Leveraging on Interactive Learning Pedagogy in Promoting School Readiness and Women Economic Engagement: Perspectives from the RCT Intervention Project in Tharaka Nithi County, Kenya

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ABSTRACT

Women economic empowerment and school readiness of children cannot be distinctly separated. It is on this basis that Kenyatta University WEE in collaboration with other partners jointly are conducting an experiment on WEE and children's holistic development including school readiness. The intervention experiment is conducted in Tharaka Nithi county to understand how early enrollment of 3-year-old children would promote children's school readiness and enable their mothers to engage in income generating activities. This intervention is happening in 60 schools(treatment schools). A control group of 3-year old children from the catchment are also selected for comparison at the end of the intervention. Besides, the same number (5) of 4-year old pre-primary school one (PP1) were identified for the same reason. 4-year old children attend PP1 as per the government policy. The two categories will learn together using an enhanced curriculum, provided learning resources and use of interactive pedagogy. The children were enlisted during a baseline survey to identify families with eligible children for the experiment. Assessment of the children in terms of developmental milestones was done by the assessment team of psychologists using among others Debron-2 school-readiness kit. This paper presents some of the baseline results regarding the status of 4 and 3-year-old children's school readiness skills. The findings allude to the differences in school readiness of the 3-year old children and the extent to which the can cope with schooling.

BACKGROUND INFORMATION

Early childhood education (ECE) is widely recognize to give learners a strong foundation as they join formal learning grades. It is argued that children who receive quality early learning experiences exhibit better cognitive, social, and emotional development, leading to higher school enrollment rates, improved academic performance, and better life outcomes. However, in many low-resource settings such as Tharaka Nithi County of Kenya, barriers such as poverty, limited access to quality pre-primary school education, and skewed gender social norms hinder children's school readiness.

One of the key approaches to addressing these challenges is providing a conducive learning environment where interactive learning pedagogy gives learners an opportunity for hands-on experiences. Unlike traditional rote memorization techniques, interactive learning fosters critical thinking, creativity, and problem-solving skills from an early age. It also enhances parental and community involvement, making learning more holistic and effective (Boardman, 1924; Lee, et.al, 2020).

Although Kenya commits to universal pre-primary education and the 100% transition policy, rural and marginalized areas continue to experience low preschool enrollment and inadequate learning environments. Tharaka Nithi County, is among the marginalized regions with many young children entering primary school sometimes overage and without the requisite school readiness skills such as language skills for communication and comprehension, basic numeracy and social adaptability. The situation is exacerbated by limited access to quality early childhood education and the traditional child-rearing practices which deny women economic opportunities.

It is argued that life is a story for which the beginnings sets the pace and tone for later life. That makes early years of a child critical. A Child's brain is wired moment by moment, as they interact with and acquire experiences from their environment. According to UNCEF within the first few years(3-6 years) of a child's life, witnesses more than one million neural connections formed each second which pace will never be repeated again. The quality of a child's early experiences therefore makes a critical difference on the brain develop of the child, which lays a strong foundation for later learning, health and behaviour throughout life. This means that once an opportunity window is missed, it may not be recapitulated easily. This then poses a question of the environment and pedagogical experiences appropriateness they experience. The most at risk are children under especially difficulty circumstances including but not limited to the marginalized and those from poor backgrounds.

Tharaka Nithi in Perspective

This intervention was specially focused on Tharaka Nithi county due to its unique geo-economic zones which depict ASAL conditions in the middle and low lying areas whereas there are wet climatic highland zones exasperated by undulating terrain. This therefore precipitates different economic and livelihood activities across the three ecological zones. In many of the low-resource settings of Tharaka Nithi County,school readiness remains a pressing challenge due to the prevailing socioeconomic barriers, limited access to quality early childhood education (ECE), and skewed gender responsibilities that disproportionately affect women. Most mothers struggle to balance between childcare and economic activities, leading to lower participation in income-generating opportunities. Addressing these challenges requires integrated interventions that promote early learning while simultaneously supporting women's economic engagement. The RCT intervention hopes to provide evidence-based discussion as to how early transition to school should happen and how it could impact positively on mothers' economic engagement. This paper explores the baseline results on the level of school readiness of the 3 and 4 year-old children involved in the intervention.

