Learning Braille, Learning to Use Vision : Research Paper Reference Database

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Abstract

Low vision and Blindness is a low incidence disability, which means individuals with VI, Visual Impairment, are a small group in proportion to the number of individuals that are served through special education services, and the number of TVI, Teachers of the Visually Impaired, are a small group that gain knowledge from this research paper and the database of references included. These references include information on low vision and blindness, a research on CVI, Cortical Visual Impairment, along with other factors of health and vision. Being low incidence, brings with the low numbers the potential for isolation and misunderstanding; this might explain the difficulty that TVIs encounter with unwieldy demands placed within a timeframe that risks underserving the underserved. Differing points of view include different approaches to research. Analysis on the points made, the weak points, and how to generalize the reviewed research can help TVIs properly quantify the time that TVIs should spend with students that are learning to use their vision, such as students with CVI, and how to prioritize other tasks such as teaching Braille. Stakeholders in this field can improve their practice with this data.

The Study in Question, and the Research

As we set the stage for this discussion, we can consider this: TVIs are teachers that usually work as itinerant teachers, in a variety of settings, the accidental tourist with a specialty within Special Education serving diverse students, from the braille-using college bound student, to the super-senior using magnifying devices and large print, to infants and high school students functioning at three years or younger still learning how to use their vision to function in life-skills. The work of the TVI is misunderstood to the extent that the caseload may be over 90 students, or 40 students, or 4 students in the SDC for the blind; the latter environment being a rare find that, in recent history, the VI classroom does not last long, and closes, once students age out. What different types of strategies do the TVIs use to prioritize instruction for their caseload minutes? How much time is given in the supports that TVIs provide for students with CVI, Cortical Visual Impairment, as compared to students with LP, Large Print needs, and braille needs? This study and this topic are vital for discussion because parents of students with CVI share their concern about the low number of minutes assigned to life-skills CVI as compared to the high number of minutes dedicated to braille preparation and instruction (Richert, 2018).

The rationale for the topic is twofold, as there is a need for this information to come together and build a case for TVI scheduling and caseload standardization, and there is a tenable approach to gathering this information through digital Input and access. My research topic overall is identifying the help for student with CVI to increase their response to visual targets and prompts. This topic includes a discussion on the roles for the TVI in support of students with CVU, and the role of the TVI in supporting the students without or without CVI with materials and instruction in LP and braille. Insights would build on the impact of promised improvements (Smith & Kelley, 2007) in university faculty towards AT instruction for TVIs.

My research includes a digital format for the survey questions, using a community of TVIs online such as listserv Braille and Teach, or BnT. Other sources to recruit participants include TVIs that are members in other sites or events such as TVI trainings and conferences. This digital survey format facilitates data gathering. The format however is considered self-reporting, with no way to verify all the data submitted. Overall this would be considered a Mixed-Method Research including a Likert Scale and essay responses to open-ended questions.

Bosman, A., Gompel, M., Vervloed, M., & van Bon., W. (2006). Low vision affects the reading

process quantitatively but not qualitatively. *The Journal of Special Education*, 208-219.

Reading behavior of students with low vision compared to the reading behavior of two other groups of students with normal vision that match reading levels – reading match, or match age level – age match, in Netherlands; children with low vision were prone to making substitution errors, children with normal vision were prone to making mispronunciation errors, and overall comprehension for students with low vision did not deviate significantly from reading comprehension demonstrated by peers with normal vision.

Cohen-Maitre, S., & Haerich, P. (2005). Visual attention to movement and color in children with

cortical visual impairment. *Journal of Visual Impairment & Blindness*, 389-403.

Sixty-minute long sessions investigating the use of color and motion to start and maintain visual

attention in children with CVI to promote visual learning; a narrowly defined hypothesis and

breaks for visual fatigue in a windowless room to control variable, but no control group. The

task of improving the visual function for visual learning requires time and carefully selected

visual targets; the limit to the data was a relative weakness.

El-Maksoud, G., Gharib, N., & Diab, R. (2016). Visual-based training program for motor

functions in cerebral palsied children with cortical visual impairment. *International

Journal of Therapies and Rehabilitation Research*, 265-277.

Research supports the development and use of Multi-Sensory Environments, MSEs, as a setting

for developing motor functions in cerebral palsied children with CVI; research included a control

group, skills improved in occupational therapy, physical therapy, gross motor skills, and fine

motor skills.

Ely, M., & Ostrosky, M. (2017). Survey results for training and resource needs cited by early

intervention professionals in the field of visual impairment. *Journal of Visual Impairment*

& Blindness, 111(6).

Research as a survey, limiting the data to state-defined criteria for TVIs; TVIs providing services

to children in Early Childhood, EIVIs according to IDEA part C, suggest through the survey

results that current training VI programs may not adequately prepare the TVI for EIVI level

services, with a resulting knowledge gap, and a description of the methods of professional

development to meet that gap.

Gordon-Salant, S., & Friedman, S. (2011). Recognition of rapid speech by blind and sighted older adults. *Journal of Speech, Language, and Hearing Research*, 622-631.

Three listener groups listened to low-predictability sentences at higher rate of speed; groups included older blind adults, older sighted adults; superior ability among older adults compared to sighted older adults, with implication for advancing training in listening to rapid speech.

Kaiser, J., & Herzberg, T. (2017). Procedures and tools used by teachers when completing

functional vision assessments with children with visual impairments. *Journal of Visual

Impairment & Blindness*, 441-452.

Survey responses, analyzed data; skills and abilities as part of FVA report evaluation process,

number of evaluations conducted in a typical year, amount of time required to write an FVA –

Functional Vision Assessment, recommendations for low vision screening at a clinic, and types

of recommendations made in the report.

Koenig, A., & Holbrook, M. (2000). *Foundations of education second edition: Volume II instructional strategies for teaching children and youths with visual impairments.* New York, pp 313-320: AFB Press.

Contains information about supporting, assessing, and teaching students with low vision and blindness with technology, lesson plans, and the ECC, Expanded Core Curriculum.

Pierre-Michel, B., Chua, R., Franks, I., & Khan, M. A. (2006). Determinants of offline

processing of visual information for the control of reaching movements. *Journal of Motor*

Behavior, 331-338.

Aiming and targeted digital mouse movement performed by adult volunteers wearing goggles

which could easily be turned on or off, offline processing being measured; movements were

more accurate with same-time feedback, whereas delayed visual feedback needed more time to

reach for the target, supporting how visual feedback can be used effectively in an offline manner.

Pogrund, R., & Cowan, C. (2013). Perceptions of a statewide mentor program for new itinerant

vision professionals. *Journal of Visual Impairment & Blindness (online)*, 351.

Research on the stressors on new TVIs, time management, organization, Functional Vision

Assessments, collaboration; a model to further prepare personnel in areas of concern.

Roman-Lantzy, C., & Lantzy, A. (2010, October). Outcomes and opportunities: A study of

children with cortical visual impairment. *Journal of Visual Impairment & Blindness; 104,*

10; ProQuest Education Journals, pp. 649-653.

An evaluation project at Western Pennsylvania Hospital in Pittsburgh, Pediatric View, in the

medical histories and common aspects of infants, children, and adults with CVI; measurable

improvement using the CVI Range as an instrument to measure characteristic behaviors, color

preference, attending to motion, light-gazing, difficulty with objects that are new, turning eyes

away while reaching for an object.

Smith, D., & Kelley, P. (2007). *A survey of assistive technology and teacher preparation*

programs for individuals with visual impairments. Retrieved from Journal of Visual

Impairment & Blindness, 101(7), 429-433: on December 20,2019 from

http://ezproxy.nu.edu/login?url=http://search.proquest.com/docview/222042771?

accountid=25320

A survey of university faculty members that instruct teachers of students with Visual
Impairments in the AT Assistive Technology covered in their program, and perceived levels of
proficiency in AT; results showed a differences in the teaching levels of accessibility devices, a
need for AT standards within the field, and raised questions about faculty teaching progeny
strategies as opposed to just how to use specific items.

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