Early Intervention in Special Education and Rehabilitation

Beograd 2016.

Early Intervention in Special Education and Rehabilitation

THEMATIC COLLECTION OF INTERNATIONAL IMPORTANCE

Belgrade, 2016

Early Intervention in Special Education and Rehabilitation
Thematic Collection of International Importance

Publisher
University of Belgrade – Faculty of Special Education and Rehabilitation
Publishing Center of the Faculty

For publisher
PhD Snežana Nikolić, Dean

Processing and printing
Planeta print, Belgrade

Cover design
Boris Petrović, MA

Technical Editor
Biljana Krasić

Circulation 150

ISBN 978-86-6203-086-3

By decision no. 3/9 from March, 8th 2008. The Teaching and Research Council of the University of Belgrade – Faculty of Special Education and Rehabilitation initiated Edition: Monographs and papers.

By decision no. 3/122 from August, 30th 2016. The Teaching and Research Council of the University of Belgrade – Faculty of Special Education and Rehabilitation has given approval for the printing of Thematic Collection "Early Intervention in Special Education and Rehabilitation".

ROLE OF EARLY INTERVENTION IN ACQUISITION OF PRE-READING SKILLS OF CHILDREN WITH VISUAL IMPAIRMENT

Aleksandra Grbović & Sanja Dimoski

University of Belgrade – Faculty of Special Education and Rehabilitation, Serbia

SUMMARY

Emergent literacy consists of the skills, knowledge, and attitudes toward literacy, that are developmental precursors to reading and writing. We could consider emergent literacy a foundation of literacy, or set of pre-reading skills, that a child gains from birth until formal instruction in reading and writing. Pre-reading skills represent the basic knowledge about literacy, which includes general knowledge and concepts, language skills and perceptual-motor skills. Typically developed children learn these skills naturally, during the childhood, from birth until the beginning of formal instruction in reading and writing, at home and from the environment.

Children with visual impairment (both blind and low vision) cannot attain pre-reading skills without instruction. Visual impairment limits a child's incidental learning and decreases opportunities for gaining access to experiences. Infants and toddlers with visual impairments require lots of interactions and early life experience that supports their oral language development, perceptual-motor development, awareness of print or Braille and opportunities to explore writing.

Pre-reading activities for visually impaired children need to be organized within early intervention. Professional support and structured activities play a key role in facilitating interactions of visually impaired children with the environment and directly providing them with different experiences. The support must be directed towards gaining meaningful language, literacy concepts and perceptual-motor skills that directly enable acquisition of literacy, either print or Braille.

Early structured intervention and a team approach, with the aim of supporting pre-reading activities, can be important predictor of successful reading competence of blind or low vision child later in the school.

Key words: pre-reading skills, children with visual impairment, early literacy, role of early intervention

INTRODUCTION

Reading intervention aiming improve academic outcomes of visually impaired children has been of considerable interest to educators and researchers the last few years. From a developmental perspective, early precursors have a particular value in understanding how early interventions can provide the foundation for future success in literacy. Literacy development is much broader than reading and writing, and can be supported with a wide range of activities.

Children start to learn language from the day they are born. As they grow, their language skills become more complex. They learn to use language to communicate with others, and to express their ideas, thoughts and feelings. During this process, children learn skills that are important to the development of literacy. This developmental

process, whereby children acquire the foundation for reading and writing, is known as emergent literacy. Whitehurst and Lonigan (1998), propose that emergent literacy consists of two sets of skills and processes. The first domain refers to children's knowledge of the contexts (i.e., the meanings of words, concepts about the world, how narratives are structured) in which reading and writing exist. This domain consist knowledge about the conventions of print, emergent reading (pretending to read), narrative knowledge and language (vocabulary). The second domain refers to children's understanding of the rules (i.e., that letters form words, that letters represent sounds, that punctuation marks carry meaning) of translating print into sounds or sounds into print. This domain consists of alphabetic knowledge, letter-sound knowledge, emergent writing (pretending to write) and phonological awareness (metalinguistic skills). Other important factors include short-term memory for phonologically coded information, rapid naming (ability to quickly say aloud a list of letters, numbers, or colours), and interest in reading and writing. Emergent literacy is influenced by environmental factors, or the contexts of children's lives, like socio-economic status of the family or education and parental vocabulary. Whitehurst and Lonigan (1998), emphasize the importance of the home literacy environment, particularly language development, conventions and intentionality of print, and print motivation.

