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Tracy Hallak
Stephen F Austin State University

Luis E. Aguerrevere
Stephen F Austin State University, aguerrevle@sfasu.edu

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Evaluating the Validity of Texas 2 STEPS

Tracy L. Hallak and Luis E. Aguerrevere

The Texas 2 STEPS Evaluation Tool was assessed for face validity. Thirty Certified Orientation and Mobility Specialists (COMS) piloted the tool while evaluating children under the age of five years. Each participant was asked to evaluate their comfort level working with this population and report the number of years' experience they have working as a COMS. The majority of participants found the tool useful for assessing orientation and mobility (O&M) skills in children. The Texas 2 STEPS was also found to be user friendly regardless of the COMS years of experience. Together these findings indicate that the Texas 2 STEPS has the potential to be a valid and reliable tool for assessing O&M skills in children with vision impairment.

Orientation and mobility begins at birth. In typically developing children, sensory motor functioning: muscle tone, reflexes, and reactions are the foundational skills for gross and fine motor skills, posture, balance, and gait. However, many children with vision impairment are delayed at the very early stages of sensory motor development (Rosen, 2010). While early intervention services are more universally understood to be a major contributor for any child with a disability (Pogrund, 2002) few norm referenced assessment instruments have been developed specifically for assessing orientation and mobility (O&M) skills in children with vision impairment (Bina, Naimy, Fazzi, & Crouse, 2010, p. 424).

The Texas 2 STEPS Successfully Teaching Early Purposeful Skills Evaluation Tool (Brown et al., 2014) was designed to be a guide to practitioners in assessing developmentally appropriate O&M skills of children between birth and five-years of age. The Texas 2 STEPS Evaluation Tool was developed according to the standards set by Smith and Hill (1990), by

professionals in the field of vision impairment, both COMS and Teachers of Students with Visual Impairments (TVI) from across Texas.

During the development of the Texas 2 STEPS, 16 evaluations and one developmental resource were disaggregated and discussed for their relevance to O&M skills. Eight of the protocols were designed for the assessment of students with vision and/or multiple impairments. Though all skills in the evaluated assessments were considered important by the developers, they were not all considered essential skills necessary for evaluation specifically related to O&M. Gross motor skills and concept development comprise the majority of skills in Texas 2 STEPS. Fine motor, expressive and receptive language, and cognition were included to the extent in which they were determined to directly impact O&M skills and would be appropriate for instruction by an O&M specialist. In addition, age ranges for each skill area were taken into consideration and compared. The Texas 2 STEPS is divided into two domains: mobility skills and orientation skills. These domains are subdivided into 17 mobility skill areas and 10 orientation skill areas identified as the categories to be evaluated using Texas 2 STEPS.

The purpose of the current study was to determine whether or not professionals in the field of visual impairment believed that the Texas 2 STEPS Evaluation Tool is a useful measure of O&M skills for children with vision impairment. Results of this investigation will serve as a first step in testing a valid measure of O&M in children birth through five years and children with vision and multiple impairments. Results will also be used to drive revision in the evaluation tool.

METHOD

Participants

During the presentations at Texas Association for Education and Rehabilitation of Blind and Visually Impaired (TXAER) Conference (March 2014) and Association for Education and Rehabilitation of Blind and Visually Impaired (AER) International Conference (July 2014), COMS were asked to volunteer to pilot the Texas 2 STEPS Evaluation Tool. Twenty Texas Educational Service Centers (ESC) sent information to COMS in their regions requesting volunteers. Individuals were solicited using the American Foundation for the Blind (AFB) Directory of Services for each state. Individual universities with COMS programs were sent information regarding the Texas 2 STEPS Evaluation Tool that required distribution to the COMS.

A total of 83 COMS volunteered to participate in the pilot study and were contacted by email. Document packets were sent to 83 volunteers. Participants were asked to complete a 10-question survey regarding the evaluation tool, including their comfort using the tool and the overall usability of the tool. In addition, participants were asked to provide information about their experience in the field and conduct a self-evaluation on their comfort level working with children aged from birth through to five years, and with children with multiple and vision impairments (Table 1).

Table 1. Texas 2 STEPS: Evaluation pilot feedback.

1. Average amount of total time spent on each evaluation. _____	
2. Were all of the concepts in orientation and mobility for early intervention included in this evaluation? Other suggestions _____	Yes No
3. Did the evaluation cover a sufficient range of skills in all concept areas of need? Other suggestions _____	Yes No
4. Was Texas 2 S.T.E.P.S. Evaluation 'user friendly'?	Yes No
5. Strengths:	
6. Weaknesses:	
7. Additional suggestions:	
8. Is this an assessment that you would use again? Why or why not?	Yes No
9. Would you like training on the use of this assessment?	Yes No
10. Overall rating of Texas 2 S.T.E.P.S. Evaluation Tool	Low 1 2 3 4 5 High

COMS Evaluation Information

Name: _____

Number of years as a COMS _____

State of employment _____

Number of years of experience working with children birth to 6 years of age _____

How many individuals did you assess using this Texas 2 S.T.E.P.S Pilot? _____

Comfort level working with infants Low 1 2 3 4 5 High

Comfort level working with students with MIVI Low 1 2 3 4 5 High

Comfort level using this assessment Low 1 2 3 4 5 High

RESULTS

Out of the 83 participants, surveys were returned by 32 participants who piloted the Texas 2 STEPS Evaluation. Moreover, two participants were dropped from the study as

they did not answer enough questions to enable analyses; totalling 30 participants. For this final sample, on average, participants completed 2.27 ($SD=1.7$) evaluations and these evaluations were completed on an average of 1.6 hours ($SD=0.62$). Most were located in Texas ($n=17$; 56.7%) and had an average years of experience of 10.76 years ($SD=8.0$). The majority of participants had graduated from an O&M program ($n=22$; 73.3%) and 29 participants (96.7%) reported that they were currently working on a range of O&M programs. Almost half of the participants (46.9%) reported high comfort level working with individuals with vision impairment who also had multiple disabilities.

