solutions to enhance the recruitment, preparation and hiring of individuals having culturally, linguistically and ethnically diverse backgrounds" (Mason et al., 2000, p. 30). The expanded geographical reach of the six New England states offers UMB six dynamic ur-

ban environments to foster a diverse student population. The state liaisons as extensions of the university offer critical links to local leadership and representation. Further, the choice of collaborative partners expands diversity experiences for the program.

Establish collaboration between universities

Helen Keller once said, "Alone we can do so little, together we can do so much . . ." (Perkins School for the Blind, 1913, p. n147). These words are the underpinning of the model. UMB developers were active participants in NPTP and the direct recipients of the collaborative spirit from multiple universities. Faculty from the University of Northern Colorado taught and mentored the first generation of distance education faculty at UMB. UMB promotes this spirit with each collaborative opportunity.

These partnerships include a subcontract to support the University of Guam (18 new vision education specialists across the Pacific islands, including Guam, Saipan, American Samoa, the Marshall Islands, and the Federated States of Micronesia); an agreement with the Vision Impairment Consortium in the commonwealth of Virginia including a historically Black college and university (HBCU) (24 diverse scholars in O&M) (see, for example, Old Dominion University, 2016); a strategic link to the undergraduate teacher of visually impaired students program at the University of Puerto Rico (18 Hispanic scholars in teaching of visually impaired students and O&M); and the Vision Impairment Consortium for Teacher Preparation through the Michigan Department of Education (n.d.) (7 teacher of visually impaired students graduates). Each partnership offers diversity, cross-cultural exchange, and multilingual opportunities.

The vision profession is generally collaborative by nature. University programs respond to the call of sister programs that are in jeopardy of closing (usually due to funding issues and smaller numbers of students). The UMB Vision Studies program and NERCVE support established vision education programs with consultation and curriculum as well as instructor and resource sharing.

Offer technical support to new and developing programs

Part of the mission of UMB Vision Studies is to respond to new programs and assist in their development. Based on the belief that all vision personnel preparation programs strive to produce knowledgeable and effective vision professionals, supporting other programs is a benefit for everyone. This assistance is individualized and may range from sharing syllabi and suggestions for outreach to actually offering the coursework until the new program has appropriate infrastructure. At that point, UMB simply transitions out and offers support as needed.

Outcomes

The UMB Vision Studies program, through the NPTP model, has proven successful. The program has 359 graduates across the three specializations, teacher of visually impaired students and O&M (308 since 2003) and vocational rehabilitation teacher (51 since 2011). On average, the program has graduated 26 students each year since the distance education model was implemented. Based on annual student surveys, 96% of students complete the program and of those students, 96.7% remain employed in the field of visual impairment. The program reached 14 U.S. states (Connecticut, Florida, Illinois, Louisiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Oklahoma, Rhode Island, Vermont, and Virginia); three U.S. territories; and two freely associated states. A recent Community and Partnership Survey (Institute for Community Inclusion, 2017) overwhelmingly supported this collaborative regional model. Many respondents noted the need for continued regional

outreach and partnership: "Due to high admissions requirements, we cannot adequately address the need for personnel in our field"; "Our partnership with UMass Boston helps us address the needs and supports our existing program in vision impairment"; "Decreased caseload size . . ."; and "There are fewer students going without services."

Future perspectives

Although vision impairment is a low-incidence disability, the number of children with vision loss has increased in recent years (Rahi, Cumberland, & Peckham, 2010). Concurrently, the number of individual states supporting low-incidence preservice teacher training programs in vision impairment has decreased, expanding the need for qualified professionals in visual impairment (Ambrose-Zaken & Bozeman, 2010; Bozeman & Zebehazy, 2014; Ferrell, 2007; Walker & Bozeman, 2002).

Collaboration between states and regions will remain a critical aspect of successful personnel preparation. UMB will continue to expand its reach to areas in need across the country and in territories to support and collaborate with those universities. In addition, the UMB Vision Studies program hopes to advance the efforts and ideas of NPTP by promoting leadership development, collaborative university partners, and recruitment of linguistically and ethnically diverse leaders. Well-prepared professionals can support the ultimate goal of improved quality of life for individuals with visual impairments.

References

Ambrose-Zaken, G., & Bozeman, L. (2010). Profile of personnel preparation programs in visual impairment and their faculty. *Journal of Visual Impairment & Blindness, 104*(3), 148–169.

Blankenship, K. (2004). *Looking for success: Transition planning for students with visual impairments in the state of Iowa* (unpublished dissertation). Vanderbilt University: Nashville, TN. Retrieved from http://etd.library.vanderbilt.edu/ETD-db/available/etd-11302004-105924

Bozeman, L. A., & Zebehazy, K. (2014). Personnel preparation in visual impairment. In In P. T. Sindelar, E. D. McCray, M. T. Brownell, & B. Lignugaris-Kraft, (Eds.), *Handbook of research in special education teacher preparation* (pp. 353–368). New York, NY: Routledge.