Early interventionists should carefully consider impact of visual impairment on skills and knowledge under domain of emergent literacy and develop strategies and interventions to facilitate pre-reading skills for blind and low vision children. Through the support of parents, caregivers, and educators, a blind or child with low vision can successfully progress from emergent to conventional reading. But, emergent literacy instruction is most beneficial when it begins early in life of child, because difficulties are persistent and often affect children's overall development. Focus need to be on the development of the six key components of pre-reading skills:

- oral language (listening comprehension and vocabulary development in particular)
- phonological awareness
- concept development
- knowledge of the conventions of print/braille and print/braille intentionality
- alphabetic knowledge
- rich literacy environments.

Reaching a certain level of literacy for blind and low vision children is a unique and long process.To facilitate emergent literacy and pre-reading skills in children with visual impairments, early interventionists should provide collaborative, family-centered support that is developmentally appropriate and evidence-based practices, that result in development pre-reading skills before they starting to formal instruction of reading and writing.

The role of early experiences in acquisition of literacy

From the birth, babies are actively learning through the predictability of visual, auditory, and social-emotional experiences with parents or other caregivers (Ramey & Ramey, 2004). During childhood, children spontaneously acquire general knowledge

about the world that surrounds them, simply by observing. They learn names of objects, phenomena and living beings which they encounter daily, and gain a rich vocabulary based on many experiences with actions and objects. Around the age of four, children will start to know the relation between verbal speech and written symbols, and become aware of writing as a mean of communication between people. During this period children gain basic knowledge about reading (direction from left to right, titles etc.). They become aware of phonological segments of speech and learn about grapheme-phoneme correspondence (Kolić Vehovec, 2013).

Unlike typically developed babies, infants with visual impairment have difficulties gathering and interpreting information surrounding them. During early childhood, blind infants cannot understand emotions, they do not respond to stimulae with social smile and they are not interested in behavior of people. Toddlers with visual impairment are limited in experience, and spontaneously gaining knowledge is difficult. The consequencesof such behaviourare insufficient practical and general knowledge and lack of developmental acquisition of concepts. Due to low level of basic knowledge and skills, children with visual impairment are more likely to lack school readiness and have problems in acquiring academic knowledge. Providing visually impaired children with effective learning opportunities in important areas of literacy, starting form the early stage of development, could prevent school failure and improve academic achievement later on (Ramey & Ramey, 2004).

Role of perceptive and motor skills in the acquisition of literacy

Perception skills are actively involved in processes of locating, selecting, extracting, analyzing, recalling and manipulating relevant information from the environment. Visual, auditory and tactile perception provides basic knowledge and gives opportunities to children to learn about their environment. During this process, visual perception plays a major role.

Visual perception is a foundation of cognitive and motor activities and it enables realization of great number of different task, also literacy tasks. If we consider literacy task, we could highlight that visual perceptual skills are essential for matching shapes, patterns, letters and finally, words, and enable spatial perception, shape discrimination and discrimination of abstract symbols which is the prerequisite for reading (Garzia et al., 2000; Dibek, 2012). Visual memory (ability to recognize or recall previously presented visual stimuli) is responsible for maintaining the mental image of an observed image and remembering the shapes of letters and the order of words in a sentence (Garzia et al., 2000). We could conclude that visual perceptual skills are the core skills for literacy acquisition, respectively letter and number recognition and development mathematical concepts (Barraga & Morris, 1980; Clutten, 2009).

The reading of children no matter is it blind, low vision or typically developed is characterized by the same physiological, psychological and linguistic foundation. The main difference between those readers is in perceptive canal through which they receive information form a text. Low vision children, like typically developed peers using visual perceptive skills to decoding the symbols (letters, words and sentences). Given the fact that blind children are unable to learn through visual input, the tactile-

kinesthetic skills are of essential importance. It is necessary for these children to develop tactile skills, and learn how to understand and discriminate tactile images. For blind children, tactile skills resemble a prerequisite for reading. Tactile skills enable to decoding information from the Braille text.

