DEPARTMENT OF EDUCATION

Blind/Visually Impaired Feasibility Report

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Minnesota does not have an Association for the Education and Rehabilitation of the Blind (AER) accredited program for preparing teachers of the blind and visually impaired (TBVI). The supply and demand report identifies TBVI as a licensure area in Minnesota "where no teacher preparation program exists" (p. 32). The absence of a preparation program causes severe difficulties in addressing the shortage of TBVI educators in Minnesota.

Executive Summary

Students whose vision is impaired to the extent that activities of daily living and the acquisition of skills are adversely affected qualify for special education services under IDEA. Across the United States, a shortage of teachers of the blind and visually impaired is extant. According to the Supply and Demand of Teachers in Minnesota: 2021 Biennial Report (Minnesota Department of Education), TBVI is identified as area with "a notably high demand for more professionally licensed teachers" (p. 32). Minnesota does not have an Association for the Education and Rehabilitation of the Blind (AER) accredited program for preparing teachers of the blind and visually impaired (TBVI). The supply and demand report identifies TBVI as a licensure area in Minnesota "where no teacher preparation program exists" (p. 32). The absence of a preparation program causes severe difficulties in addressing the shortage of TBVI educators in Minnesota.

For higher education institutions (IHEs), two issues contribute to the absence of programs for preparing teachers of the blind and visually impaired. Economic factors affect the viability and long-term sustainability of TBVI programs. Pedagogical and licensure related issues affect instructional delivery. Because of anticipated levels of enrollment, TBVI are unviable financially for IHEs. The creation and implementation of a TBVI preparation program would require extramural funding for an IHE. For a sustainable program, extramural funding would be required for three to five years. Some of these funds would be needed prior to courses being offered. These funds would cover costs related to hiring faculty, to purchasing equipment, and to obtaining program approval and accreditation. Costs would vary across institutions, but with a five year window, extramural costs of $500,000 to $700,000 per annum should enable an IHE to develop and maintain a sustainable program. After the initial extramural funding, programs should be sustainable based upon tuition recapture. In Minnesota, a TBVI program at the graduate level would require hiring one (1) faculty member who holds a doctorate in BVI and has applied experiences in K-12 classrooms. With a cohort model of candidates, 50-75% of the faculty member's load would be delivering instruction to candidates.

With sufficient extramural funding and adequate resources for planning and for implementation, a TBVI preparation program is viable. Curriculum and accreditation standards could be via a focused program of study. Fully licensed teachers of students who are blind or visually impaired could finish their training and enter the profession within three (3) to four (4) years contingent upon institutional factors.

Root Cause Analysis: Lack of TBVI Preparation Programs

Manifold factors contribute to the absence of TBVI preparation programs. These factors arise at the level of higher education institutions and of potential candidates for TBVI preparation programs. Although some of the issues are interrelated, unique issues are extant for both groups.

In this section, factors that contribute to the absence of TBVI preparation programs are addressed. The review is organized thematically. First, the needs and exigencies of institutions of higher education are addressed. Second, factors that affect potential TBVI teaching candidates are reviewed. The section ends with a brief summary. The resulting structure for the section is

I. Higher Education Institutions
    a. IHEs and the Economics of TBVI Programs
    b. Pedagogical and Licensure Issues for IHEs
II. Issues for Potential Candidates
III. Summary

I. Higher Education Institutions

For higher education institutions (IHEs), two issues contribute to the absence of programs for preparing teachers of the blind and visually impaired. Economic factors affect the viability and long-term sustainability of TBVI programs. Pedagogical and licensure related issues affect instructional delivery.

a. IHEs and the Economics of TBVI Programs

Over the last decade, the financial landscape of higher education has changed radically. The pool of traditionally aged college students has reduced, and state level financial support for higher education has lessened. These changes have adversely affected the budgets of colleges and universities, and as a result, institutions of higher education are developing approaches for addressing financial exigencies. One approach is eliminating low enrollment programs and classes.

For graduate courses to be financially viable and sustainable, enrollments of at least eight (8) to twelve (13) students are necessary. The range is a function differences in instructor costs, in tuition recapture, and in institutional overhead. The last TBVI preparation program in Minnesota was a consortium among a number of IHEs. Across three cohorts, the average number of students was slightly more than seven (7). If tuition recapture is the only source of revenue, this level of enrollment is neither viable nor sustainable in the current economic environment of higher education. For the previous consortium, extramural funding from the state of Minnesota augmented tuition recapture.

b. Pedagogical and Licensure Issues for IHEs

Extant teacher preparation programs in Minnesota for both special education and regular education do not have faculty that meet the Professional Educator Licensing Standards Board (PELSB) and Higher Learning Commission (HLC) requirements for teaching an array of courses related to students who are blind or visually impaired. To fulfill the PELSB requirements, faculty teaching these courses would need an advanced degree in

TBVI and professional experience working with students who are blind or visually impaired. Because most TBVI programs are offered at the graduate level, the HLC would typically require that the instructor hold a terminal degree in the area. Exceptions to this condition are possible on a short-term basis, but a sustainable program would require a doctorate. Currently, no institution employs a faculty member who meets these criteria.