Ferrell, K. A. (2007). *Issues in the field of blindness and low-vision.* Greeley, CO: The National Center on Severe and Sensory Disabilities, University of Northern Colorado. Retrieved from http://www.unco.edu/ncssd/resources/resources.shtml

Institute for Community Inclusion. (2017). *Community and Partnership Survey.* Unpublished survey, Institute for Community Inclusion, UMB, Boston, MA.

Mason, C., Davidson, R., & McNerney, C. (2000). *National plan for training personnel to serve children with blindness and low vision.* Reston, VA: Council for Exceptional Children.

Michigan Department of Education. (n.d.). *Vision Impairment Consortium for Teacher Preparation-Michigan.* Retrieved from http://www.mictp.org

Northeast Resource Center for Vision Education (NERCVE). (2017). *Home.* Retrieved from http://www.nercve.org

Old Dominion University. (2016). *The Virginia Consortium for Teacher Preparation in Vision Impairment.* Retrieved from https://www.odu.edu/cdse/aid/grants/the-virginia-consortium-for-teacher-preparation-in-vision-impairment#.WiCSlE1e7IV

Perkins School for the Blind. (1913). *Helen Keller newspaper notices.* Retrieved from http://archive.org/stream/helenkellernewsp11unkn#page/n147/mode/2up/search/alone+we+can+do+so+little

Rahi, J. S., Cumberland, P. M., & Peckham, C. S. (2010). Improving detection of blindness in childhood. *Pediatrics, 126*(4), 895–903.

University of Massachusetts Boston (UMB). (2017). *School for Global Inclusion and*

Social Development. Retrieved from www.umb.edu/academics/sgisd

Walker, B. R., & Bozeman, L. A. (2002). A successful grass roots endeavor to develop a permanent university program for vision professionals: The North Carolina model. *Journal of Visual Impairment & Blindness, 96*(6), 429–434.

Laura A. Bozeman, Ph.D., *associate professor and director, Vision Studies, School for Global Inclusion and Social Development, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125; e-mail: laura.bozeman@umb.edu.* ***Callie M. Brusegaard, Ph.D.*** *candidate and research assistant, Institute for Community Inclusion, School for Global Inclusion and Social Development, University of Massachusetts Boston, Boston, MA; e-mail: callie.brusegaard001@umb.edu.* ***Robert M. McCulley, M.Ed.,*** *director, Northeast Resource Center for Vision Education, School for Global Inclusion and Social Development, University of Massachusetts Boston, Boston, MA; e-mail: Robert.McCulley@umb.edu.*

Research Report

A Pilot Investigation of the Perceived Motor Competence of Children with Visual Impairments and Those Who Are Sighted

Ali S. Brian, Justin A. Haegele, Laura Bostick, Lauren J. Lieberman, and Danielle Nesbitt

Children with visual impairments are less likely to meet recommended physical activity guidelines than are their sighted peers (Augestad & Jiang, 2015; Haegele & Porretta, 2015). Because children with visual impairments tend to be inactive, they are 1.5 times more likely to be considered overweight or obese than are their sighted peers (Weil et al., 2002). Although some barriers to physical activity have been identified (for example, lack of opportunity and transportation issues; Stuart, Lieberman, & Hand, 2006), little has been done to empirically identify predictors of physical activity among this population.

Perceptions of motor competence, one's thoughts or beliefs with regard to one's own gross motor skill performance (Stodden et al., 2008), are powerful predictors of physical activity (Babic et al., 2014). If children do not believe they are competent in their gross motor skills (for instance, running, kicking, and stability), they are more likely to opt out of participating in sports, games, and other physical activities (Robinson et al., 2015; Stodden et al., 2008). Emergent evidence supports a negative trajectory with regard to the association between perceptions of motor competence and physical activity across developmental time for boys and girls who are sighted (Robinson et al., 2015). Young boys and girls who are sighted tend to over-estimate their actual motor abilities, making them more likely to participate in physical activity and develop gross motor skills (Gallahue, Ozmun, & Goodway, 2012). Furthermore, boys trend with higher levels of perception of motor competence than do girls (Goodway & Rudisill, 1997). As such, girls may be at an increased risk for sedentary behaviors and gross motor skill deficits (Goodway & Rudisill, 1997; Robinson, 2011). If children do not develop their perceptions of motor competence and gross motor skills early, the likelihood of obesity and diseases associated with sedentary lifestyles may increase (Robinson et al., 2015).

Little is known with regard to perceptions of motor competence levels among children with visual impairments. To the knowledge of the authors, just two studies have examined this area of inquiry. Shapiro, Moffett, Lieberman, and Dummer (2005) explored perceptions of motor competence levels of children, aged 9 to 21 years, who attended a seven-day sports camp, and found participants to demonstrate low perceptions of motor competence values ($M = 2.73$, $SD = .77$ out of 4.00). Similarly, among a sample of children with visual impairments aged 8 to 13 years,

