

Developmentally Appropriate Orientation and Mobility

Session 1

Foundations of Developmentally

Appropriate Orientation and

Mobility

T.L. Anthony
S. Shier Lowry
C.J. Brown
D.D. Hatton

Early Intervention Training Center
for Infants and Toddlers With Visual Impairments
FPG Child Development Institute
University of North Carolina at Chapel Hill
2004

This project is funded by cooperative agreement #H325B000003 from the Office of Special Education and Rehabilitative Services, U.S. Department of Education. However, the contents do not necessarily represent the policy of the Department, and you should not assume endorsement by the federal government.

Early Intervention Training Center for Infants and Toddlers With Visual Impairments

Developmentally Appropriate Orientation and Mobility

Authors

Tanni L. Anthony, Ph.D., COMS
Susan Shier Lowry, M.Ed., COMS
Carla J. Brown, M.Ed., COMS
Deborah D. Hatton, Ph.D.

Editors

Susan Bennett, B.A.
Virginia Bishop, Ph.D.
Caroline Edwards, B.A.
DanaLee Fox, M.Ed.
Deborah Gleason, M.Ed.
Jeanne Murphy, M.A.
Wendy Sapp, Ph.D.
Natalie Siegel, B.A.
Barry Varela, B.A.

Technical Director

Yuna Lee, M.Ed.

CD Developers

Yuna Lee, M.Ed.
Cici Sidor, B.S.

Technical Consultant

Charles Lee, M.D.

Accessibility Specialists

Richard Jackson, Ph.D.
Cici Sidor, B.S.
Allen Stutts, B.A.

Audio/Video Producer

Don Trull, B.A.
DanaLee Fox, M.Ed.

Narrator

Raymond L. Beck, M.A.

Photographers and Videographers

Anne Corn, Ph.D.
DanaLee Fox, M.Ed.
L. Penny Rosenblum, Ph.D.
Don Trull, B.A.

Field Reviewers

Kay Clarke, Ph.D., COMS

VisAbility Services, Inc.,

Worthington, Ohio

Jane Erin, Ph.D.

University of Arizona

Diane Fazzi, Ph.D., COMS

California State University, Los Angeles

JC Greeley, M.A., COMS

Anchor Center for Blind Children,

Denver, Colorado

Nora Griffin-Shirley, Ph.D., COMS

Texas Tech University

Laurel Hudson, Ph.D., COMS

Perkins School for the Blind,

Watertown, Massachusetts

Sandra Lewis, Ed.D.

Florida State University

Sandra Rosen, Ph.D., COMS

San Francisco State University

Annette Skellenger, Ed.D., COMS

Western Michigan University

Sandra Sternweis, M.A., CLVT, COMS

Foundation for Blind Children,

Phoenix, Arizona

Jodi Sticken, M.Ed., COMS

Northern Illinois University

Field Test Sites

Drake University, Iowa

Florida State University

University of Arizona

Special Thanks

The authors wish to extend their special thanks to the families, orientation and mobility specialists, and teachers in the videos on the CDs that accompany the print resources for allowing us to share their experiences.

The authors also wish to thank the following colleagues for generously sharing their commercially produced videos that are included on the CDs that accompany the print resources:

Blind Babies Foundation (Producer). (1990). *Getting there: A look at the early mobility skills of four young blind children* [Video]. (Available from Blind Babies Foundation, 5016 Mission St, San Francisco, CA 94112)

Visually Impaired Preschool Services (Producer). (1991). *Can do! Video five, Going places: Orientation and mobility* [Video]. (Available from Visually Impaired Preschool Services, 1229 Garvin Place, Louisville, KY 40203)

Visually Impaired Preschool Services (Producer). (1996). *Can do! Video seven, Moving through the world: Gross motor skills and play* [Video]. (Available from Visually Impaired Preschool Services, 1229 Garvin Place, Louisville, KY 40203)

Visually Impaired Preschool Services (Producer). (1991). *Can do! Video two, Learning about the world: Concept development* [Video]. (Available from Visually Impaired Preschool Services, 1229 Garvin Place, Louisville, KY 40203)

Module: **Developmentally Appropriate Orientation and Mobility**

Session 1: Foundations of Developmentally Appropriate Orientation and Mobility

Developmentally Appropriate Orientation and Mobility was developed by the Early Intervention Training Center for Infants and Toddlers with Visual Impairments, FPG Child Development Institute, University of North Carolina at Chapel Hill (UNC-CH) and is protected by United States copyright laws and international treaty provisions.