In addition to the issues related to faculty qualifications, IHEs would encounter additional barriers in initiating a TBVI program. Equipment, e.g., Braille devices, and curricular materials would be required. Courses within the program would require curriculum approval at the institutional and state level. Costs would accrue in addressing these needs.

II. Issues for Potential Candidates

Student concerns may attenuate the ability of IHEs to recruit potential candidates. First, access and availability of courses within a program are a concern. The previous consortium offered courses through a weekend model. The use of distance delivery for some courses could address access issues and make the enrollment of students from outside of Minnesota possible. Second, the duration of a licensure program is an issue. Extant programs in other states vary in the number of credits required for licensure. Depending on a student's training and professional experience, the required credits range from thirty-five (35) to fifty-seven (57) credits. Third, because the category of blind and visual impairments is a low incidence area, potential candidates are concerned about the availability of jobs and the ability to find employment in a different area if life circumstances change. Effective marketing of the program could address that TBVI is designated as an area of need and could potentially recruit students from other states.

III. Root Cause Analysis of the Absence of TBVI Programs: Summary

Myriad factors contribute to the absence of TBVI preparation programs in Minnesota. The principal issues are cost and student recruitment. None of the factors are without remedy.

For IHEs, financial exigencies make the creation and the implementation of TBVI programs difficult. Given likely low levels of enrollment initially, tuition recapture cannot cover the costs of program delivery. This is exacerbated by the costs associated with hiring faculty, the capital outlays for equipment, and the expenses associated with obtaining accreditation that occur prior to the enrollment of students. Extramural funding during the development of a program and during its initial implementation could offset these costs until a program becomes sustainable as a function of tuition recapture.

Initially, students would need to be actively recruited. The foci would be the availability of jobs working with students who are blind or have visual impairments, the benefits of working in the area, and the presence of the newly created program. Geographically, the nearest extant programs are in North Dakota, Michigan, Colorado. With augmented distance delivery, the potential market for candidates would be most of the upper Midwest and much of the central United States. If candidates enroll from these underserved regions, the sustainability of a program is enhanced.

Creating and Implementing a TBVI Preparation Program

The creation and implementation of a TBVI preparation program involves completing a series of substrata processes and tasks. A qualitative critical path analysis is an emergent approach that attempts to identify the principal tasks and to structure the tasks in a manner that minimizes the number of steps and the amount of time to instantiate the final product. The qualitative critical path analysis for instantiating a TBVI preparation program involves four (4) critical paths: 1. Procedural and Institutional Tasks 2. Curricular Planning and Approval 3. Regulatory and Accreditation 4. Funding. The paths share some common elements. Some of the paths include tasks that can be completed simultaneously. Some of the paths and the concomitant task elements must be completed sequentially.

In the following sections, the processes of creating and implementing a TBVI preparation program are presented. The review is organized thematically. First, procedural and institutional tasks are described; these issues include obtaining approval from an IHE related to the creation of a TBVI preparation program. Second, curricular factors and concomitant accreditation issues are addressed. The resulting structure for the section is

I. Procedural and Institutional Tasks
    a. Administrative Approval
    b. Staffing and Hiring
II. Curricular Path
    a. Standards of Effective Practice
    b. Special Education Core Standards
    c. TBVI Specific Standards and Methods
        i. Course to Standards Alignment
        ii. Program of Study
    d. Institutional Review
III. Regulatory Path
    a. Licensing

I. Procedural and Institutional Tasks

Two paths guide the procedural and institutional tasks. Prior to the development of curricular materials and the delivery of courses, the administration of an IHE will need to approve the development and the implementation of the broader program. Approval initially results from demonstrating that a need is extant. In this context, need can arise from pervasive student need, from addressing a community need, or from creating future opportunities. In addition to need, the long-term sustainability of a program must be demonstrated. After obtaining institutional approval, the processes associated with hiring faculty initiates.

a. Administrative Approval

In IHEs, administrative approval follows a hierarchical sequence. The process involves three (3) tiers of approval. First, a department's faculty and the department chair endorse the initiative. Second, the school level process continues. Approval from the dean and from affected departments is obtained. The process concludes with endorsement and permission from the university provost and university president.

a. Staffing and Hiring

Extant need does not support an undergraduate only option for a TBVI program. Currently twenty-six (26) TBVI teachers in Minnesota are categorized as Tier 1, Tier 2, or Out-of-Field permission. These educators hold baccalaureate degrees. Institutional structure also eliminates the completion of a TBVI program at the undergraduate level. Thus, a program would be a graduate certificate with a possible add on Master's degree. Given the graduate level focus, the principal faculty member directing the program would be required to hold a doctorate and have experience teaching students who are blind or visually impaired. All things being equal, from identification of need to hiring a candidate, the process is approximately ten (10) months. The process may take longer for a specialized candidate, and relatively few doctoral candidates in BVI graduate annually.

