Mathematics seems to be a subject or a concept that is perceived to bring terror to new students and a variable of stress to most students on higher years of education. It seems to hate Math is a de rigueur nowadays. Most twenty first century learners confess having a hard time in learning the education discipline. Most say it is because it is innately hard. Some say letters and numbers should not be coexisting for it would only result to a catastrophe. But, difficulty in Mathematics can be traced in the early stages of education and the premature point of the learning process.

The Foundation and basic concepts learned during kindergarten and the early grades in elementary play significant role in the academic performance of a learner as his educational level escalates. Early Math achievement can also bear notably significant results in the later part of education. It was also found to have more influence in other areas of knowledge such as literacy and others to the student. By that being stated, strengthening the mathematical achievement and understanding of an early learner can be an effective way to heighten the quality of understanding and later other positive impacts to the learner can be observed.

Early Math achievement is a strong predictor of later school achievement, and this predictive power greater and that of early literacy achievement (Classens, Duncan, & Engel, 2009; Duncan et al., 2007). Research suggests that all children are predisposed to use mathematical thinking (Balfanz, Ginsburg, & Greenes, 2003; Ginsburg, Choi, Lopez, Netley, & Chi, 1997), and recent studies show that young children’s reasoning and knowledge in the areas of quantity, number and spatial representation are malleable and
sensitive to instructions (Claessens, Duncan, & Engel, 2009; Duncan et al., 2007). However, many existing methods of teaching Math fall short for too many children --- especially those from lower income households and English learner --- and children who fall behind in Math early on face long odds of catching up to their more mathematically proficient peers when it comes to high school graduation rites, college readiness, and income as adults (Duncan, et al., 2007; NAEYC & NCTM, 2010).

Extracting from the roots of early education, it is fascinating and concerning how the quality of first encounter to the concept of mathematics education can result to wide range of positive or negative implications. As a country which is still using a 1960 format of textbook and way of teaching, we might be falling short in catching up with the world demand and changes done in the ways and principles of education and teaching.

The National Association for the Education of Young Children (NAEYC) and the National Council of Teachers of Mathematics (NCTM) have called attention to the need for the challenging and effective early math programs (2012; 2010). Yet most preschool teachers are not trained in early math content, the development of young children’s acquisition of math skills, or teaching strategies to promote math learning (Ginsburg, Lee, & Boyd, 2008), nor do they have access to high quality, comprehensive curricular content (Clements & Samara, 2009).

Upon entering an era of technological and industrial advancement, where everything is digital and innovations happen at a random and growing number of occurrence, the education system and practice could also make use of those improvements to integrate with children learning especially in mathematics.

A study that used a randomized controlled trial explored how technology and educational transmedia resources can enhance prekindergarten math teaching and learning in preschools, especially those serving children who may be at risk for academic difficulties due to economic and social disadvantages. It also aimed of delivering early
math (and literacy) resources on new and emerging digital platforms such as tablet computers, video displays, and gaming consoles, and to create learning experiences that leverage the unique capabilities of various technology platforms in the form of PBS KIDS Transmedia (Llorente, et al., 2015).

A western convention was conducted to heighten the quality of preschool education especially in the area of mathematics geared with the claim that mathematical achievement results to a later achievement in school and adult life. As far as the education in the Philippines is concerned, one of the biggest lean on the education system is the implementation of K-12. Additional years were added to the original framework to ready students for employment, college, and business without considering the concept of strengthening the basic knowledge and ideas learned in the early years of schooling.

The PBS KIDS Transmedia Math Supplement was centered around PBS KIDS videos and digital games, played on a select set of Learning Technologies (i.e., preschool-specific interactive whiteboards and laptop computers). The supplement used a transmedia approach focusing on familiar characters, settings, and narratives across different media formats, such as digital video and interactive online games. The supplement also included non-digital materials, like books and foam shapes, and was designed to complement existing instructional routes like circle time and free play centers (Llorente, et al., 2015). The research team developed the supplement by drawing on existing research of early childhood math instruction and sequencing (Balfanz, Ginsburg, & Greenes, 2003; Clements and Sarama, 2009), the teams understanding of typical early childhood math instruction from the 2011 Context Study (EDC & SRI, 2011) and 2012 Prekindergarten Transmedia Math Pilot Study (EDC & SRI, 2012), and existing research on successful technology integration in early childhood classrooms (McManis & Gunnewig, 2012). The targeted math skills included counting, recognizing numerals; composing, and representing shapes, and pattern.
The mentioned research is one which many other countries and nations continue to undertake and trial experiments were to validate its efficacy. We may be, in our nation, looking too far and making enhancements on the higher ends of education and putting experts in college and high school levels when it should be the elementary and preschool foundations of learning and concepts which are the ones to be enhanced in terms of mastery and integrity.

References:


