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Review Paper

Factors Influencing School Readiness of Children

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Abstract

School Readiness plays an important role in early childhood period. It sets the basis for the future development. It assures smooth transition and successful entry to primary school and first step towards entering the world of knowledge. Through school readiness child get a sure shot path for long term academic career. School readiness also works as a tool for a healthy, productive and purposeful life. Along with the major determinants of school readiness factors like family background variables, intervention given to children and teacher, early childhood education experiences, curriculum content and teacher experience are the factors influencing school readiness.

Keywords: School readiness, Early childhood education, Curriculum, Teacher experience.

Introduction

The primary goal of preschool education is to bring out overall development in children and to prepare them for school by imparting the basics like colors, shapes, numbers, letters, how to look at books, how to get along with classmates, how to live by the rules in school and gradually built their readiness for the increasingly rigorous challenges of school. It is expected that child should be given learning experiences so that he will possess some basic skills, knowledge and attitudes necessary for further formal learning.

Readiness is more than basic knowledge of language and math. Readiness expectations should include all areas such as physical, cognitive, social and emotional competencies as well as positive attitude towards learning. "Children's readiness for school has been conceptualized as the characteristics and skills children should possess in order to be able to learn effectively in school"[1].

Hence it can be said that school readiness is a multifaceted concept which refers to the child's attainment of certain set of competencies which help child for successful entry to school. This paper will through a light on the following factors influencing school readiness. i. Early predictors of school readiness, ii. Family background variables and effect of intervention, iii. Early childhood education experience, iv. Curriculum content and Teacher experiences.

Early predictors of school readiness

What predicts children's readiness to school is a very objective phenomenon, as children vary in their maturational age, abilities and family background. For subjective application, as early childhood education programs are for helping young children for safe entry to academic learning, it is necessary to find school readiness determinants for mass application of early childhood education programs. It supports individualized instructional planning during early childhood education period and at the door step of primary education. No doubt there are natural maturational aspects in readiness but for clear understanding of utilization, planning and implementation of environmental aspect, determinants of school readiness may act as guiding principles for majority of planners in different cultural settings.
Longitudinal follow up conducted in America on 164 Head Start children by Nelson[2]. Researchers revealed that, working memory and attention control predicted growth in emergent literacy and pre-numeracy skills during the pre-kindergarten year and growth in these domain-general cognitive skills made unique contributions to the prediction and kindergarten math and reading achievement controlling for growth in domain specific skills. The research highlights the importance of working memory and attention control for academic learning, demonstrating the effects in early childhood, prior to school entry.

Cognitive readiness: Cognition is how we know, learn and remember. It involves the thinking skills that children use to make a sense of all the general knowledge they acquire .It enable children to make sense of patterns and relationships in their learning environment. The most basic cognitive skills are perception, attention, imitation and memory. Generally a child who knows numbers, letters and colors are considered to be ready to school. It is expected that children should develop the ability to perform logical multiplications, pre-number concepts and operations, spatial sense, pattern and measurements, skills related to sequential thinking, reasoning and problem solving and knowing the environment and thus considered to be

cognitively ready as they acquire it at the age of five.

Duncan[3] conducted a study entitled 'School Readiness and Later Achievement'; Across all 6 data sets such as school entry, academic, attention and socio-emotional skills and later school reading and math achievement used by, found that the strongest predictors of later achievement were school entry math, reading and attention skills. Early math skills had the greatest predictive power, followed by reading and attention skills and the patterns of association were similar for both the gender from high and low socioeconomic backgrounds. Mathematics equips children to make sense of the world outside the school and help them construct a solid base for school readiness. Counting, measuring, comparing, collecting, sorting, classification, ordering, seriation, patterning, sequencing, are the pre-mathematical concepts that help to lay the foundation for further mathematics studies[4].