II. Curricular Path

Given the absence of a TBVI program in Minnesota, the curricular path is more onerous than typical. A number of prerequisite tasks are required before the formal curricular review elements at the university level may begin. First, the degree to which the promulgated standards for TBVI programs can be integrated into existing courses needs to be determined. For special education programs in Minnesota, three categories of standards must be addressed: 1) the Standards of Effective practice, 2) the SPED Core, and 3) categorical and method specific standards within the category.

a. Standards of Effective Practice

The Standards of Practice address general features of pedagogy, classroom management, assessment, and relations among schools and community stakeholders. Most of these standards are equally applicable to both general education and special education standards, and these criteria are addressed in initial licensure programs. A TBVI preparation program includes very unique elements under the Standards of Effective Practice. A candidate who holds a teaching license in Minnesota and seeks a license in BVI will have mastered these standards. New courses will not need to be developed to address this set of standards.

b. SPED Core

The SPED Core standards address fundamental and foundational practices in special education. Representative areas include procedural safeguards, transition planning, individual assessment, behavior management, and instructional accommodations and adaptations. Faculty who teach such courses were surveyed to determine the extent to which their courses as currently structured addressed the needs of students who are blind or visually impaired. In Minnesota, programs that prepare special education teachers typically focus on four (4) licenses: 1) Academic and Behavioral Strategist (a cross categorical license that focuses on the needs of students with mild levels of disability) 2) Specific Learning Disabilities 3) Intellectual Disabilities 4) Emotional and Behavioral Disorders 5) Autism Spectrum Disorders. The SPED Core courses reflect these foci. According to faculty report, the courses as currently structured do not address the needs of the population with BVI and that minor adjustments to the course content and to the student learning outcomes cannot address these needs. SPED core courses with a specific focus on students who are blind or visually impaired were recommended. In some cases, faculty believed that courses could be combined if the specific focus was visual impairments and other disability categories were not addressed.

c. TBVI Specific Standards and Methods

In the absence of an extant TBVI preparation program in Minnesota, no courses that address TBVI specific standards and methods are extant. Courses that address these standards will need to be created.

i. Course to Standards Alignment

Following standards alignment, course syllabi will need to be revised or created. For courses addressing the Standards of Effective Practice, minimal changes will be required. For newly revised or created courses, course specific syllabi will be required. Within these syllabi, the standards that are addressed, how these standards are assessed, key assessments, and student learning outcomes must be described. The syllabi must demonstrate that the scope of standards has been addressed.

ii. Program of Study

The standards addressed within the program are promulgated in the syllabi. The sequence of courses and concomitant standards are addressed in the program of study. After completing the courses addressing the Standards of Effective Practice and the Special Education core, a student is eligible for courses addressing the category specific demands and advanced methods in a TBVI preparation program. A candidate who holds a Minnesota Teaching License in any category will have fulfilled the Standards of Effective Practice and the preponderance of the Special Education Core.

Because the needs of students who are blind or visually impaired differ from students who have cognitive, pervasive developmental, or emotional disabilities, the program of study for a TBVI program will involve a greater number of courses and credits. For a candidate who holds a special education license and seeks an additional license at the graduate level, the requirements can often be completed with three (3) to five (5) additional courses and a culminating graduate practicum experience; this typically represents twelve (12) to eighteen credits (18). Depending on a student's training and professional experience, existing TBVI preparation programs require thirty-five (35) to fifty-seven (57) credits.

d. Institutional Review

In higher education, course and program approval is an element of institutional review. For a new program, two stages are involved. Individual courses are approved, and the integrated courses in the form of a program are reviewed. The review includes course content, student learning outcomes, relations among the program and existing university resources, and alignment with the broader university mission. The duration of the process varies across institutions, but typically, the process is ten (10) to eighteen (18) months in length.

III. Regulatory Path: Licensing and Accreditation

In Minnesota, the ability of a higher education institution to recommend a candidate for a teaching license is distinct from whether the school is accredited. Although some overlap between both sets of regulations, many elements differ significantly. If the institution recruits candidates who are not residents of Minnesota, a TBVI preparation program will need to meet the licensing requirements of Professional Educator Licensing Standards Board (PELSB) and the accreditation requirements of Association for the Education and Rehabilitation of the

Blind (AER). For a TBVI teacher preparation program to function in Minnesota, the PELSB and AER requirements must be fulfilled.

a. Licensing

The PELSB program approval process includes all the elements of institutional review. PELSB has requirements that extend and transcend beyond the institutional criteria. The ability to recommend for licensure includes standards related to qualifications to teach methods courses, qualifications to teach literacy courses, and requirements about including content about dyslexia in literacy courses.

For a faculty member to be identified as qualified to teach methods and advanced content in the area of blind and visual impairments, the faculty member must have advanced training in the area, viz., hold a Master's degree or higher, and have experience teaching students who qualify for BVI services.

The state of Minnesota has qualification criteria for faculty who teach literacy courses and for the content of literacy related courses. According to PELSB staff, Braille literacy courses fall under the aegis of these requirements. To be qualified to teach courses related to Braille and Braille literacy practices, the faculty member must demonstrate qualifications via one of two means. In the first instance, the faculty member would need eighteen (18) graduate credits or a dissertation in the area of Braille literacy and at least 3 years as the teacher of record with at least one year of teaching Braille literacy as the teacher of record. In the second instance, the faculty member can demonstrate the equivalent pedagogical and content knowledge and skills to teach braille literacy through alternative criteria. According to MN Statute 112A.092, candidates in all special education teacher preparation programs must demonstrate competencies across an array of standards.