Beside perceptive skills, for literacy acquisition, physiological maturity and integration between visual perception and fine motor control are necessary.Visual-motor integration refers to the coordination of visual perception and fine motor output. Writing means that a c child must be able to copy the observed shape. For presenting shapes on paper, is necessary to posses proper visual perception skills, psychomotor skills and hand-eye coordination. Visual perception and fine motor skills play a major role in development of pre-writing skills (Dibek, 2012). Small muscle development, eye-hand coordination, manipulation, dominant hand use, proper posture and pencil grip and the ability to copy the shapes are all prerequisites for handwriting. In the process of writing, visuo-motor skills, motor planning, manipulation, and kinesthetic awareness all play a major role (Marr et al., 2001).

Areas of early literacy

Early literacy should be considered a continuum of behaviors, skills, processes, and concepts about written and oral language that precede the development of conventional literacy skills (Sulzby et al., 1993; according to: Erickson & Hatton, 2007). The conceptual framework of early literacy, suggested that emergent literacy is comprised of these important constructs: oral language, metalinguistic skills and basic literacy knowledge (Senechal et al., 2001). These skills and knowledge have a different role in gaining the skills of reading and writing.

The role of oral language development

Learning to read strongly relates to children's oral language development. Oral language skills have been accepted as a critical construct in emergent literacy. These skills include receptive and expressive vocabulary, comprehension and semantic, conceptual and narrative knowledge. Research has suggested that the processes, skills and knowledge that all fall under the construct of *oral language* are the best predictors of later success in literacy (Senechal et al., 2001, Erickson & Hatton, 2007; Ramey & Ramey, 2004). Children who are in arich and highly interactive language environment until age of six, acquire strong oral-language skills like: correct pronunciation of all the sounds of their native language, rich vocabulary and know the meaning of a lot of words and concepts. Such children have the ability to understand dincreasingly complex spoken language and can express themselves through the use of specific words in conversation aldiscourse (Ramey &Ramey, 2004; Bierman et al., 2008). By developing oral language, a child acquires metalinguistic skills, phonological and syntactic awareness and basic literacy knowledge (conceptual knowledge, function of print, alphabetic knowledge, emergent reading, letter-sound knowledge, etc.) (Erickson & Hatton, 2007).

Role of basic literacy knowledge

Children gain knowledge about reading in the preschool years (Ramey & Ramey, 2004). They learn that:

- Words are made up of sets of distinct sounds;
- Printed word corresponds to the spoken word in orderly ways;
- Letters and combinations of letters relate to sounds and meaning, which in turn help them decipher words on a page;
- Words combine into sentences and have sequences that are important to telling a story or conveying useful information;
- Before the formal education of literacy begins, children need to be familiar with the concept of books. During preschool, due to being in contact with the print, typically developed children learn how to handle books – holding them the right way, turning the pages in sequence, exploring the pictures, and know that the words tell a story.

Factors interfering with the acquisition of pre-reading skills of visually impaired children

Early life experiences provide a foundation for overall learning, in school and beyond and gaining them is an essential basis for the development of literacy. For typically developed children, early experiences provide very important incidental learning. For those children, little or none active involvement from parents or other adults is needed.

Critical components of early literacy of children with visual impairments do not differ markedly from those of their sighted peers. However, the way visually impaired children gain early experiences does. They need intervention and support from adults and professionals. Unfortunately, visually impaired children are not usually provided with accessible ways of support in the area of early literacy. They need a lot of effort and structured activities with parents, teachers and other caregivers. The development of meaningful concepts has received much-deserved attention in the early education of students with visual impairments. Short description of most common problems visually impaired children encounter that directly influence gaining of pre-reading skills follows.

General knowledge and experience. Due to limited visual perception children with visual impairment do not have access to a lot of information surrounding them. General opportunities to explore the world naturally are decreased when compared to typically developed peers. Visual impairment limits not only a childs incidental learning, but opportunities for gaining access to experiences. For children with visual impairments, incidental learning through casual observation may be restricted or impossible. Concepts that young fully sighted children acquire without direct instruction are generally taught to students with visual impairments (Koenig & Farrenkopf, 1997).

