ISSN NO: 2249-3034

"A Study of Cognitive Domain School Readiness among Children with Hard of Hearing"

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ABSTRACT

This study aimed to find out the school readiness level in cognitive domain among Children with Hard of Hearing and, to find out the strengths and weaknesses in cognitive domain of school readiness among Children with Hard of Hearing. The present study researcher developed cognitive domain school readiness assessment tool, to examine children with Hard of Hearing in preschool level within Mysore City. To select the participants for the study simple random technique method was used; children were subjected to specific inclusionary and exclusionary criteria, tools, and techniques for testing. Children with hard of hearing showed a delay in school readiness in cognitive domain.

Key Words: Children with Hard of Hearing, Cognitive Domain, School Readiness

One of the issues surrounding school readiness assessment is defining what it means for a child to be ready for school. Defining school readiness is we presume that children need to know and be able to do certain things before entering school.

In a 1995 position paper on school readiness, the National Association for the Education of Young Children (NAEYC) asserts that any discussion of school readiness must be considered. At least three essential aspects are involved: (1) the diversity of children's early life experiences, (2) the vast range in young children's growth and learning, and (3) the degree to which school objectives have been achieved. Kindergartners are sensible, suitable, and accepting of individuals' diversity. According to the NAEYC, it is the "duty of schools to meet the needs of children as they join the school and provide whatever assistance are required in the least restrictive environment to enable each child to attain his or her full potential" (p. 1). To address the learning needs of children appropriately and ethically.

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School readiness designed for screening should be used to make placement decisions. No child should indeed be kept out of school or educated in an unusual or inclusive setting based on the diagnosis of school readiness; we can provide special education support services for the child to be better involved in school activities, and through these, children will be able to adjust with typically developed children. Following principles are essential in School Readiness Assessment.

1. Every youngster has the right to an education in an environment where the significant variability in early childhood development is understood and supported.
2. Readiness screening suggests that the child has significant developmental delay or signs of emotional or behavioral problems. In that case, well-standardized tests evaluate all relevant aspects of development needed for the child.

School readiness refers to the set of skills and conditions that contributes to a child's ability to succeed in school. School success includes long-term positive academic and social outcomes. The multidisciplinary National Education Goals Panel (NEGP, 1997a, b) proposed a widely recognized framework for use in determining school readiness; the framework consists of five major developmental domains that form the basis of children's readiness for school:

- Health and physical development
- Emotional well-being and social competence
- Approaches to learning
- Communicative skills
- Cognition and general knowledge.

In present study, we are focusing about school readiness level in cognitive domain among children with hard of hearing. The most generally stated reason for assessing school readiness is to comply with the Individuals with Disabilities Education Act. This law mandates the evaluation of children for developmental delays or learning difficulties. Scientific research also indicates specific 'sensitive periods' or 'critical periods' for developing some cognitive, linguistic, social, and psychomotor competencies within the early childhood years. Early Childhood Care and Education (ECCE) positively contributes to children's long-term. By supporting an accommodating and engaging atmosphere throughout these foundation stages of continuous learning, you may help your child's academic achievement. As a result, providing a

comprehensive strategy for each sub-stage within the continuous pre-school spectrum up to six years becomes critical.

As the No Child Left Behind Act pushed high-stakes testing into upper grades, kindergarten classrooms grew more rigorous and organized. Notwithstanding its best attempts, Child Trends published a detailed report in 2001 that showed differences in cognitive, social, behavioral, and healthcare outcomes as early as nine months of age and developing by 24 months. (Halle et al., 2006). The Maryland Model of School Readiness defines school readiness as the stage of evolution that allows a child to participate in and benefits from early childhood years (MDSE Fact Sheet: Maryland Model for School Readiness, 2010). All children, particularly the most marginalized and underprivileged, such as girls, disabled children, minority ethnic groups, and people who live in rural areas. Furthermore, school preparedness differs from readiness to learn. Altun, Dilek (2018). Children's eventual school-based achievements are linked to their preparedness for school. School readiness refers to a child's overall development of abilities, actions, and attitudes. In terms of child preparedness, it is a multi-faceted concern for parents and educators. As a result, the problem affects parents, instructors, and experts. Early developmental delays, unfortunately, can have severe and long-term repercussions.

Method: Pre-school aged children with hard of hearing above 60 dB hearing loss were selected for the present study, the participants were attending some special education training in different school with in Mysore city. As the purpose of the study was to check the level of school readiness level and, find out the strengths and weaknesses in the cognitive domain school readiness. Simple random method was used for the selection of the participants for the study. Deaf children and other associated disabilities children were not considered for the study.

All 10 participants were attending special education supportive services, the age group of children five years and with assistive aids of BTE they were getting benefited. Participants had age appropriate psychological development.

Materials: The investigator had developed tools. To construct the tool, the investigator had studied relevant literature and many school readiness tools like the Bracken School Readiness Test (Bracken 2002), Maryland Model of School Readiness (MMSR) (2009), Early

ISSN NO: 2249-3034

Childhood Education Curriculum Framework draft (NCERT-2005), Definition of school readiness By Texas Early Learning Council (September 2011). Then the researcher had arrived at specific tasks in the cognitive Domain of School Readiness. The mentioned items were validated by the field experts like special educator, speech language pathologists & Psychologists; all were having more than 8 years of experiences. The test and Re-test technique was used to establish the reliability of a school readiness assessment tool. To check the readiness of the children in the cognitive domain, following activities carried out as mentioned in table no.1.