IV. Funding Issues

In this section, issues related to funding and to the financial exigencies of higher education are described. The section is organized thematically. First, faculty costs are addressed. Second, costs not directly related to instruction are examined. These expenses include institutional overhead and indirect costs. The resulting structure for the section is

I. Funding Issues
    a. Faculty Costs
    b. Institutional Overhead and Indirect Costs
        i. Supervision and College Level Costs
        ii. Total Cost and Tuition Recapture

Due to financial exigencies, institutions typically require that new programs are either revenue generating or revenue neutral. Revenue would include earmarked private donations, tuition recapture, and extramural funding through grants or capitalized initiatives. New programs must demonstrate short term financial viability and long term sustainability.

For programs and courses with low enrollment, viability and sustainability are difficult to maintain through tuition recapture. The costs for offering a course in an existing program include faculty salary, faculty benefits,

and institutional overhead. For purposes of analysis, if one assumes a regional teaching focused institution is offering a program, the course costs would follow this model.

a. Faculty costs

An average salary for an assistant professor of education at a regional institution is approximately $65,000 per annum. Benefits and fringe are estimated at thirty-three (33) percent of salary, and at this level, these costs equal $21,450 per annum. Total compensation equals $86,450 per annum. Faculty load at regional institutions is three (3) courses per semester or six (6) courses per annum. Thus, faculty cost per course equals approximately $14,400.

b. Institutional overhead and indirect costs

As a predictor, regional institutions use eight (8) percent as an estimate of institutional overhead and indirect costs. This does not include supervision costs, school level overhead, nor development. At eight percent, institutional overhead and indirect costs per course equal $1,150.

i. Supervision and college level indirect costs

Supervision and college level indirect costs approximate institutional overhead. These costs per course are approximately $1,150.

ii. Total cost and tuition recapture

The instructional cost for the delivery of a graduate course is approximately $16,700 per course. In-state tuition for graduate programs is approximately $431 per credit, and graduate courses are typically three (3) credits or $1293 per course. Thus, for a course to be revenue neutral, thirteen (13) students need to enroll.

Framework for a Potential TBVI Teacher Preparation Program

In this section, the results from the qualitative critical path analyses and from the root cause analyses are used to suggest a framework for a potential TBVI Preparation Program. Because standards for such a program are externally promulgated and instantiated, the framework begins by organizing standards into common themes and by using those themes and the concomitant standards to structure specific courses. The courses are then arranged into a program of study. To ensure that the program of study is consistent with both common and best practice, it was compared with course sequences at other institutions offering TBVI licenses.

Prerequisite Factors

Based on the results from the root cause analyses, a suggested program would be a graduate level license. First, a graduate program for practicing special educators would ensure that the standards of effective practice and areas of the special education core standards would already be completed. This would allow a program to have an intense focus on issues related to students who are blind or visually impaired. Second, the prior knowledge and experiences of candidates could organize classroom activities and applied experiences. Third, in-line pay increases could offset some of the tuition related costs for students. Finally, a small corpus of Tier 2 teachers

working in BVI settings is extant, and by licensing requirements, these potential candidates already hold a baccalaureate degree.

Standards of Effective Practice and Special Education Core Standards

Because the Standards of Effective Practice and Special Education Core Standards are requirements for initial teaching licenses in special education, candidates should understand many foundational principles of special education practice, and from this conceptual base, courses in a TBVI preparation program could have a dedicated focus on visual impairments and blindness. Consequently, the number of required courses can be lessened. Table 1 shows representative standards for TBVI programs that are typically introduced in baccalaureate level special education programs.

Table 1

Initial Specialty Set: Blind and Visual Impairments Standards Broadly Introduced in Courses Addressing Standards of Effective Practice and Special Education Core

Initial Preparation Standard 1: Learner Development and Individual Learning Differences

BVI.1.K2 Most prevalent causes of severe, uncorrectable visual impairment in children and youth ages birth to 22

Typically introduced: Foundations of Special Education course
Level: 2nd year baccalaureate

Initial Preparation Standard 4: Assessment Knowledge

BVI.4.K3 Role of specialized, individualized assessment data unique to visual impairment for pre-referral, referral, annual, and tri-annual processes

Typically introduced: a) Individual Assessment course b) Procedural Safeguards course
Level: 3rd/4th year baccalaureate

BVI.4.K4 Knowledge of federal and state requirements for eligibility and for timing of assessments

Typically introduced: a) Individual Assessment course b) Procedural Safeguards course
Level: 3rd/4th year baccalaureate

BVI.4.S1 Interpret medical reports and multiple sources of data, including background information and family history, to plan and implement nondiscriminatory assessments

Typically introduced: a) Individual Assessment course
Level: 4th year baccalaureate

BVI.4.S2 Use multiple sources of valid information/data, including data from formal/informal assessments to evaluate the effectiveness of intervention, instruction, specialized media, materials, equipment, and the physical environment

Typically introduced: a) Individual Assessment course
Level: 4th year baccalaureate

Depending on an individual candidate's undergraduate program of study, other standards may be addressed, but an assumption that a student understands procedural safeguards, individual assessment, lesson planning, and pedagogy is not unwarranted. Thus, a program could address how these concepts affect practice specifically in the context of blindness and of visual impairments.