Table 2. Strengths and weaknesses of the Texas 2 STEPS.

Strengths	<i>Information on Age/Grouping</i>	<i>Use of Tool/Resources</i>	<i>Improvements/Enhancements</i>
Information on Age/Grouping			
Age in months ($n=7$)*	Easy to use ($n=0$)		Skills not previously been considered
Skills in months ($n=2$)	Ease of evaluation ($n=2$)		Physical Therapists impressed
Chronological order	Ability to look at each concept		Items not previously known
Developmental order	Liked formatting ($n=13$)		Only tool for this age group
Age equivalents identified	Instructions for evaluation ($n=5$)		Effective for tracking progress
Concepts in developmental sequence	Easy to use to evaluate MDVI		Useful because training did not cover this material
	Good for comprehensive exams		Ability to see where child aligns
	Simple areas of strength and weakness		Effective for goal writing
	Glossary ($n=4$)		The tool provided good references for the evaluator
	Appendix ($n=4$)		
Weaknesses			
Information on Age/Grouping			
Not sufficient for MDVI**	Needs 'not observed or age appropriate'		Difficulties/Hindrances
Early development is for OT/PT	Some items ambiguous ($n=3$)		Long but necessary
	Needs matrix/scale ($n=4$)		Impractical to find all positions
	No scores for verbal/physical development		Finding time
	Needs functional vision evaluation		Finding the environment
	Needs 'not observed or age appropriate'		Needs guidelines for qualification for services
	Some items ambiguous ($n=3$)		Unsure how to use all of the information
	Needs matrix/scale ($n=4$)		
	No scores for verbal/physical development		
	Needs functional vision evaluation		

($n=x$) is the number of participants with the same comments

MDVI=multiply disabled & visually impaired

Participants reported that the Texas 2 STEPS was user friendly ($n=28$; 93.3%). The vast majority of participants ($n=22$; 73.3%) reported that the Texas 2 STEPS was helpful in identifying areas of need because it was easy to use, had clear instructions, included many skill areas, included basic concept development, and tracked progress. Almost all participants (96.7%) reported that they would use it again. On a scale of 1 (not useful) to 5 (useful), 26 (86.7%) participants reported the Texas 2 STEPS to be useful or very useful ($X^2 = 17.1$, $p < .001$). However, weaknesses of the tool were noted by some respondents. Participants indicated that the layout should be improved by reorganising the sections and reducing the increments of each skills level. Table 2 shows qualitative descriptions of strengths and weaknesses of the tool.

DISCUSSION

Results of the study indicated that the majority of participants found the Texas 2 STEPS to be a useful tool for assessing O&M skills in children from birth to five years of age. Specifically, the majority of participants responded that the Texas 2 STEPS provided information that was useful for determining areas of strengths and weaknesses of the child's development as they related to O&M. The participants also reported that the Texas 2 STEPS identified skills by age in months and years. Additionally, participants believed that the tool was useful for determining goals and tracking progress.

While the majority of participants believed that the tool was useful, a few participants indicated weaknesses. For example, two participants commented that early intervention, and more specifically, early motor development, is an area that should be more appropriately addressed by physical therapists (PTs) rather than O&M professionals. Although it is true that the role of the PT is to provide therapeutic instruction in movement and restore function, the purpose of the Texas 2 STEPS is to measure O&M as it relates to vision impairment and blindness, an area in which PTs are not necessarily competent. Hence, future revisions of the Texas 2 STEPS should clarify that the tool is designed for O&Ms working with children with vision impairment.

Two participants found that some descriptions of desired behaviours were unclear though the specific behaviours were not indicated. In addition, some participants requested that there be a graph for charting the evaluation and progress. A companion tool should be considered, and feedback taken into consideration.

This study has several limitations. For example, it enlisted participants who were certified by Academy for the Certification of Vision Rehabilitation and Education Professionals (ACVREP). Not all states or agencies require that OMs be certified. The Texas 2 STEPS

was developed by experienced specialists in vision impairment. It might be implied from the results that both certified and non-certified OMSs are likely to benefit from the use of Texas 2 STEPS as a tool for assessing and program planning for children with vision impairments under the age of five.

Further validity assessment of the tool is required using a larger pool of participants. Additionally, an accompanying curriculum should be developed and used with the tool.

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Tracy L. Hallak, M.Ed., TVI/COMS Instructor, Stephen F. Austin State University, Nacogdoches, TS, 75962-3019, USA; email: <hallaktracy@gmail.com>. **Luis E. Aguerrevere, Ph.D., Assistant Professor, Psychology**, Stephen F. Austin State University, Nacogdoches, TS, 75962-3019, USA; email: <aguerrereve@sfasu.edu>.