

- I. TSVIs Describe Their Learning Media Practices for Students with Visual Impairments
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- II. APH 2017: Meeting of the Minds
 - a. What are TSVIs doing when it comes to the LMA process, and what tools do they use to make literacy decisions for students?

- III. The Core Group of Collaborators
 - a. L. Penny Rosenblum, University of Arizona
 - b. Gerald Abner, University of Kentucky*
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 - d. Loana Mason, New Mexico State University
 - e. *Dawn Anderson, Western Michigan University
 - f. Kitty Edstrand, New Mexico School for the Blind and Visually Impaired
 - g. *Tammy Reisman, University of Massachusetts, Boston*
 - h. Tina Herzberg, University of South Carolina Upstate*
 - i. Unable to attend the GITWL presentation

- IV. Think About Your LMA Practices
 - a. Do you do a LMA separate from a FVA?
 - b. What tools do you use when completing a LMA?
 - c. What steps are included in your LMA process?
 - d. How do you use the LMA information in providing services to students with visual impairments?

- V. Current LMA Instruments
 - a. FVLMA: Functional Vision Learning Media Assessment; Sanford & Burnett (2012); American Printing House f/t Blind
 - b. LMA: Learning Media Assessment; Koenig & Holbrook (1995); Texas School f/t Blind & Visually Impaired
 - c. NRMA: National Reading Media Assessment; National Federation of the Blind (n.d.); Professional Development & Research Institute on Blindness

VI. LMA Background

- a. APH hosted a focus group regarding the development of a formal learning media assessment (Caton, 1991).
- b. In the 1990s several states began passing Braille Bills that outlined requirements regarding the provision of braille materials and services as well as braille proficiency for TSVIs (Koenig & Holbrook, 1995).
- c. 1997 IDEA Amendments required that braille be considered for all students with visual impairments and decisions regarding the need for braille be based on assessment data.

VII. LMA Considerations

- a. Factors to be considered in conducting a LMA (Mangold & Mangold, 1989)
 - i. Working Distance
 - ii. Portability
 - iii. Speed
 - iv. Accuracy
 - v. Visual Fatigue
- b. Where are we 30 years later?

VIII. Research Questions

- a. What are the current practices of TSVIs who conduct LMAs?
- b. What assessment instruments are being used by TSVIs who conduct LMAs?
- c. How are the results from LMAs used in the practice of teaching individuals with visual impairments?

IX. Methods

- a. Picture Description: A flow chart showing that all participants answered demographic questions before choosing the population with whom they had the most experience conducting LMAs. Once in their designated population, participants answered questions about instruments, skills, report writing, and dissemination.

X. Recruitment

- a. Recruitment Flyer
 - i. Listservs
 - ii. Social Media
 - iii. E-mail

- b. Participation Criteria
 - i. Voluntary
 - ii. Practicing or Retired TSVI
 - iii. Have Conducted at Least 5 LMAs

XI. Participant's Locations

- a. Picture Description: States/provinces with 9-12 participants include KY and NM. States/provinces with 5-8 participants include AZ, MD, MI, TX, and WA. States/provinces with 1-4 participants include AL, BC, CA, CO, CT, IL, IN, MA, MO, NC, ND, NY, OH, OK, OR, RI, and SC. All remaining states/provinces had 0 participants.

XII. Participant's Professional Experience

- a. Picture Description: A bar graph depicting participants' years of experience, which are as follows: 12% had 1-3 years; 20% had 4-6 years; 16% had 7-11 years; 16% had 12-15 years, 9% had 16-20 years, and 27% had 21 or more years.

XIII. Number of LMAs Conducted in the Past 5 Years

- a. Picture Description: A bar graph depicting the number of LMAs conducted in the past 5 years, which are as follows: 23% of participants conducted 6-10 LMAs; 27% conducted 11-15 LMAs; 19% conducted 16-20 LMAs; and 31% conducted more than 20 LMAs.

XIV. The primary reason I conduct LMAs is because it is required as part of my job.

- a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree. A small black rectangle spans the following range 2.69 - 3.06.

XV. Do you do a combined LMA-FVE?

XVI. Combined FVA-LMA

- a. Picture Description: A bar graph depicting the number of LMAs conducted in the past 5 years, which are as follows: 23% of participants conducted 6-10 LMAs; 27% conducted 11-15 LMAs; 19% conducted 16-20 LMAs; and 31% conducted more than 20 LMAs.