Program of Study

Myriad factors affect the number of credits that are included in extant TBVI teacher preparation programs. These factors include if Student has an existing license in special education, if the program is a certificate program versus leading to a Master's degree, and if an additional focus in the program is extant. Representative ancillary foci include extension of scope of the license program and horizontal expansion of curriculum into related areas. With the previous caveats, the typical number of credits in existing licensure programs is approximately forty (40) credits. In most cases, the programs culminate with a Master's degree. Table 2 shows a set of courses that could lead to a license in BVI at the graduate level. The set of courses assumes an existing special education license, and the focus is simply on licensure.

Table 2

BVI Courses

1. Biological Foundations of Visual Impairments and Characteristics of Learners who have Visual Impairments (3 credits)
2. Braille: Foundations and Literacy Processes (3 credits)
3. Advanced Braille and Instructional Technologies for Literacy (3 credits)
4. Developmental and Communication Needs of Blind and Visually Impaired Learners (3 credits)
5. Foundations of Orientation and Mobility for Teachers of Students with Visual Impairments (3 credits)
6. Advanced Assistive Technology for Teachers of Students who are Blind or Visually Impaired (3 credits)
7. Standardized, Informal, and Environmental Assessment for Teachers of Students with Visual Impairments (3 credits)
8. Teacher-Leaders and Advocates for Blind and Visually Impaired Learners (3 credits)
9. Advanced Methods in BVI (3 credits)
10. Graduate Practicums (6 credits)

Total Credits in Program: 33 credits

The total credit in the program equals thirty-three (33) credits. With this number of credits, a Master's degree could typically be stacked on the set with three (3) additional classes. The number of credits provides IHEs with some flexibility in adding courses or additional foci to a program without placing an undue onus upon its candidates. A cohort of candidates completing two (2) courses per semester including summer semesters could complete the license in two years. IHEs could elect to hasten or to slow the progress of cohorts based upon enrollments and institutional needs.

A program with the above structure fulfills the scope of license and meets all of the standards for a TBVI program. The following tables show the course to standards alignment.

Table 3

Biological Foundations: Course to Standards Alignment

Biological Foundations of Visual Impairments and Characteristics of Learners who have Visual Impairments

Initial Preparation Standard 1: Learner Development and Individual Learning Differences

BVI.1.K1 Development of the human visual system and areas of the brain involved in processing visual images

BVI.1.K2 Most prevalent causes of severe, uncorrectable visual impairment in children and youth ages birth to 22

BVI.1.K3 Terminology related to diseases and disorders of the human visual system, including cerebral/cortical visual impairment

BVI.1.K4 Implications of prevalent visual conditions

BVI.1.K5 Sensory development and its impact on development and learning when vision is impaired

BVI.1.K6 Impact and implications of sociocultural/psychosocial factors on social emotional development Skills

Initial Preparation Standard 4: Assessment Knowledge

BVI.4.S1 Interpret medical reports and multiple sources of data, including background information and family history, to plan and implement nondiscriminatory assessments

Table 4

Braille: Foundations and Literacy Processes: Course to Standards Alignment

Initial Preparation Standard 3: Curricular Content Knowledge

BVI.3.S1 Demonstrate proficiency in reading, writing, proofreading, and interlining alphabetic and fully contracted Unified English Braille

BVI.3.S3 Produce braille with brailler, slate and stylus, computer (including use of braille translation software), and braille production methods

Initial Preparation Standard 5: Instructional Planning & Strategies Knowledge

BVI.5.K1 Proper use and care of braille and braille production devices and technology equipment, including maintenance of devices and software updates

BVI.5.S2 Obtain resources, including published curricula, for braille codes currently in use

Table 5

Course to Standard Alignment: Advanced Braille and Instructional Technologies

BVI.5.S11 Teach students with low vision to use optical, electronic, and non-optical devices to optimize visual efficiency and independently use dual learning media such as visual and auditory information, or auditory and tactile information

BVI.3.S7 Identify and adapt general education and visual impairment specific curricula for instruction of literacy, other academic areas, and the expanded core curriculum

BVI.7.S9 Collaborate with families and the educational team to promote literacy development

Initial Preparation Standard 5: Instructional Planning & Strategies Knowledge

BVI.3.S2 Demonstrate basic proficiency in reading and writing braille for mathematic and scientific notation and in using the abacus

BVI.5.S3 Use digital resources, hardware, and software to produce and access materials in accessible media including the conversion of print materials into braille, tactile, and/or digital formats

BVI.5.S4 Teach varied visual, nonvisual, and multi-sensory devices, programs, and software to launch, navigate, save, and retrieve information on devices and local systems and online

BVI.5.S5 Select and use various visual, nonvisual, multisensory, and adaptive methods to teach technology skills by integrating students' assessed needs into instructional methods for teaching sensory efficiency skills, use of learning media, individual keyboarding, reading, writing, editing, and listening skills