UNC-CH reserves the right and title to these resources and all subsequent copies. The structure and organization of these resources are assets of UNC-CH and are licensed to you on a non-exclusive basis. You may not sell, rent, lease, or otherwise transfer these resources to any person or entity. The PDF, Word, or PowerPoint resources may be printed, duplicated, and distributed for use with students and workshop participants. As long as these resources are used with your students, you may copy materials. This agreement shall be interpreted under North Carolina law and North Carolina courts shall have jurisdiction over any disputes.

The Orientation and Mobility module was produced with the support of the United States Department of Education, Office of Special Education Programs (Cooperative Agreement #H325B000003).

Developed by the Early Intervention Training Center for Infants and Toddlers With Visual Impairments, FPG Child Development Institute, University of North Carolina at Chapel Hill, United States of America © 2004.

Module: **Developmentally Appropriate Orientation and Mobility**

Session 1: Foundations of Developmentally Appropriate Orientation and Mobility

Visual impairment can have an immediate impact on the motor development of young children with visual impairments, as well as on other developmental domains that form the foundation for orientation and mobility (O&M). In this module, we describe and promote a developmental approach to intervention that will provide the basis for future orientation and mobility. Our approach is based on the premise that the foundation for O&M skills is built during infancy and early childhood. Therefore, the first 3 years of life are the optimal time to facilitate and promote the sensory, conceptual, and motor framework needed for independent travel.

The *Developmentally Appropriate Orientation and Mobility* module was designed to acknowledge and respect the variety of learning styles represented by potential participants. Therefore a variety of instructional strategies were used to convey content and build skills. The strategies include the presentation of current theoretical information and research findings, individual and group activities, vignettes, study questions for recommended readings, and practitioner-oriented handouts. Video CDs with video clips that emphasize the module content is available through the Early Intervention Training Center for Infants and Toddlers With visual Impairments.

Information from the fields of orientation and mobility, visual impairments, early intervention, early childhood special education, and child development has been synthesized in the five sessions of this module that are listed below. The objectives for each of the five sessions are then provided as a framework for understanding the organization of this entire module, *Developmentally Appropriate Orientation and Mobility*.

- Session 1: Foundations of Developmentally Appropriate Orientation and Mobility
- Session 2: Sensory Development
- Session 3: Cognitive Development
- Session 4: Motor Development and Movement
- Session 5: Assessment

Session 1 Objectives

After completing this session, participants will

1. define orientation and mobility (O&M) as it applies to infants and toddlers with visual impairments.
2. describe the history of the field of orientation and mobility and how it relates to infants and toddlers with visual impairments.
3. describe a developmental approach to O&M for infants and toddlers and their families, including family-centered practices, natural learning opportunities, and transdisciplinary teaming.
4. describe components of early orientation and mobility.
5. discuss the roles of orientation and mobility specialists (OMSs) and teachers of children with visual impairments (TVIs) in facilitating sensory development and organization, cognitive development, motor development and movement, and assessment of infants and toddlers with visual impairments.
6. describe the relationship between attachment and mobility and strategies for promoting attachment and trust.
7. discuss the importance of and strategies for fostering independent movement and exploration in natural environments for infants and toddlers with visual impairments.
8. describe the significance of and strategies for providing opportunities for safe movement and exploration.
9. describe protective techniques for early travel and strategies to encourage their use.
10. describe different types of adaptive mobility devices and tools and ways to facilitate their use.

Session 2 Objectives

After completing this session, participants will

1. describe why teachers of children with visual impairment (TVIs) and orientation and mobility specialists (OMSs) should know about sensory development in order to assess, plan, and implement appropriate intervention that will facilitate motor development and orientation and mobility development.
2. describe the seven types of sensory input (visual, auditory, tactile, vestibular, proprioceptive, olfactory, gustatory) and how they interact to facilitate understanding of near and distant space.
3. describe visual development, the relationship between vision and movement, and strategies for facilitating functional vision within natural learning opportunities and daily routines.
4. describe the importance of hearing for children with visual impairments, the development of hearing and auditory skills, and strategies for promoting the optimal use of hearing.
5. describe the impact of deafness, hard of hearing, or deafblindness on movement, exploration, and the development of orientation and mobility in young children with visual impairments.
6. describe the importance of the sense of touch in the development of movement, exploration, and play in young children with visual impairments and describe ways TVIs and OMSs can assist in facilitating young children's use of touch, including tool use.