School Readiness

School readiness includes the readiness of the individual child, the school and the family and community's readiness to support optimal early childhood development. It is the responsibility of schools to be ready for all children at all levels schooling. Children's readiness for kindergarten should be the measure for community-based programs, rather than an exclusion criterion at the beginning of the formal educational experience(Pamela 2008). Further School readiness is defined as the extent to which a child can navigate with ease and successfully to school. School readiness includes the many skills that develop over time from a child's birth through school entry age. It includes but is not limited to social-emotional, cognitive, language and literacy, and physical development but in a broader sense a holistic development. It includes a child's ability to maintain a focus on learning tasks and a show of interest and curiosity in learning. Many factors could be at play including interactions with caregivers inside and outside their families,while understanding that each child's developmental history and unique make up, all have an influence on the overall development of a child's school readiness skills. It is the child's abilities for smooth and successful transition to school which is not only about a child's academic skills, their motivation for learning, their social and physical development, but includes a child's language ability. With these skills in mind, the learner is likely to experience smoother academic journey. It therefore requires that a child is equipped with the requisite skills they need to engage and benefit from the school curriculum. This paper explores the pre-academic school readiness skills children need to acquire before transiting to school.

Interactive Pedagogy

Interactive learning is an approach to teaching that engages the learner actively in the learning process through participation, collaboration, and hands-on activities. Rather than passively receiving information from a teacher or textbook, students interact with the material, their peers, and instructors to deepen their understanding. By examining the effectiveness of this intervention, it was hoped that the findings would provide crucial perspectives on how interactive learning could serve as dual-purpose strategy in preparing young children (3-year old) for formal education by enhancing school readiness skills and of course

empowering their mothers by enabling hem to engage in economic activities.

Interactive learning is a pedagogical approach where the learner is actively involved in the learning process going beyond the traditional teacher-centered pedagogy and emphasizes on active participation, collaboration, and immediate feedback. The major aspect of interactive learning is the use of variety of resources including technology to facilitate learner-caregiver engagement and interaction. This can range from online discussion forums and virtual reality simulations to interactive whiteboards and educational apps. By incorporating technology into the learning experience, educators can create dynamic and stimulating environments that cater for diverse learning styles and preferences. The approach leverages on most but not limited to; integrating structured play, storytelling, and experiential learning activities in community-based ECD centers.

Pre-Academic Numeracy Skills

According to Litkowski, Duncan, Logan, & Purpura, (2020) children's numeracy skills undergo extensive development during the preschool years. Children begin to develop mathematics skills early in life, even prior to formal schooling through children's daily interactions with their environments. By pre-primary school age, most children exhibit a range of numeracy skills, including verbal skills, such as counting, and nonverbal skills such as recognizing equivalence of object sets (Mix, 2023).

Rajagopal, Vandecruys, & De Smedt, (2022) found out that there is massive development in children's early number skills in the ages 3- to 6-year old. The study further found a significant influence of a child's chronological age on verbal counting, number order, numeral recognition and nonverbal calculation. This supports the view by Manolitsis, Georgiou, & Tziraki, (2013) that children vary substantially in their mathematical skills prior to school-entry.

In United states Burchinal, et.al (2020) established that children enter kindergarten with average levels of numeracy skills. Aunio, et.al (2016) also found out that children who joined the first grade had heterogeneity in numeracy kills partly because of age differences with older children having more advantage over the younger ones. There is need to revisit this view however particularly with the modern technological environment children grow in.