XVII. Information gathered through the LMA is the same as information gathered through the FVE.

- a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree. A small black rectangle spans the following range of score: 1.39 – 2.08.

XVIII. Information gathered through the LMA is just as important as information gathered through the FVE.

- a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree. A small black rectangle spans the following range of score: 4.56-4.62.

XIX. Combined FVE-LMA Considerations

- a. Several universities are teaching the FVE and LMA as one process.
- b. Many TSVIs opt to combine the FVE and LMA because there is overlap between the two processes and it saves time.
- c. Students who have no or limited functional vision may not “need” a FVE but they still “need” a LMA.
- d. Are we predisposed to look at visual access through a combined FVE-LMA instead of sensory efficiency?

XX. Population with Most Testing Experience

- a. Picture Description: A bar graph depicting the population with whom the participants had the most testing experience. The breakdown is as follows: 18% of participants had the most experience with young children, 56% with academic students, and 26% with learners who have complex needs.

XXI. What tools do you use when completing a LMA?

XXII. LMA Testing Instruments

- a. Picture Description: A bar graph representing the LMA testing instruments used with each of the student populations. The FVLMA was used by 14% of participants assessing young children, 43% assessing academic students, and 62% assessing students with complex needs. The LMA was used by 43% of participants assessing young children, 75% assessing academic students, and 76% assessing students with complex needs. The NRMA was used by 7% of participants assessing young children and 5% assessing academic students. 64% of teachers working with young children created their own assessment as compared to 61% of those working with academic students and 38% of those working with learners with complex needs.

XXIII. Other LMA Testing Instruments

- a. Young Children
 - i. CVI Range (71%)
 - ii. Oregon Project (71%)
- b. Academic Students
 - i. Informal Reading Inventories (68%)
 - ii. Oregon Project (45%)
- c. Learners with Complex Needs
 - i. CVI Range (81%)
 - ii. Oregon Project (66%)
- d. Is the *CVI Range* or the *Oregon Project* appropriate for LMAs?
- e. Were they designed for this purpose?

XXIV. I have the necessary tools to complete a LMA for _____.

- a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree. A small black rectangle spans the following range of score: 4.00-4.22.

XXV. Quotes about Tools

- a. "I feel there are more formal tools for more academic students. For students with more complex needs I am constantly adapting other tools or trying to find a better tool."
- b. "I tend to follow a commercially produced LMA for academic students and an informal checklist or narrative description for students with complex needs."
- c. "We need picture literacy assessments and teaching materials for students who function at early levels or who have a high degree of CVI."
- d. "[For learners with complex needs] I usually insist that our team do a *Communication Matrix* and/or *TSBVI Basic Skills* assessments on children functioning at that level."

XXVI. We Have to Ask

- a. TSVI'S reported using tools (like the *CVI Range*, *LMA*, *Oregon Project*, and *FVLMA*) when completing assessment on learners with complex needs but also indicated a need for a screener/checklist that would give a more concrete starting point for more in depth analysis in specific areas that would benefit the child and help develop more accurate programming.
- b. What tool do you think would meet this need?

XXVII. What steps are included in your LMA process?

XXVIII. Testing Parameters

- a. Time
 - i. Academic Students: Braille Readers: 2-3 Hours
 - ii. Academic Students: Print Readers: 1-2 Hours
 - iii. Learners with Complex Needs: 1-3 Hours
 - iv. Young Children: 1-2 Hours
- b. Sessions
 - i. Academic Students: Braille Readers: 3
 - ii. Academic Students: Print Readers: 2
 - iii. Learners with Complex Needs: 3
 - iv. Young Children: Variable

XXIX. Accommodations Provided

- a. Young Children (n=14)
 - i. Preferred Lighting = 79%
 - ii. High Contrast = 79%
 - iii. Enlarged Font = 43%
 - iv. Slant Board = 57%
 - v. Preferred Viewing = 57%
- b. Academic Students (n=44)
 - i. Preferred Lighting = 75%
 - ii. High Contrast = 70%
 - iii. Enlarged Font = 75%
 - iv. Slant Board = 68%
 - v. Preferred Viewing = 61%
- c. Learners with Complex Needs (n=21)
 - i. Preferred Lighting = 71%
 - ii. High Contrast = 71%
 - iii. Enlarged Font = 71%
 - iv. Slant Board = 67%
 - v. Preferred Viewing = 67%

XXX. Key Considerations for Young Children

- a. The majority of observations were in the home or daycare.
- b. Most often, the TSVI collaborated with the family, early interventionists, and/or related service providers during the LMA process.
- c. During the LMA process 71% of the TSVIS used braille, 57% used print, and 50% used audiobooks.
- d. Half of the TSVIs reported that they used mobile apps during the LMA process.