BVI.5.S7 Integrate basic principles of accessibility to select, create, adapt, and format text, images, and media to promote usability and accessibility to meet the individual needs of students with visual impairments

BVI.5.S8 Provide systematic, explicit braille literacy instruction using embossed materials and digital technologies to meet individual needs

BVI.5.S9 Teach the use of the abacus, accessible calculator, tactile graphics, adapted equipment, and appropriate technology for mathematics and science instruction to meet individual needs

BVI.5.S10 Teach students to access, interpret, and create increasingly complex printed and digital graphics in visual and/or tactile forms, including maps, charts, diagrams, and tables, based on individual needs

Table 6

Developmental and Communication Needs of Blind and Visually Impaired Learners: Course to Standards Alignment

Initial Preparation Standard 1: Learner Development and Individual Learning Differences Knowledge

BVI.1.S1 Accurately read, interpret, and summarize eye reports and serve as liaison to families and other members of the educational team to individualize services

Initial Preparation Standard 5: Instructional Planning & Strategies Knowledge

BVI.5.S1 Develop, coordinate, and implement appropriate programs for infants and young children with visual impairment, including those with co-occurring disabilities, and their families

BVI.5.S24 Collaboratively develop, implement, and continuously monitor communication goals, objectives, and systems for students with visual impairments and co-occurring disabilities

BVI.5.S25 Select, adapt, and use nonvisual/alternate instructional strategies to address co-occurring disabilities

Initial Preparation Standard 7: Collaboration Knowledge

BVI.7.K1 Role in conveying, to families and teams, information about the impact and implications of visual impairment on development and learning and access to the general and expanded core curriculum

BVI.7.K2 Role in working collaboratively with families and teams for referral for counseling, therapy, or other services to address the unique needs of visual impairment

Table 7

Foundations of Orientation and Mobility for Teachers of Students with Visual Impairments: Standards to Course Alignment

Foundations of Orientation and Mobility for Teachers of Persons with Visual Impairments

Initial Preparation Standard 2: Learning Environments Knowledge

BVI.2.K1 Physical and virtual environmental factors that impact the acquisition of spatial and positional concepts, access to and synthesis of data visualizations, and other concepts typically acquired through vision Skills

BVI.2.S1 Identify and implement physical and virtual environmental accommodations and modifications to facilitate optimal sensory use and multisensory access to, and active participation in, individual and group activities in general and expanded core curriculum environments

BVI.2.S2 Collaborate with team members to design and implement environments that promote optimal sensory use, foundational orientation and mobility skills, independence, social engagement, and efficient storage of specialized materials

BVI.2.S7 Teach developmentally appropriate human guide, self-familiarization with new environments, protective, and alignment techniques for independent travel to promote safety across environments

BVI.2.S8 Teach orientation skills using environmental features, self-advocacy for optimal environmental accommodations and modifications, including requesting and refusing assistance as needed

Initial Preparation Standard 3: Curricular Content Knowledge

BVI.3.S4 Demonstrate basic proficiency in human guide, protective, alignment, and search techniques in orientation and mobility with developmentally appropriate modifications

Initial Preparation Standard 5: Instructional Planning & Strategies Knowledge

BVI.5.S12 Promote and reinforce sensorimotor and physical skills, including gross and fine motor skills, posture, balance, purposeful movement, and strength to meet individual needs unique to visual impairment

BVI.5.S13 Teach basic orientation, body image, spatial, temporal, positional, directional, and environmental concepts based on individual needs to promote motor skill development, orientation and mobility, and academic and social inclusion

BVI.5.S14 Teach and reinforce human guide techniques to students with visual impairment, their peers, and others who interact with them

BVI.5.S15 Orient students to unfamiliar environments

BVI.5.S16 Reinforce skills taught by orientation and mobility specialists to support the use of mobility devices and dog guides, for orientation and mobility

BVI.5.S17 Teach independent living and organization skills using alternate and nonvisual strategies

BVI.7.S5 Collaborate with families and orientation and mobility specialists to reinforce orientation and mobility skills and other expanded core curriculum skills

Table 8

Advanced Assistive Technology for Teachers of Students who are Blind or Visually Impaired: Course to Standards Alignment

Initial Preparation Standard 2: Learning Environments Knowledge

BVI.2.S3 Identify unique issues specific to visual impairment for accessing digital multimedia and virtually built environments

BVI.2.S4 Use ergonomics and appropriate technology settings aligned with students' preferred learning media and low tech strategies to support ubiquitous computing to promote access to the general and expanded core curriculum

BVI.2.S5 Facilitate incidental learning experiences to address nonvisual access to physical and virtual environments

Initial Preparation Standard 3: Curricular Content Knowledge

BVI.3.K2 Advantages and disadvantages of a wide range of instructional and assistive technologies specific to visual impairment skills

BVI.3.S5 Identify specialized resources unique to visual impairment to address the specific communication needs of students with varied communication abilities, reading levels, and language proficiency