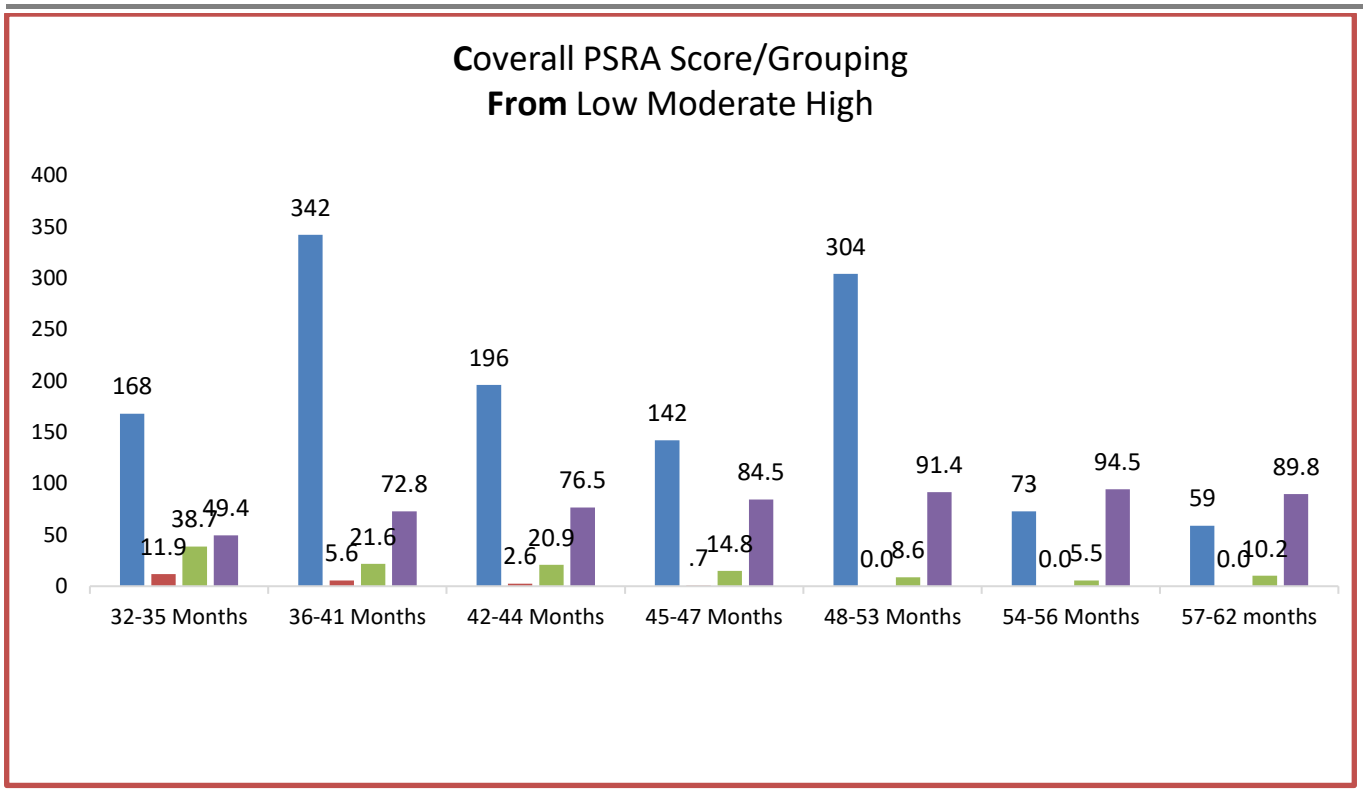
Marjan, & Sartika, (2021) opines that children who have higher visual perceptions are more likely to demonstrate a better naming speed performance and that they are likely to perform better in cognition activities. Equivalently, Jaafar (2021) argues that there is no statistically significant difference between males and females in the development of visual perception skills. This paper presents excerpts from the RCT baseline survey findings on tracking the skills of pre-primary school children's pre- academic skills in Tharaka Nithi county Kenya.

METHODOLOGY

The Randomized Controlled Trial (RCT) intervention project in Tharaka Nithi County was designed to address these interrelated challenges of mothers and the the children by leveraging on interactive learning pedagogy as a dual-purpose strategy to enhance school readiness among young children while simultaneously enabling women to participate in economic activities. At the baseline houses with 3-year old were listed and randomly included into the sample. 60 public primary schools were to receive 5 three year old children for treatment plus an equal number 4-year old to learn from the same classroom. This would total 600 pupils for the treatment while 5 other 3-year old (300) children were identified in the catchment areas of each school as control group to compare with the treatment cohorts. Children's pre- academic skills and mothers' willingness to allow them to participate in the intervention were determined. This paper presents results on children's school readiness.

Status of Children's School Readiness At baseline level

The tables below illustrates the readiness levels of both 4-year old and 3-year old preschool children. Children's performance across specific indicators across their chronological age.



The table above shows that children who were still at home 32-35 scored just satisfactorily in terms of school readiness. It can however be noted that age as it were did not make a big difference as most of the children demonstrated ability to listen and follow instruction, which forms the basis of effective instruction.

The Broader Implications

The findings from this project offer valuable insights into understanding how children who are 3-years of age are capable of following instructions and that, given a conducive environment, they can learn alongside their 4-year old counterparts.

This means that by adopting holistic teaching approaches, like interactive learning, younger children than just four years can join school thereby enabling their mothers to utilize time available in economic and livelihood activities outside the home stead.

It is hoped that by the end of this intervention, we will be able to leverage on lessons learned in addressing women economic empowerment through a school approach model of allowing 3-year old children to be enrolled in school.

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