XXXI. Key Considerations for Academic Students

- a. The majority of observations were in general education and special education classrooms.
- b. Most often, the TSVI collaborated with the general education teacher and the family during the LMA process.
- c. During the LMA process 39% of TSVIS used braille, 71% used print, and 41% used audiobooks.
- d. Half of the TSVIs reported that they used mobile apps during the LMA process.

- XXXII. It is important to conduct LMAs on students with little to no usable vision, including those who are already learning braille.
- a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree. A small black rectangle spans the following range of score: 4.03-4.54

XXXIII. Common Skills Assessed for Academic Students

- a. Braille Readers
 - i. Sensory Channels = 66%
 - ii. Listening Comprehension = 62%
 - iii. Reading Speed = 64%
 - iv. Reading Comprehension = 61%
 - v. Reading Level = 59%
 - vi. Reading Stamina = 48%
 - vii. Symbol Decoding = 66%
 - viii. Handwriting = 18%
 - ix. Keyboarding = 50%
- b. Print Readers
 - i. Sensory Channels = 41%
 - ii. Listening Comprehension = 64%
 - iii. Reading Speed = 77%
 - iv. Reading Comprehension = 70%
 - v. Reading Level = 70%
 - vi. Reading Stamina = 59%
 - vii. Symbol Decoding = 36%
 - viii. Handwriting = 66%
 - ix. Keyboarding = 57%

XXXIV. Key Considerations for Learners with Complex Needs

- a. The majority of observations were in the special education classroom, during mealtime, or at recess.
- b. Most often, the TSVI collaborated with the family, the paraprofessional, and the special education teacher during the LMA process.
- c. During the LMA process 36% of TSVIS used braille, 60% used print, and 43% used audiobooks.
- d. Two-thirds of the TSVIs reported that they used mobile apps during the LMA process.

XXXV. Quotes about the LMA Process

- a. "For infants and toddlers, I look more at sensory channels used for learning overall developmental skills. "
- b. "Complex needs students typically are NOT assessed with media and instead are observed in several environments and doing various tasks. "
- c. "The media, time and access vary greatly. I do not consider reading fluency in complex needs students as mine are non verbal but I do assess listening comprehension."
- d. "I generally do not use print or braille with complex students. I use objects, adapted materials and a variety of light sources with complex students"
- e. "I am concerned that LMAs are not conducted as often for students with complex needs."

XXXVI. We Have to Ask

- a. What specialized media do you use when conducting LMAs on young children or learners with complex needs?

XXXVII. Specialized Media Used

- a. Young Children (n=14)
 - i. Personalized Photos = 57%
 - ii. Commercial Photos = 57%
 - iii. Picture Symbols = 79%
 - iv. Tactile Symbols = 64%
 - v. Adapted Electronic Books = 64%
 - vi. Adapted Tactile Books = 43%
 - vii. AAC Devices = 36%
 - viii. Computer Access Devices = 29%
- b. Learners with Complex Needs (n=21)
 - i. Personalized Photos = 52%
 - ii. Commercial Photos = 38%
 - iii. Picture Symbols = 71%
 - iv. Tactile Symbols = 57%
 - v. Adapted Electronic Books = 48%
 - vi. Adapted Tactile Books = 0%
 - vii. AAC Devices = 57%
 - viii. Computer Access Devices = 33%

XXXVIII. How do you use the LMA information in providing services to students with visual impairments?

XXXIX. I feel confident in my ability to collect, interpret, and report data from LMAs I conduct with students with _____.

a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree. A small black rectangle spans the following range of score: 4.08-4.41.

XL. I believe data gathered through the LMA is valuable to me as I plan for student intervention/instruction.

a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree. A small black rectangle spans the following range of score: 4.46-4.72.

XLI. The LMA gives me information I need to determine if a print reader is a candidate for braille instruction.

a. Picture Description: An arrow depicting the following Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree. A small black rectangle spans the following range of score: 4.00-4.59.