7. describe the proprioceptive and vestibular systems and their role in facilitating movement, exploration, and play in young children with visual impairments within natural learning opportunities.
8. discuss the roles of smell and taste in facilitating development in young children with visual impairments.
9. describe the importance of identifying and providing meaningful sensory experiences that are graded to children's individual needs and tolerance levels.
10. describe the value of assessing sensory abilities and preferences in infants and toddlers with visual impairments.

Session 3 Objectives

After completing this session, participants will

1. discuss the relationship of cognitive, motor, and perceptual development and the potential impact of visual impairment on cognitive development and movement during the first 3 years of life.
2. discuss the importance of, and strategies for, developing body concepts for young children with visual impairments and how accurate body concepts are related to cognitive development, motor development, and orientation and mobility.
3. describe the development of object concepts in young children with and without vision, how object concepts are related to cognitive and motor development and orientation and mobility, and how to facilitate concept development within natural learning opportunities and daily routines.
4. describe the development of cause and effect and means-end relationships in young children, how it impacts movement and orientation and mobility, the use of tools, and strategies to facilitate the development of cause and effect and means-end relationships.
5. describe the role of imitation in cognitive and motor development and how visual impairment may affect imitation.
6. describe how children learn about environmental concepts, the potential impact of visual impairments on the acquisition of these concepts, and strategies for helping young children with visual impairments acquire environmental concepts.
7. describe how children learn about spatial and positional relationships, how visual impairments can affect the acquisition of these concepts, and strategies to develop spatial and positional concepts for orientation and mobility.
8. describe the potential impact of an intellectual disability on cognitive skills and orientation and mobility in young children with visual impairments.

Session 4 Objectives

After completing this session, participants will

1. briefly describe and contrast the following theories of motor development and movement: neural-maturational, perceptual-cognitive, systems, dynamic systems, and ecological.
2. briefly describe typical motor and movement development.
3. describe the development of postural control.

4. describe the potential impact of visual impairments on the development of postural control in young children.
5. describe the development of goal-directed movement in young children with visual impairments.
6. describe the significance of goal-directed reaching for children with visual impairments and strategies to reinforce the development of reaching.
7. describe the use of defined spaces with young children with visual impairments to promote purposeful movement.
8. discuss the impact of visual impairments on transitional movements in young children and strategies for facilitating the development of transitional movement.
9. discuss how visual impairments may affect the development of crawling and how crawling influences later development.
10. describe the developmental components necessary for young children to learn to walk and how visual impairments, particularly those affecting depth perception, may affect walking.
11. identify strategies to facilitate goal-directed movement using natural learning opportunities and individually designed mini-routes.
12. describe the potential impact of visual impairment on fine motor development; fine-motor skills needed for orientation and mobility, including those required for use of adaptive mobility devices and tools; and strategies for promoting the development of these skills.
13. describe strategies for facilitating motor development and movement of children with visual impairments and additional disabilities.

Session 5 Objectives

After completing this session, participants will

1. describe the legal basis for assessing infants and toddlers with visual impairments, including assessment of family, concerns, resources, and priorities.
2. describe the process of an orientation and mobility (O&M) assessment, including gathering background information, conducting a routines-based assessment, completing natural observation, and participating in a transdisciplinary play-based assessment.
3. explain how a routines-based assessment can be used to gather initial information for an O&M assessment.
4. explain how naturalistic observations in multiple environments are necessary to adequately assess a young child's O&M skills and concepts.
5. describe a transdisciplinary assessment and how it can be used as one component of an O&M assessment.
6. describe the process of completing a sensory assessment of young children with visual impairments.
7. describe the process of assessing cognitive development as it relates to orientation and mobility concept acquisition.
8. describe the relevant components of motor assessment, including self-initiated movement.
9. describe the roles of orientation and mobility specialists (OMSs) and teachers of children with visual impairments (TVIs) in assessing children's social-emotional development as related to self-initiated movement and orientation and mobility.

10. describe the assessment of communication skills and how this assessment is related to early orientation and mobility.
11. describe the process of, and rationale for, completing an environmental assessment.
12. describe formal and informal O&M assessment tools for young children, including assessment for adaptive mobility devices and tools.
13. identify and describe the primary components of an O&M assessment report for young children with visual impairments.