Table No.1

Sl. No	Items
1.	Follows 2 to 3 step instruction. Check if the child does the following. After five minutes, give a child a coloring activity; ask the child to keep the colored paper and take a math book from his bag.
2.	Has auditory discrimination among vehicles, animals. Check if a child is made to listen to one particular sound he/she points to the respective picture.
3.	Comprehends left, right. Give a toy car to the child and ask to move the toy car towards the left then towards the right. Comprehends position in space-above, below, in front, behind.
4.	Sequence events in chronological order. Narrate a story and check if a child arranges story flashcards in sequence.
5.	Recites stories and Rhymes.

Data Collection Procedure:

Since the selected sample of children with Hard-of-Hearing was heterogeneous group, an assessment should involve identifying learning strengths and weaknesses, the investigator has approached parents and got consent, the test was administered individually. Oral instructions were given to the children about what was expected from them. However, when they found it difficult to understand the instruction, they were clarified by giving hints and reading and explaining the questions. To avoid effluxion among children, the researcher gave a break in-between the test; all children were tested individually; worksheets were given to assess their cognitive skills. Here, time was not fixed for the response; they took their own time and completed the task approximately within 50 minutes. All children were tested

ISSN NO: 2249-3034

individually; worksheets were given to assess their cognitive skills. Listen to the story and arrange cards in sequencing order. The researcher in the group narrated a story; each participant was called by the researcher and was to do the activity.

Result and Discussion:

This study was carried out during class hours in the respective school premises, to finding the readiness level related to cognitive domain of school readiness, the achievement of the ten participants in 5 different skills in cognitive domain is mentioned below table no. 2

Table No.2

Achievement of the Participants in different skill in cognitive domain of school readiness

Sl. No	Skills	Max. Score	M.L (80%)	C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	C-9	C-10
1	Follows 2 to 3 step instruction. Check if the child does the following. After five minutes, give a child a coloring activity; ask the child to keep the colored paper and take a math book from his bag. Follows 2 to 3 step instruction. Check if the child does the following. After five minutes, give a child a coloring activity; ask the child to keep the colored paper and take a math book from his bag.	10	8	4	5	4	5	4	1	5	4	4	5
2	Has auditory discrimination among vehicles, animals. Check if a child is made to listen to one particular sound he/she points to the respective picture.	10	8	2	2	1	4	2	2	1	6	4	5

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3	Comprehends left, right. Give a toy car to the child and ask to move the toy car towards the left then towards the right. Comprehends position in space-above, below, in front, behind.	10	8	2	1	1	2	2	3	2	3	4	3
4	Sequence events in chronological order.	10	8	2	2	1	4	2	1	2	2	3	2
5	Recites stories and Rhymes.	10	8	2	1	3	2	2	1	2	2	1	3
Total Percentage of Test		**50**	**40**	**12**	**11**	**10**	**17**	**12**	**8**	**12**	**17**	**16**	**18**

Average of Total Score of Ten participants Achievement in Cognitive Domain = (12+11+10+17+12+8+12+17+16+18)/10=13.30

It was observed from above mentioned table no.2 that Children with Hard Hearing had many problems in the cognitive domain of school readiness. Almomani F et al. (2018), Riggs A E (2016), Bjorklund DF (2012), during the early years of life, childhood development is instead a dynamic process marked by rapid development of interrelated functions like as cognitive, physical, and socioemotional components. Language, memory, reasoning, imagination, and perceptual functioning are all cognitive talents shaping human activity and shaping human activity and are essential for successful interaction with the environment. 105 Brandenburg J (2016) & Brandenburg J (2015), Children pass from basic cognitive skills to more complex processes as they grow older. Early evaluation of children's cognitive ability may give a basis to understand differences in school performance and other everyday situations. Cognitive development is a multi-faceted process intertwined with the development of other skills and abilities; difficulties or delays in one skill or ability can negatively affect a child's total cognitive development.

Meinzen-Derr J, Wiley S, (2011) Cognitive development is a multi-dimensional process. The development of one talent or ability is linked with the development of others; a difficulty or delay in one skill or ability can have a detrimental effect on a child's overall cognitive development. Early developmental delays, unfortunately, can have severe and long-term repercussions. M. Ptok (2011).

Hearing loss is one of the critical domains significantly linked to cognitive problems. It has been suggested that a lack of sound listening experience during early development can damage cognitive ability. A. De Giacomo and colleagues (2011). Specifically, auditory deprivation has a substantial impact on neurocognitive development in children. It has been hypothesized that problems with cognitive functions are linked to a previous period of auditory deprivation. Pisoni DB et al. (2010) limited access to the auditory environment is interrelated to cognitive and social development. Marschark M (1993), Stinson M S & Lang H G (1994), Hearing loss has been shown to harm children's cognitive development. Miyake A et al. (2000), Fisk J E & Sharp C C (2004) Language, memory, imagery, attention, reasoning, and executive functions fall under cognitive talents. Working memory representations, for example, have become an example of executive function tasks—higher-order abstraction, problem-solving, concept formation, etc. The earlier hearing loss occurs, the more potent it has been established. The more significant the impact on a child's cognitive development.

Conclusions:

The overall achievement of the 10 participants on the School Readiness Test in Cognitive Domain, as given in Table N.2, shows that Children with Hard Hearing did not have at least 80% mastery in each skill. This research says that intervention services should be focus on cognitive development of the children with hard of hearing and it refers to achieve mastery level cognitive domain is time consuming.

The authors recommend further in-depth researches to be undertaken for longer durations and covering wider populations and age groups, into the scope of different types of children with special needs.

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