Early language skills: Language is the critical first step in literacy and the basis for learning to read and write[5]**.**When children develop an ear for word sounds, can identify rhyme and alliteration, blend sounds, and recognize onset rhyme and sound units in words i.e. when they develop phonological awareness usually around ages two to six[6] are considered to be getting ready for more advanced and complex levels of language learning. Research indicates specific skills and abilities of children aged birth to 5 years predict later reading outcomes. Children who possess early literacy skills such as listening comprehension, oral language vocabulary, alphabet knowledge, phonological/phonemic awareness (the ability to discriminate sounds in words), invented spellings, environmental print, and concepts about print were found to have strong literacy skills later in life[7]**.**While all of these emergent literacy skills correlate with later literacy achievements, one of the most robust predictors of later literacy achievement is a young child's vocabulary.

Print awareness: Print knowledge at the entry of school is also a predictor of success in early reading[8]. Various interventions emphasizing the exposure to the concept that, 'print symbolizes language and has meaning' is to be provided to avoid many children's struggle at entry to school without knowledge about print book concept. The study conducted on 533 American Head Start preschool aged children (4years 9 months) in 2 locations on the comprehensive language approach to early literacy to find out the interrelationship among vocabulary, phonological sensitivity and print knowledge among preschool aged children. Results of the study showed two view points on oral language and literacy skills. The phonological sensitivity approach says that vocabulary provides the basis for phonological sensitivity which is a key language ability supporting reading and another the comprehensive language approach posits that varied language skills interact with literacy knowledge and continue to play a vital role in subsequent reading achievement[9].

Along with natural maturational aspects such as working memory and attention control, language awareness, cognitive skills and pre-numeracy skills, socio emotional skills, early mathematical skills are the greatest predictors of school readiness. Among all, mathematical and cognitive readiness is the most important predictors and influencing factor of readiness to school. One more robust predictor of later literacy achievement is young children's vocabulary.

Family background variables and effect of intervention

Family background continues to effect on overall development of children and especially in terms of school readiness it is a very major factor. Maternal education and involvement greatly contribute in children's academic learning and achievements. Home environment which is supportive to child's growth and fulfilling his/her developmental needs can be provided by more educated and concerned parents. Though poverty is a major obstacle in providing stimulatory materials and equipment, maternal education can compensate this by utilizing available resources in meaningful way and by having rich interaction with them.

Socio-economic status: Preschool children from different socio cultural background vary in their readiness levels for a standard based mathematics curriculum as well as children from low income families face little trouble in following mathematical instruction[10]. A sample of 244 children with average age of 61 months and their parents from metropolis area were surveyed by Lee, Murray and Fox[11], to investigate children's mathematics readiness associated with demographic information (family income, race/ethnicity and gender) and preschool experiences. Results of the study showed that children from higher family incomes belonging to white ethnic groups and children who had preschool experiences scored higher on mathematics readiness as compared to their low income African American, Hispanic and Asian children and those who did not attend preschools.

Maternal education: Maternal education is found to be a strong correlate of children's language, cognitive and academic development. Increase in mother's education was linked to young children's expressive and receptive language skills. Increased educational levels are associated with improved home environments, mother's responsiveness and provision of learning materials.

A sample of 431 kindergarten students with mean age of 5 years were studied to find the answers of, 'How are parents involved in young children's learning and what is the relationship between their involvement and children's readiness for school. It was observed that parents had a higher level of home based involvement than school based involvement during early years. Parental qualification was highly correlated with overall readiness for school. Parent instruction, language and cognitive activities and homework involvement were significant predictors of overall readiness for school; whereas home based

involvement predicted more readiness for school than school based involvement. Parental involvement is emphasized in this study for children's readiness for school[12].

Women education is an unexplored wealth. From this it is crystal clear that amongst all family background variables especially mother's education is a key to achieve maximum readiness in preschool children. It also throws a light on the aspect that maximum cognitive development is also possible when mothers are educationally equipped for upbringing their children. Though socioeconomic background places among top of the influencing factors family literacy intervention may prove to be effective to avoid long term impacts on overall literacy specially for economically disadvantaged group.