Knowledge about concept of print. Compared to children of typical development, children with visual impairments lack incidental access to print. They have limited incidental learning through pictures, television or text in the environment, and they are less exposed to reading storybooks and engaging in other literary learning experiences (Koenig & Farrenkopf, 1997). Children with visual impairment do not know the point

and importance of exchanging written information in regular daily activities. Many low vision or blind children may not have been exposed to print or Braille before they reached kindergarten or even preschool (Hatton et al., 2010). The main reason for that is because a child with low vision encounters inadequate print size with its first attempt at reading during childhood. A child quickly becomes fatigued and loses interest and motivation for reading activities. It is even worse with bind children since they cannot spontaneously encounter Braille letter. This behavior leads to most visually impaired children not knowing any letters in preschool (Barlow-Brown & Connelly, 2002; according to: Hatton et al., 2010), while most typically developed children can recognize approximately 15 print letters (Treiman & Rodriguez 1999; according to: Hatton et al., 2010). Delay in determining appropriate reading medium, or lack of real life experience, may result in difficult acquisition of basic literacy knowledge (Erickson & Hatton 2007; Koenig & Farrenkopf, 1997).

Language and metalinguistic factors. For many children with visual impairment (both blind and partially sighted) language and concept development are delayed (Erickson & Hatton, 2007; Erickson et al., 2007; Bishop, 1991).

Language development can be misleading for visually impaired children. Initially (in pre-verbal and at the beginning verbal stages), visually impaired infants show little delays, and are generally able to imitate words and syntax. They begin to exhibit delays when language begins to have meaning (Bishop, 1991).

Delays in using language. Visually impaired and especially blind children have a tendency to use words that are not based on sensory experience. They have difficulty conceptualizing the meaning to objects or actions they cannot observe. Sometimes, a visually impaired child is able to use many words and proper syntax but has no idea what he/she is talking about (Bishop, 1991; Craig, 1996).

Phonological awareness is a critical skill because it's associated with the ability to recognize letters. As we already pointed out that visually impaired children often do not know the letters, and their phonological awareness is not at an adequate level by the time they enrol in school (Hatton et al., 2010).

Motor and perceptive factors. Children with visual impairment, especially blind, have delays in motor development. More precisely, the motor development of children with visual impairments may occur in a less harmonious way.

Research indicates that a 5 month old blind infant has significant developmental delays in its ability to employ its hands functionally: hands will be fisted, held at shoulder height, without engaging them at the midline. Infants and toddlers with blindness must progress from initially responding positively to touch, to reaching out and exploring the environment through touch (Bouchard & Tetreault, 2000; Erickson et al., 2007).Usually, the incentive for tactile exploration is supported by visual dimensions: color, pattern, shape, location, but these dimensions are unavailable to a blind infant. For blind infant, without support, purposeful tactile activity is minimal. Delays in early stage of development will result in delayed gross and fine motor development, later in the childhood.

Delays in motor development of low vision children are also reported. Researchers have noted that preschoolers with low vision have problems with psychomotor activities, including hand-eye coordination, bilateral coordination, and motor planning.

They are frequently unable to perform many motor activities through sheer imitation, and they are usually more careful when traversing through space than their sighted peers (Bouchard & Tetreault, 2000).

Poor perceptive development along with motor difficulties can hinder learning how to write. Researchers have found a statistically meaningful relationship between writing problems and problems with visual perception, motor coordination and visual-motor integration skills (Dibek, 2012). Visual impairment and blindness generally negatively influence development of fine motor and object manipulation skills and often lack hand strength (Ferrell et al., 1990; according to: Erickson et al., 2007).

Role of early intervention in preventing readingdifficulties of visual impaired children

Infants and toddlers with visual impairments require lots of interactions and early life experience, that support their oral language development, perceptual development, awareness of print or Braille and opportunities to explore writing (Erickson & Hatton 2007; Koenig & Farrenkopf, 1997). For visually impaired children, parents and teachers play a key role in directly providing to different early experiences. For those children, professional support and activities in the family are key factors for acquisition of literacy (Steinman et al., 2006).

For a visually impaired child it is necessary to organize activities which aim to support the gaining of general knowledge, development of meaningful language and development of motor and perceptual skills. Suitable activities are reading aloud to the child, developing book concepts, encouraging early reading and writing (e.g., pretend reading, scribbling); expand child's experiential base and general concepts; developing fine motor skills, etc.

1. *The first component of the foundations of literacy of visual impairment children is experience.* Experience enables gaining rich knowledge about the world surrounding us. Children with visual impairments need adults to facilitate their interactions with the environment. Visually impaired students need direct, hands on practice with basic concepts (such as size, shape, position, time, classification), as well as, direct exposure to common everyday life activities. Research indicates that the importance of a rich base of concrete experiences provides meaning to reading and writing and becomes an essential foundation for the development of literacy for students with visual impairments (Koenig & Farrenkopf, 1997). Firsthand experiences are important in many ways. Concrete activities are those that help a child understand abstract concepts in a manner that makes sense (Brennan et al., 2009). Concrete experiences, early in life, build a conceptual foundation of meaningful language, and add an extra dimension in the context of literacy: meaning of the stories (Bishop, 1991). For meaningful reading the child must be able to relate situations portrayed in stories to its previous experiences. The same principle applies to writing (Hall & Rodabaugh, 1979; according to: Koenig & Farrenkopf, 1997).

The way children with visual impairments gain this repertoire of experiences differs from that of fully sighted children. Alan Koenig and Carol Farrenkopf (1997) identified global areas of experience as essential to learning and understanding specific

concepts. They recommend activities like doing or making things (crafts, cleaning up), experiences with friends, family and living beings, experiences in the community and home with books, etc. The global experiences in these areas would be gained by engaging in typical daily activities. But for understanding specific concepts (time concepts, sensations, colors, position, size, body parts, actions, counting, measurement), experiences would be dependent largely on instruction, usually in preschool programs (Brennan et al., 2009).

2. *The second component of the foundations of literacy is acquisition of language and literacy concepts.* For understanding the language and introduction to literacy, children must learn the meanings of words. During this process, adults (parents, caregivers) have a key part. Common activity for developing language abilities of children is reading the stories. Reading aloud to children is an important activity for expansion of their language. It offers children enjoyable experiences with books, and they learn book-related concepts, such as reading left to right, turning pages, and understanding that print conveys a message (Brennan et al., 2009). Most sighted children have had exposure to books before their first birthday. By the time they enter school many literary concepts are familiar to them. They enjoy stories and books read by others, using pictures to add to enjoyment, pretending to read from books and playing with paper and pencil, becoming familiar with letters and symbols and understanding that letters make sounds and sounds make words. These experiences are the core foundation of literacy. Child does not perceive printed words as units in text bound by spaces. In order to read simple texts, a child must break down his produced speech into word units; locate the visual (tactile) patterns in text; move in the correct direction; and coordinate the timing of his looking with his uttering (Clay, 1991; according to Morris et al., 2003). However, children with visual impairment, especially blind, miss many of these important concepts.

Visually impaired children need systematic help (a detailed verbal explanation and obviously experience) in order to learn concrete meaning of specific words and concepts. A common problem is that reading aloud by adults, for children with visual impairment, is unfortunately not so common activity. Parents of these children often find it difficult to know what and how to read to them. Since this activity is often greatly enhanced by looking at pictures in books, visual impairment may inhibit a child's engagement in this activity. Children with visual impairments do not often "look at books" because the pictures within do not have meaning to them. In turn, this is likely to frustrate the parent. In this case, professional support is necessary. Without support, parents may not attempt to encourage a child with a visual impairment to explore books (Brennan et al., 2009).

In order for a child with visual impairment to enjoy a book as typically developed children do, adequate picture books and children's books are needed. Books for children with visual impairment must have two mediums: print (for a person that reads) and Braille (for blind children). When reading, the child's attention should be directed towards examining tactile images and Braille letters. Therefore, different types of preschool Braille books exist.

Braille book. In these books, the print letters are placed exactly above the corresponding Braille letter.

A print book with Braille added. Clear plastic sheets with Braille text, can be inserted between print pages or stuck to print pages.

For small children it is recommended to make "basket books" with real objects and textures inside (objects, textures, sound tapes, sound effect buttons and real sounds, etc.), enhancing the story.

Tactile-visual storybooks assist adults in providing the experiences that form the foundation of literacy for visually impaired children. This way, visually impaired children gain basic knowledge about the written form of communication before starting school.

