

## **The IMDA Singapore PlayMaker Programme**

### **Unleashing Creative Confidence in Children through Play and Maker-Centred Learning**

#### **CHALLENGE**

In an increasingly technology-rich environment, young children are progressively more exposed to various technology devices for communication, leisure and learning. This results in growing concerns from educators and parents about excessive screen time and the lack of kinaesthetic and social interactions. However, there is no denial that these tools provide much enriched information and experiences to the children. There is a need to harness technology to provide more positive learning.

Singapore has started its Smart Nation journey by putting in place the infrastructure, policies, ecosystem and capabilities. As we lay the foundation, it is essential that we develop the right skills and instil the right mind-sets to be a Smart Nation. We have to start with our education system to equip students with up-to-date knowledge and skills to use the technology, as well as teach our students to create the technology of the future, to prototype and build things, to fail fast and learn quickly.

#### **SOLUTION**

The central idea of PlayMaker was to explore a potential paradigm shift on how new technology that are age- and developmentally appropriate can be incorporated without adding excessive screen time in the early childhood sector.

The PlayMaker Programme offer child-friendly, technology-enabled toys that promote tactile and more kinaesthetic experiences. These technology-enabled toy shelp children to explore and find creative solutions. Guided by adults, children acquire abilities like logical thinking, reasoning, sequencing, estimation and inventive thinking. The technology-enabled toys also encourage children to work in small groups. Through collaboration, they develop social and communication skills.

From February 2016, PlayMaker was deployed to 160 preschoos, which is about 10% of all the preschools in Singapore. Each preschool was given a suite of technology-enabled toys curated from child-friendly robots and electronic toys that offer tactile and kinaesthetic experiences that young children need, while enabling them to tackle challenges presented to them by the educators. Individually, children will gain familiarity with the exploration of new technology, as well as develop planning, sequencing, estimation and inventive thinking skills. Interacting in small groups, children will also learn additional social skills such as collaborative problem solving and communication.

#### **LEARNING IMPACT OUTCOMES**

Before PlayMaker, there was no comprehensive technology integration programme in the Early Childhood sector. During the first year of implementation, PlayMaker has benefitted about 10,000 children from 4 to 6 years old. About 600 educators and practitioners upskill their professional development on integrating technology in the classroom.

A post-implementation survey confirmed the incredible impact of the programme:

- 93% of teachers agreed that the curriculum helped children develop perseverance, creativity, inventiveness, problem solving, and teamwork skills
- 94% of the teachers committed that they will continue to use the tech toys in the classroom
- 78% of centre leaders observed that teachers displayed heightened creativity in their teaching
- Most importantly, 97% of the centre leaders believed that it is beneficial to continue the programme

Some preschool operators that run chain of preschool centres have organised their very own tech festival to showcase children's PlayMaker tech projects in hopes of inspiring other educators and preschools.

PlayMaker programme also presents an opportunity for children from lower income and disadvantaged backgrounds to be exposed to age- and developmentally- appropriate technology and prepare them for the digital economy.

#### **RETURN ON INVESTMENT**

PlayMaker has been featured both local and foreign media. It has garnered much attention in how it is implemented in Singapore. Some other countries have expressed keen interest and adapt PlayMaker for their local preschool sector.

Prof Marina Bers from Tufts University highlighted PlayMaker at the White House Symposium for Early Stem in 2016, Channelnewsasia picked PlayMaker and filmed the children playing with the tech toys at one of the preschool (featured on 31 Dec 2016 under a “Jobs of the future” segment where the children eloquently expressed that they want to ‘reborn dinosaurs’ and become a ‘inventor’ when they grow up) These positive results will help drive the modernisation of our education system and prepare for a future where technology is a critical competency. More than 70% of the pilot preschools has integrated PlayMaker into the school curriculum so the children continue to use the tech toys in the classroom.