Preschool experiences and school readiness

Pre-schooling offers variety of preparatory experiences which help children for smooth entry to formal learning. It also inculcates adjust mental qualities which are required at primary level for dealing various scholastic, personal, and social challenges. Hence at the doorstep of primary education children are expected to be made ready on more advanced stage of independence for facing change and handling their issues more successfully.

Attending Preschool: At the threshold of primary education children often found to face difficulty in transition process. It is evident that children who attend preschools are generally prepared for formal schooling than those children without preschool experience[13]. Children showed better school attendance record showed better results at the end of a year[14].

It has been now well established fact that pre-primary education has arose like a tool for reducing school dropout**[15].** Early childhood development and pre-primary education are widely recognized as having a significant impact on the performance of children's school readiness especially in cognitive areas. It ensures a smooth transition to the primary education and lays a firm foundation for lifelong learning.

Performance in early years: Early academic performance may be predictive of later academic performance. Students trained in pre-reading skills e.g. letter recognition, letter naming, and letter sound production performed significantly better during subsequent reading instruction than their counterparts who did not receive such training[16]. Further children trained in pre-reading skills required fewer trials than their counterparts during subsequent reading instructions.

Melhuvish[17] conducted a study on more than 2500 children who attended preschool for 18 months on average and also had 5 years of elementary education by age 10. Results showed that an average preschool attendant of that age scored 27% higher on a standard math test than a comparable group of children without preparation. It was further analyzed that children who attended preschools performed better in studies at age 10 than their classmates who did not attend preschool. It further states that the preschool boosts the child's cognitive, language, and social development and at the school entry child benefits more from the school experiences and many aspects of development including math scores are better. A child who had a good home learning environment, good preschool and good primary school did better than a child who got only two of the above.

Curriculum Planning and Teacher experiences

Curriculum Content: Curriculum Planning: Curriculum planning is the key to success in achieving goals related to school readiness. Through proper planning gradually children can be introduced to many preparatory activities which help children for smooth transaction on formal academic learning at primary level. There is a set of skills which have to be acquired before a child starts school. In relation to these studies says that academic programs produced better, immediate and midterm cognitive outcomes than traditional early childhood program[18] and cognitive developmental program produced better long term educational and social adjustment outcomes when teachers got strong support for implementing the curriculum. Curriculum which is planned specially to deal with mathematical concepts e.g. number games, counting and comparisons**,** with the proper balance of structured and unstructured activities and inferred from the basics of child development is really worthy for achieving all goals and objectives of preschool education[19].

Teacher fidelity on program implementation: Pence, Justice and Wiggins[20] conducted a research on 'Preschool Teachers Fidelity in Implementing a Comprehensive Language –Rich Curriculum. Language focused curriculum was prepared and randomly assigned to 7 teachers and another 7 teachers were told to maintain their prevailing curriculum. Curriculum Fidelity checklist was used 3 times in an academic year. All teachers were in the age group of 25 to 54 and had experience between 3 to 27 years and had 10 to 16 students in the class. Results of the study showed language focused curriculum, teachers exhibited, fidelity to activity contexts then instructional processes. Use of language focus instructional process by the teacher was low even after one year. Teacher characteristics such as years of experience, educational background and school/ classroom characteristics such as administrative support and pupil demographics and curriculum itself are the influential factors in implement language focused curriculum.

Play: Play is a natural way of learning. Play offers lot of opportunities to explore their own interests and take responsibility for their own learning. A study was conducted to find out the relationship between kindergarten's play and achievement in pre-reading, language and writing[21]. Play was observed and ranked according to Similansky's Cognitive Play categories and pre-reading and language achievement were measured with the help of Metropolitan reading readiness test, whereas, student's word Writing Fluency was used for assessing

writing achievements. A sample of 65 kindergarteners, 37 males and 28 females were tested and observed in the classroom set up for 4 weeks. Multiple regression and ANNOVA were employed for obtaining results. Results showed that play was significant predictor of success in all three i.e. mathematic, reading and writing achievements and there were significant main effect due to play for all achievements. Socio-economic status and sex appeared to have little influence on predictor and achievement.

Print exposure: Print exposure is widely used to prepare children for school. Cunningham and Stanovich[22] conducted a research on Tracking the unique effects of print exposure in children's associations with vocabulary, general knowledge and spelling. The Title Recognition Test (TRT) was used to assess 4 year-5year old children. Results revealed significant correlations with letter recognition, spelling, vocabulary, verbal fluency, word knowledge and general information.

Teacher experiences

School Readiness Intervention: Carefully designed and focused school readiness intervention is proven to be very useful for attaining goal of preschool education. On interactive book reading Wasik and Bond[23] followed 121 children for 15 weeks and found the score of +0.63,+1.45,+1.92 on PPVTII, receptive and expressive language respectively with the preschool Es mean of +1.33.Cosgrove[24] found the effect of +0.28 on reading quotient, +0.28 on alphabet , +0.17 on prints, +0.29 on meaning and +0.25 on alphabet letter recognition when studied on 466 students from Head Start schools from 3 different locations on 'Early literacy model program'. In the same line Wasik Bond and Hindman[25] followed 200 pupils for 1 year in two Head Start centers found the effect of -0.33 on alphabet knowledge and +0.73 and +0.44 on receptive and expressive language respectively with the preschool ES mean of -0.33 and +0.59 on literacy and language respectively after the intervention for teachers in a 2hrs group training sessions accompanied by approximately 2 hrs of in class coaching and mentoring for each month. Experimental group scored significantly higher in screen (ES=+0.32), letter known (ES=+0.31, dictation (ES=+0.38) book knowledge (ES=+0.12) and print convention (ES =+0.23) with no significant difference in letter word identification, and comprehension and average effect size of +0.20 on literacy outcomes when 507 Head Start children were followed for 1 year to find the effectiveness of Let's Begin with the Letter people and the Waterford Early Reading Program.

Thematic vs teacher constructed curriculum: A thematic curriculum which is arranged in a sequence in order of complexity named Literacy Express is compared with High Scope curriculum. A sample of 30 teachers and classrooms across three conditions (9 control, 10 Literacy express and 11 DLM Early Childhood Express supplemented with Open Court Reading Pre-K) involving 297 children i.e. 99 from Literacy Express treatment group and 101 in DLM early childhood express supplemented with open court Reading Pre-K treatment group and 97 in control group in the base line age group of 4.6 years. Results revealed that there is no impact on pre-kindergarten or kindergarten child outcomes was observed PSER[26]. In another study Project Approach Curriculum was implemented in 07 classrooms and was compared with 6 control classrooms where teachers implemented their own constructed teacher developed, nonspecific curriculum. At the end non-significant effects on language (ES=+0.21) and mathematics (ES=+0.24) were slightly higher in KG and in pre=KG and literacy scores dropped from an effect size in pre-K of +0.28 to +0.15 and phonological awareness score in KG produced a negative effect size (-0.17) PSER (2008) more ever similar results were found when research was conducted to find the effect of Project Construct curriculum PSER.

Knowledge and Intervention of teacher: School readiness out comes can be readily achieved with targeted teacher interventions that are provided within preschool classroom setting. Improvements in quality over intervention provided to teachers were observed in the research conducted in Bangladesh[27]. This is especially true in cognitive measures like vocabulary, matrix reasoning, block design and school readiness.