3. *The next important component of the foundation of literacy is writing activity.* Early intervention should include motor development that relates directly to reading and writing skills in later childhood (Erickson et al., 2007). Children with visual impairment, like other children, should be encouraged to do prewriting activities, like drawing and scribbling. But for these activities they need to have proper materials. Children with low vision, similarly to sighted peers may use pencils, paper, crayons, and markers for visual representations of their ideas. Just as children who use paper and pencil, blind children should use slate and stylus, braillewriter or plastic foil to create tactile representations for drawing and scribbling (Brennan et al., 2009). Craig (1996) found that these tools and activities are usually not provided to blind children. Parents may not realize the connection of Braille-related writing activities to literacy, or may believe that it takes specialized knowledge to assist a child in using them. Without support from professionals, parents may not attempt encouraging a blind child to "write" or identify Braille letters (Brennan et al., 2009). Regardless of the visual impairment, a child must be motivated to "write" or scribble. Similar to typically developed children, these activities enable visually impaired children to spontaneously develop a way of documenting information long before starting school (Corn & Koenig, 2002; Steinman et al., 2006).

4. *The last component of the foundations of literacy is specific perceptive skill.* For children with visual impairment it is important to have individual visual and/or tactile development program with aim to support the important pre-reading skills. The development of tactile skills or visuo-perceptive skills which enable efficient reading and writing using a certain medium is a long process that visually impaired children cannot gain spontaneously. During early childhood it is necessary to expose them to adequate simulative activities. By the age of 3 a child must begin systematic visual or tactile training in order to sufficiently develop needed skills before starting school. Therefore, different perceptual development programs are made. Programs can be aimed towards all perceptual fields like *Perceptual training activities, by Betty Van Witsen*, or they can be specifically conceived for low vision or blind children. One of the most known programs for developing visual perceptive skills, that has been applied successfully for 30 years is the *Program to Develop Efficiency in Visual Functioning, by Nataly Baraga*. Bargas program is aimed towards stimulating basic visual abilities and development of visuoperceptive skills. In order for a blind child to develop specific tactile skills for reading Braille, a systematic, consistent and long preparation is needed. For stimulating tactile functions and developing tactile skills, different tactile training programs, are made, i.e. *Perceptual-motor stimulation, by Kiš-Glavaš, Teodorović,*

Levandovski. Tactile or visual training programs support the gaining of basic fund of perceptual skills which enable visually impaired children to read, when starting formal instruction in literacy.

CONCLUSION

To acquire foundation for efficient learning of reading and writing, visually impaired children need to be enrolled in different stimulative activities from the earliest age. The recommended practice for delivering early intervention services involves working in the homes of infants and toddlers with visual impairment and blindness (from birth to 3 years of age). Family-centered services take place in natural environments and are characterized by collaboration among professionals and family members The importance of family-centered practices is reflected in the vital role that caregivers play in the language and concept development of young children with visual impairment and blindness (Erickson et al., 2007). When children with visual impairment reach 3 years of age along with starting preschool, children need to be engaged in programs designed to support conceptual and language abilities, visual perception and visuo-motor skills, as well as tactile skills, in order to gain adequate skills before starting school and over coming difficulties during initial literacy.

Supporting early literacy development during childhood, and modelling techniques for fostering development of pre-reading skills at home and kindergarten, develops emergent literacy into early formal literacy. Organizational models of early intervention in the area of supporting pre-reading skills strongly affects emergent literacy of visually impaired child. Children with visual impairments benefit when their parents and teachers collaborate to provide appropriate emergent literacy experiences to them. Working together, parents and professionals can provide literacy knowledge and skills similar to those for sighted children (Koenig & Farrenkopf, 1997).

Regardless of which factors interfere with gaining pre-reading skills they can be mitigated by special educational approach. Preventive treatment will make encounters between visually impaired children and the world of literacy much easier, regardless if they will be reading print or Braille.

REFERENCES

1. Barraga, N., Morris, J.E. (1980). *Program to develop efficiency in visual functioning*, American Printing House for the Blind, Inc, Louisville, Kentucky.
2. Bierman, K.L., Domitrovich, C.E., Nix, R.L., Gest, S.D., Welsh, J.A., Greenberg, M.T., Blair, C., Nelson, K. & Gill, S. (2008). Promoting academic and social-emotional school readiness: The Head Start REDI program. *Child Development, 79,* 1802-1817.
3. Bishop, V. (1991). *Preschool Children with Visual Impairments*, Revised 1996, Texas School for the Blind and Visually Impaired. Retrieved from: http://www.tsbvi.edu/curriculum-a-publications/3/1069-preschool-children-with-visual-impairments-by-virginia-bishop