XLII. LMA Data Reporting for Young Children

- a. Reports tended to include interviews with caregivers (86%) and educational staff (64%).
- b. Student abilities most reported included Sensory Channels (93%) and Learning Modalities (79%).
- c. Instructional services were most often recommended to address students' tactile discrimination skills (64%).
- d. Data was most often used for transition planning (86%), instruction (79%), and modifications (79%).

XLIII. LMA Data Reporting for Academic Students

- a. Reports tend to include interviews with educational staff (66%) and students (61%).
- b. Students' abilities most reported include Literacy Media (73%) and Sensory Channels (68%).
- c. Instructional recommendations most often revolve around determining the appropriateness of braille (57%).
- d. Data is most often used for IEP development (73%), testing adaptations (70%), and determining the need for braille (70%).

XLIV. LMA Data Reporting for Learners with Complex Needs

- a. Reports tended to include interviews with caregivers (57%) and educational staff (52%).
- b. Students' abilities most reported included Sensory Channels (71%), Literacy Media, (71%), and Learning Modalities (71%).
- c. Recommendations typically included Sensory Channels (67%) and Literacy Media and Tools (62%).
- d. Instructional recommendations most often revolved around determining the appropriateness of braille (67%) and the use of non-optical aids (67%).
- e. Data was most often used for instruction (62%).

XLV. We Have to Ask

- a. How do you decide what to highlight in the recommendations in your LMA report?
- b. Where do you come up with your recommendation for the LMA report?

XLVI. LMA Data Sharing

- a. Young Children (n=14)
 - i. Families = 93%
 - ii. Related Services = 78%
 - iii. Educators = 57%
 - iv. Paraprofessionals = 50%
- b. Academic Students (n=44)
 - i. Families = 64%
 - ii. Related Services = 61%
 - iii. Educators = 64%
 - iv. Paraprofessionals = 57%

- c. Learners with Complex Needs (n=21)
 - i. Families = 57%
 - ii. Related Services = 57%
 - iii. Educators = 57%
 - iv. Paraprofessionals = 57%

XLVII. Quotes about Implementation

- a. "It is sometimes difficult to get others to understand and respect the LMA process. It is also difficult to get others to implement and follow-through with recommendations."
- b. "[The LMA is] essential to drive decisions related to accommodations and goal setting. In addition to drive amount and frequency of service."
- c. "No one reads the report after it is completed or ever references it again after the initial presentation at the IEP."
- d. "LMAs are often glossed over, with the TVI just reporting primary as visual and secondary as auditory and the student reads print, or large print, but with clearly very little thought or data behind this."

XLVIII. Take Away Messages for Assessing Young Children

- a. TSVIs primarily looked at the way children used their senses and took in information.
- b. In the LMA process TSVIs collaborated most often with family members, related service providers, and early intervention providers.
- c. When assessing young children, TSVIs used mobile apps half of the time and real objects that were sensory appealing.

XLIX. Take Away Messages for Assessing Academic Students

- a. The published tools for the LMA process are being used with academic students, however, the NRMA was used for small numbers.
- b. Results of the LMA process were used for IEPs, braille determination, and test accommodations.
- c. TSVIs are confident that their LMA results accurately represent students' abilities and that their recommendations for literacy media and learning tools.

- L. Take Away Messages for Assessing Learners with Complex Needs
 - a. LMAs for this population are very individualized and generally take longer to complete.
 - b. Other areas of consideration during an LMA included overall fatigue, fine and gross motor skills, the 7 senses, self-stimulatory behaviors, and sensory hypersensitivities.
 - c. An assistive technology assessment should be included as part of the LMA process.
 - d. There is a need for picture-based literacy assessments and teaching materials for students who function at early developmental stages or have a high degree of cortical visual impairment.

- LI. Take Away Messages About Tools Used in the LMA Process
 - a. The FVLMA (Sanford & Burnett, 2012) was most often used with learners who have complex needs and rarely used with young children.
 - b. The LMA (Koenig & Holbrook, 1995) was used by 3 out of 4 TSVIs assessing academic students or learners with complex needs.
 - c. The NRMA (n.d.) was rarely used with academic students or young children and was not used with learners with complex needs.
 - d. 6 out of 10 TSVIs assessing young children or academic students created their own forms or adapted pre-existing forms.