A study was conducted by Gala and Sonawat[28] to find out the formal and informal preschool teachers about mathematical readiness with the help of purposive sampling technique 16 formal and 16 informal preschool teachers from two English medium schools were selected for the study. Questionnaire and observation schedule was used for pretesting and 15 hours classroom observation. After an intervention workshop post testing was done for 15 hours in both the schools. The results revealed that there was an increase in perception knowledge, attitude and practices about mathematical readiness from pre to post testing in both the school. The comparative analysis showed a significant difference in knowledge of the formal school teachers about the concepts of mathematical readiness. Observation at other end showed gap between knowledge and practices of the formal school teachers. Lack of implementation of mathematical readiness in formal school indicated that knowledge is insufficient for transforming it to the classroom situations.

Trained teacher: Qualified and properly trained teacher is a key to success in any circumstances. Landry[29] studied on 'Enhancing Early Literacy Skills for Preschool Children for 2 years. Twenty Head Start sites along with 750 teachers were included in the research with 370 classrooms. On teacher intervention greater gains were found for children in target classrooms than control groups for all skills such as vocabulary, language, early literacy and cognitive readiness but particularly for language skills in second year and this varied by program site. The presence of a research based early literacy curriculum, higher levels of teacher education and full day verses half day programs were significant moderators of intervention effect.

With one year of training teachers were likely to implement activities encouraging skills in the early phonological awareness stages i.e. listening, rhyming whereas the additional year of training appeared to support teachers promoting the development of more complex skills like syllabication, onset rhyme. Monthly liaison meetings were found to be critically important to ensure the fidelity of scaling up the model. These meetings allowed for group problem solving, sharing of information. Staff presentations on their own progress and also build up a strong sense of community and project ownership.

When 25 classroom teacher's implementing 'Doors to Discovery Curriculum' were mentored by senior level trainers showed a mean effect size of -0.20 on both the preschool language scale and the expressive vocabulary test. A positive effect size of +0.12 on the auditory subscale[30], Because class had Spanish speaking children when teachers were mentored for using both the languages i.e. Spanish and English in the classroom learning, it helped to go far in preparing children specially in language areas. Even it is proven in more advanced study that when children in the treatment group were instructed by the trained teachers for three days a week and were tested after 6 months intervention showed strong effect at the end of preschool for literacy (ES=+0.52), language (ES=+0.46), mathematics (ES=+0.37) and cognition (ES=+0.31) with effect on cognitive development during kindergarten (ES=+0.39).

Various curriculum models are in practice all over the world. At this time it is very necessary to find standardized but culture specific answers for bringing uniformity in implementation of early childhood education. For this 'what we want form preschool education?' should be taken on task by think tanks of the various preschool scientific societies.

Discussion: Early childhood education is a sure shot success key for preparing children for formal entry to school. It is worldly recognized that along with its socioeconomic benefits it increases the chances of children to be in academic learning for long period of time as it reduces school dropout rates and boosts up their performance levels at their formal school learning. Amongst many other predictors, language readiness, mathematics readiness and cognitive readiness are the major predictors of school readiness. Family background variables and parental involvement especially mother's involvement showed great influence on children's school readiness. Children coming from middle to higher socioeconomic groups are seen to be better prepared for formal school and children whose parents are involved, especially mother, proved to be a great supportive measure for smooth transition to children from low socioeconomic status.

Though various curriculum models are in function all over the world but a curriculum model which has a play base for the development of various cognitive skills, mathematical operational opportunities and language abilities supported with print awareness experiences gives maximum output.

Though developing leadership in curriculum planning amongst teacher is the most crucial area, they viewed their share in framing curriculum is very useful for their own professional growth and functioning.

Conclusion

School readiness is very essential for successful entry to formal primary school and Preschool education is a combo pack for making this transition smooth, easy and long lasting. Appropriate curriculum planning by innovative and initiative steps taken by teachers, parent education especially mother's education and their involvement is a very supportive aspect for making children physically, socially, emotionally and academically ready. Cognitive, math and language wise readiness is a worthy predictor taken in to account for promoting them to formal world of learning. Play based model with ample print exposure is useful for achieving school readiness for socioeconomically disadvantaged children.

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