4. Bouchard, D., Tetreault, S. (2000). The Motor Development of Sighted Children and Children with Moderate Low Vision Aged 8-13. *Journal of Visual Impairment & Blindness*. Vol. 94 Issue 9, p 564. 10p.
5. Brennan, S. A., Luze, G. J., Peterson, C. (2009). Parents' Perceptions of Professional Support for the Emergent Literacy of Young Children with Visual Impairments.*Journal of Visual Impairment & Blindness***.** Vol. 103 Issue 10, p 694-704.
6. Clutten, S.C. (2009). *The delelopment of a visual perception test for learners in the foundation phase,* University of South Africa, Master thesis, 240 str. Retrieved from: http://uir.unisa.ac.za/bitstream/handle/10500/2613/thesis_clutten_s.pdf
7. Corn, A., L., Koenig, A., J. (2002). Literacy for students with low Vision: A Framework for delivering instruction. *Journal of Visual Impairment & Blindness,* 96 (5), 305-321.
8. Craig, C. J. (1996). Family support of the emergent literacy of children with visual impairments. *Journal of Visual Impairment & Blindness,* 90, 194-200.
9. Dibek, E. (2012). Implementation of visual motor ability enhancement program for 5 years old, *Social and Behavioral Sciences,* 46. 1924-1932.
10. Erickson, K. A., Hatton, D. (2007). Expanding Understanding of Emergent Literacy: Empirical Support for a New Framework. *Journal of Visual Impairment & Blindness*, 101(5), 261-277. Retrieved from EBSCO*host*.
11. Erickson, K. A., Hatton, D., Roy, V., Fox, D., Renne, D. (2007). Literacy in Early Intervention for Children with Visual Impairments: Insights from Individual Cases. *Journal of Visual Impairment & Blindness*, 101(2), 80. Retrieved from EBSCO*host*.
12. Garzia, R.P., Borsting, E.J., Nicholson, S.B., Press, L.J., Scheiman, M.M., Solan, H.A. (2000). *Care of the Patient with Learning Related Vision Problems*, American Optometric Association.
13. Koenig, A.J., Farrenkopf, C. (1997). Essential Experiences to Undergird the Early Development of Literacy. *Journal of Visual Impairment & Blindness*, Vol. 91, Issue 1, p14.
14. Koenig, A.J., Holbrook, M.C. (2000). Ensuring high-quality instruction for students in braille literacy programs. *Journal of Visual Impairment and Blindness, 94*, 11, 677-694.
15. Kolić-Vehovec, S. (2013). Kognitivni i metakognitivni aspekti čitanja, *Čitanje za školu i život, IV. simpozij učitelja i nastavnika hrvatskoga jezika*, Zbornik radova, Agencija za odgoj i obrazovanje, Zagreb. 23-33.
16. Lavigne, E. (2005). Essential Literacy Experiences for Visually Impaired Children. *See/ Hear,* Vol. 10, No. 4. Retrieved from: https://www.tsbvi.edu/seehear/fall05/essential.htm
17. Marr, D., Windsor, M.M., Cermak, S. (2001). Handwriting readiness: locatives and visuomotor skills in the kindergarten year. *Early Childhood Research & Practice.* 3(1) http://ecrp.uiuc.edu/v3n1/marr.html
18. Morris, D., Bloodgood, J. W., Lomax, R. G., & Pemey, J. (2003). Developmental steps in learning to read: A longitudinal study in kindergarten and first grade. *Reading Research Quarterly,* 38, 302-329.
19. Ramey, C. T., Ramey, S. L. (2004). Early Learning and School Readiness: Can Early Intervention Make a Difference?. *Merrill-Palmer Quarterly,* Vol.50, Number 4, 471-491.
20. Senechal, M., LeFevre, J., Smith-Chant, B. L., & Colton, K. V. (2001). On refining theoretical models of emergent literacy: The role of empirical evidence. *Journal of School Psychology,* 39, 439-460.
21. Steinman, B.A., LeJeune, B.J., Kimbrough, B.T. (2006). Developmental stages of reading processes in children who are blind and sighted. *Journal of Visual Impairment & Blindness*, *100*(1), 36-46.
22. Whitehurst, G.J., Lonigan, C.J. (1998). Child development and emergent literacy. *Child Development.* 69(3):848-872.