- LII. Limitations
 - a. The sample was a convenience sample clustered around researchers with high participation from KY & NM.
 - b. Data was based on self-report & participants had strong confidence in their ability to conduct LMAs.
 - c. Practices were reported for only one population of students from a list of 3 groups.
 - d. There were inconsistencies in wording of some questions between the three groups.
 - e. We did not clearly delineate between literacy media and learning tools. Thus, some TSVIs may have considered learning tools as literacy media and literacy media as learning tools.

LIII. What We Still Need to Know?

- a. Will having a screening tool for the LMA lead to more younger children and those with complex needs having a high-quality LMA?
- b. How do TSVIs choose which information to include in the recommendations and are the recommendations based on students' current functioning?
- c. Why was the NRMA being used by only a few TSVIs in this study?
- d. What else is needed to make the LMA process more efficient and effective?
- e. What is the connection between the literacy media decision and the tools recommended for student use?

LIV. Questions or Comments

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- d. Loana Mason: loanam@nmsu.edu
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Learning Media Assessment Resources:

Burnett, R. & Sanford, L. (2008). *Functional vision and learning media assessment*. Louisville, KY: American Printing House for the Blind. [Referred to as *FVLMA* in the presentation.]

Koenig, A.J. & Holbrook, M. C. (1995). *Learning media assessment of students with visual impairments: A resource guide for teachers* (2nd ed.). Austin, TX: Texas School for the Blind and Visually Impaired. [Referred to as *LMA* in the presentation.]

National Federation of the Blind. (n.d.). *National reading media assessment*. Retrieved from: <http://www.nfbrma.org>. [Referred to as *NRMA* in the presentation.]

(One has to create an account to access the tool.)

Supporting Instruments

Anderson, S., Boigon, S, Davis, C. & deWaard, C. (2007). *Oregon Project for Preschool Children who are Blind or Visually Impaired* (6th ed.). Medford, OR: Southern Oregon Education Service District. [Referred to as the *Oregon Project* in the presentation.]

Levack, N., Hauser, S., Newton, L., & Stephenson, P. (Eds.). (1996). *Basic skills for community living: A curriculum for students with visual impairments and multiple disabilities*. Austin TX: Texas School for the Blind and Visually Impaired. [Referred to as the *TSBVI Basic Skills Curriculum* in the presentation.]

Roman-Lantzy, C. (2007). *Cortical visual impairment: An approach to assessment and intervention*. New York, NY: AFB Press [Referred to as the *CVI Range* in the presentation.]

Rowland, C. (2004). *The communication matrix*. Retrieved from: <https://www.designtolearn.com/> [Referred to as the *Communication Matrix* in the presentation.]

Sewell, D., (2007). *EVALS: Evaluating visually impaired students using alternate learning standards emphasizing the expanded core curriculum*, Austin, TX: Texas School for the Blind and Visually Impaired. [Referred to as *EVALS* in the presentation]

Reading Inventories in Accessible Format

Johns, J., Elish-Piper, L., & Johns, B. (2017). *Basic Reading Inventory: Kindergarten Through Grade Twelve and Early Literacy Assessment* (12th ed.). Dubuque, IA: Kendall Hunt Publishing Company.

*Available in the 10th edition (2010) from American Printing House for the Blind or Texas School for the Blind and Visually Impaired (braille and large print student materials)

Additional Reading Inventories

Houghton Mifflin Harcourt Reading Inventory: Retrieved from:
<https://www.hmhco.com/programs/reading-inventory>

Leslie, L. & Caldwell, J. S. (2017). *Qualitative reading inventory-6* (6th ed.). San Francisco CA: Pearson

Morris, D. (2015). *Morris informal reading inventory: Preprimer through grade 8*. New York, NY: The Guilford Press

Roe, B. & Burns, P.C. (2011). *Informal reading inventory: Preprimer to twelfth grade* (8th ed.). Belmont, CA: Wadsworth

Sewell, D. (1997). *Assessment kit: Kit of informal tools for academic students with visual impairments*. Austin, TX: Texas School for the Blind and Visually Impaired.

Critique of Popular Reading Inventories (from 2008)

International Reading Association (2008). *A critical analysis of eight informal reading inventories*. Retrieved from: <http://www.readingrockets.org/article/critical-analysis-eight-informal-reading-inventories>