Initial Preparation Standard 4: Assessment Knowledge

BVI.5.K4 Knowledge of a range of cost effective technological devices from low to high tech for the instructional needs specific to visual impairment skills

BVI.4.S13 Assess accessibility needs of individuals who are visually impaired who are English learners or from diverse backgrounds

BVI.4.S14 Use results of clinical low vision evaluation, functional vision, learning media, and assistive technology assessments to identify optimal assistive technology

Initial Preparation Standard 7: Collaboration Knowledge

BVI.7.S2 Collaborate with technology and curriculum development staff on accessibility needs

Table 9

Standardized, Informal, and Environmental Assessment for Teachers of Students with Visual Impairments: Course to Standards Alignment

BVI.1.S2 Select and develop assessment and teaching strategies, accommodations and modifications that address age, visual impairment, family values and priorities, visual prognosis, and other individual characteristics

BVI.1.S3 Use nonvisual/alternate strategies to promote attachment, early communication/literacy, orientation and mobility, and independence to address the effects of visual impairment on families and the reciprocal impact on individuals' self-esteem

Initial Preparation Standard 2: Learning Environments Knowledge

BVI.2.S6 Evaluate social skills and design behavior strategies for learners with visual impairments to maximize positive social engagement and interaction across environments

Initial Preparation Standard 3: Curricular Content Knowledge

BVI.3.K1 Relationship of individualized assessment, intervention planning/implementation, development of individualized education programs/individualized family service plans, progress monitoring, and placement specific to unique needs of visual impairment

BVI.3.S6 Develop, implement, and continuously monitor learning objectives and goals for optimizing sensory efficiency, developing concepts, and accessing the general and expanded core curriculum across settings

Initial Preparation Standard 4: Assessment Knowledge

BVI.4.K1 Challenges of assessing students with visual impairments and co-occurring disabilities

BVI.4.K2 Options for specialized assessment materials and equipment for unique sensory needs

BVI.4.K3 Role of specialized, individualized assessment data unique to visual impairment for pre-referral, referral, annual, and tri-annual processes

BVI.4.S2 Use multiple sources of valid information/data, including data from formal/informal assessments to evaluate the effectiveness of intervention, instruction, specialized media, materials, equipment, and the physical environment

BVI.4.S3 Use valid assessment results and medical reports to determine eligibility for vision specific services, for students with and without specific visual diagnoses

BVI.4.S4 Use valid assessment data and knowledge of the potential impact of visual impairment on psychosocial functioning to identify when referral for services is needed

BVI.4.S5 Adapt assessments when tests are not validated on individuals with visual impairments to determine baseline performance

BVI.4.S6 Identify assessment items and measures that are biased and make recommendations for non-visual or alternate accommodations and modifications

BVI.4.S7 Collaborate with team members and families to plan and implement assessment and interpret assessment results on issues specific to visual impairment

BVI.4.S8 Conduct individualized functional vision, learning media, assistive technology and other expanded core curriculum-related assessments

BVI.4.S9 Interpret and/or assess cognitive, motor, social, and language concepts unique to individuals with visual impairments

BVI.4.S10 Use multiple sources of data to determine appropriate learning and literacy media (braille, print, or dual) and assistive technology

BVI.4.S11 Interpret assessment results to determine individual needs to support acquisition of skills in the general and expanded core curriculum

BVI.4.S12 Address limitations of standard scores and non-standard data when communicating visual impairment specific assessment data to educational teams and families.

Table 10

Teacher-Leaders and Advocates for Blind and Visually Impaired Learners: Course to Standards Alignment

Initial Preparation Standard 2: Learning Environments Knowledge

BVI.2.S9 Teach nonvisual and alternate strategies for promoting digital citizenship and secure online practices

BVI.4.K4 Knowledge of federal and state requirements for eligibility and for timing of assessments

Initial Preparation Standard 5: Instructional Planning & Strategies Knowledge

BVI.5.S22 Teach students their legal rights and responsibilities related to being a citizen with a visual impairment

BVI.5.S23 Prepare students with progressive visual conditions to transition to alternative skills

BVI.5.S6 Plan and implement explicit instruction in assistive technology, including digital citizenship, that integrates students' ability to meet, manage, and advocate for their own needs

BVI.6.K1 Roles and responsibilities of teachers and support personnel in providing services for students with visual impairments in a range of settings

BVI.6.K2 Current knowledge of eligibility criteria for specialized services, funding, and materials sources specific to visual impairment

BVI.6.K5 Role in determining and recommending appropriate type and amount of services based on evaluation of needs in all areas of the expanded core curriculum

BVI.6.K6 Current knowledge of laws that impact and protect individuals with visual impairments

BVI.6.K7 Roles of all members of educational/vision care teams Skills

BVI.6.S1 Develop and maintain professional learning and practice by actively participating in professional organizations

BVI.6.S2 Articulate instructional and professional philosophies and ethical practices to address the specific needs of students with visual impairment across settings including the expanded core curriculum

BVI.6.S3 Articulate and advocate for individual needs regarding placement, service delivery models, type and amount of service, and key components of services unique to visual impairment across ages and settings

BVI.6.S4 Advocate for reasonable nonvisual and alternate accommodations and modifications on standardized assessments

BVI.6.S5 Advocate for evidence-based educational policy related to visual impairment and low incidence disabilities

BVI.6.S6 Articulate a plan for maintaining continuous professional development to remain current on all areas of the expanded core curriculum, with particular attention to assistive and instructional technology, most prevalent causes of and medical treatments for severe visual impairment, and co-occurring disabilities

BVI.6.S7 Evaluate and discern credible and scholarly sources of information about visual impairments, including knowledge of valid and reliable research techniques

Initial Preparation Standard 5: Instructional Planning & Strategies Knowledge

BVI.5.K2 Importance of creating positive, productive learning environments that foster independence and student achievement, and that reduce the tendency of others to engender learned helplessness in learners with visual impairments

BVI.5.K3 Knowledge of evidence-based practices for teaching students with visual impairments

BVI.5.S18 Teach social communication skills related to appropriate body language, non-verbal communication, and social etiquette

BVI.5.S19 Teach development and monitoring of relationships and friendships, and knowledge of self, including human sexuality

BVI.5.S20 Teach skills usually acquired visually to develop and enhance participation in fitness/leisure/recreation activities, hobbies, and team and spectator sports to facilitate inclusion across settings

BVI.5.S21 Teach students to recognize and report behaviors that they may not perceive visually that may threaten their personal safety and well being

Initial Preparation Standard 6: Professional Learning & Ethical Practice Knowledge

BVI.6.K3 Historical, political, and sociocultural forces unique to the education of students with visual impairments

BVI.6.K4 Awareness of the impact of nonverbal reactions and behaviors that are not accessible to students with visual impairments

Initial Preparation Standard 6: Professional Learning & Ethical Practice Knowledge

BVI.6.K3 Historical, political, and sociocultural forces unique to the education of students with visual impairments

BVI.6.K4 Awareness of the impact of nonverbal reactions and behaviors that are not accessible to students with visual impairments

Initial Preparation Standard 7: Collaboration Knowledge

BVI.7.K1 Role in conveying, to families and teams, information about the impact and implications of visual impairment on development and learning and access to the general and expanded core curriculum

BVI.7.K2 Role in working collaboratively with families and teams for referral for counseling, therapy, or other services to address the unique needs of visual impairment

BVI.7.K3 Role in increasing awareness of accessibility in physical and virtual environments and improving equitable access to information for families and the educational team

BVI.7.K4 Importance of role models with visual impairment for a full range of individual learners across settings

BVI.7.S1 Collaborate with educational team and families on service delivery issues unique to visual impairment

BVI.7.S3 Serve as liaison between medical care providers, families, and other members of the educational team

BVI.7.S4 Collaborate with vision care professionals to facilitate access to the general and expanded core curriculum

BVI.7.S6 Collaborate with families and other team members to plan and implement transitions

BVI.7.S7 Instruct and supervise paraeducators, and provide information to families and the educational team in nonvisual strategies that promote independence and autonomy

BVI.7.S8 Instruct and supervise paraeducators and braille transcribers, and provide information to families and the educational team on the production of accessible media

BVI.7.S10 Collaborate with assistive technology professionals to identify and support customized tools to meet the accessibility needs of individuals with visual impairments

Table 11

Advanced Methods in BVI: Course to Standards Alignment

Initial Preparation Standard 2: Learning Environments Knowledge

BVI.2K.1 Physical and virtual environmental factors that impact the acquisition of spatial and positional concepts, access to and synthesis of data visualizations, and other concepts typically acquired through vision Skills

BVI.2.S1 Identify and implement physical and virtual environmental accommodations and modifications to facilitate optimal sensory use and multisensory access to, and active participation in, individual and group activities in general and expanded core curriculum environments

Initial Preparation Standard 4: Assessment Knowledge

BVI.4.K5 Implications of short and long term use of accommodations and modifications unique to students with visual impairments Skills

BVI.4.S1 Interpret medical reports and multiple sources of data, including background information and family history, to plan and implement nondiscriminatory assessments

Additional Content
Teaching strategies and methods
Application of teaching strategies and methods

Table 12

Applied Experiences and Graduate Practicums (completed in conjunction with Advanced Methods)

Foci: Combination of Applied Experiences and Practicum must demonstrate scope of the license (K-12)

Courses:

Applied Experience I
Applied Experience II
Practicum

Program of Study: Summary and Comment

The exemplar program of study fulfills a number of criteria. First, as depicted in the tables, the program meets the standards for accredited TBVI preparation programs. The courses as listed in Table 2 follow a novice to expert developmental structure. Prerequisite concepts logically precede higher level concepts. Second, the number of standards linked to each course is within the parameters of pedagogical practice. Courses with more novel content have fewer aligned standards. Second, the program can be completed within a reasonable timeframe. Students enrolled in two (2) courses per semester can complete the program in approximately two years. At a pace of two courses per semester, candidates can remain employed; this is particularly necessary for candidates holding Tier 2 licenses. Finally, the program of study is not financially onerous. A candidate attending a regional institution in Minnesota could anticipate program costs of approximately $18,000. Training costs at some extant programs exceed $100,000.

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