

ARNEC CASE STUDY

# iMulat: Leveraging technology in low resource settings

SAVE THE CHILDREN PHILIPPINES



## **ABOUT SAVE THE CHILDREN PHILIPPINES**

Save the Children, the world's leading independent children's organisation, has been working in the Philippines for over 40 years and is dedicated to helping children. As part of Save the Children International network, Save the Children Philippines shares a global vision and strategy aimed at creating better lives for children in the Philippines and across the world. Save the Children Philippines works hard to help children gain access to quality education and health services, support them in times of great need, and protect them from risks and harm. Save the Children Philippines works with the government in developing policies, plan and budgets to ensure children, especially those who are most impacted and discriminated, have access to quality basic services and have their rights protected. Save the Children Philippines protects and supports children in need, saves lives in emergencies, and speaks up for children's rights.

## **EXECUTIVE SUMMARY OF THE IMULAT PROGRAM**

The iMulat app was developed in 2018 as supplementary support to multiple existing programs delivered by Save the Children Philippines that aim to support positive and responsive parenting, familial wellbeing, and parental engagement in children's learning and development. iMulat was developed for parents of children aged from birth to 6 years, with content specific to each developmental stage. The app was adapted and scaled to fit the changing circumstances surrounding the COVID-19 pandemic in 2020, including closures of early childhood education settings across the Philippines. To maximise accessibility and reach, including the most socioeconomically or geographically disadvantaged families, the iMulat app was designed as a limited size Android based application and content was available offline. App content included 10 parenting modules consisting of key messages, activities, and instructional videos centred on different themes (e.g., child development, positive discipline, talking with your child, etc.). It also included quizzes, content on parental wellbeing, COVID-19 information, and a calendar for parents to log activities. Save the Children worked closely with both local government and the Early Childhood Care and Development (ECCD) Council (national government level) to adapt and scale up the app.

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ISBN 978-1-74128-376-1

## KEY PROGRAM FEATURES

iMulat, a parenting mobile app, was developed by Save the Children Philippines to support parents and other caregivers with children aged birth to 6 years. It was first launched in 2018 with a community impact evaluation conducted in 2019.

The iMulat app pre-dated the COVID-19 pandemic and was originally designed as a supplementary app for face-to-face parenting sessions. It was adapted in 2020 in response to restrictions and closures of ECCD centres during the COVID-19 pandemic in the Philippines.

The development of the app was guided by the Nurturing Care Framework and encouraged parents to engage with their children through the provision of strong foundational knowledge of early childhood development (ECD) in the areas of child health, play-based learning, and behaviour guidance. The content of the app consisted of key messages (e.g., Health and Nutrition, Positive Discipline, Risk Reduction, etc.), instructional how-to videos, quizzes, and more.

## PROGRAM RATIONALE

Save the Children Philippines recognise the need to support parental education, with a focus on parental wellbeing and the enhancement of the home learning environment to support ECD. During the pandemic, Save the Children quickly identified the opportunity to expand the iMulat app to provide remote home learning support. Additional content was included on parental wellbeing and COVID-19 information.

Furthermore, the iMulat app included differentiated content for parents of children under three years of age, in keeping with the national focus on the importance of supporting children's development within the first 1,000 days of life.

## GOALS OF THE PROGRAM

Save the Children Philippines implement multiple projects (e.g., Project ARAL - Access to Resources for Alternative Learning) that aim to support parents and caregivers' wellbeing, positive parenting skills, and engagement with various meaningful activities with their children. iMulat sits within a broader compendium of programs that actively promote familial capacity and ECD.

The aim of the iMulat app was to contribute to the positive outlook of parents towards early years stimulation through behaviour change and subsequently promote better cognitive, social-emotional, physical, and language outcomes for children.

An additional aim of the development of the app was to increase the accessibility and availability of parenting materials to reach more beneficiaries, including those outside the Save the Children project areas. The iMulat

app was not designed to be a stand-alone program, but rather a supplementary component to face-to-face parenting sessions and a means for parents, who otherwise could not access the parenting sessions or were not part of parenting programs, to access content. The goal of the implementation and modification of the iMulat app during the pandemic shifted to providing continuity of program access when face-to-face programs were suspended.

## PROGRAM DEVELOPMENT AND STRUCTURE

The foundations, frameworks, and structure for the iMulat app were based on extensive evaluative work prior to COVID-19. This involved a feasibility study which examined the wireframing (i.e., core design), materials for app content, and user interface. All iMulat components and content were comprehensively tested and revised by app developers before the app was made available to download, with the app being freely available in the Google Play store.

In developing the app, a key consideration was ensuring it was accessible to even the most socioeconomically or geographically disadvantaged families in the Philippines. This included limiting the size of the application, ensuring that content was available offline, and designing it to be an Android-based application. For families who do not have access to internet, the app could be downloaded at specific downloading hubs during events (in pre-COVID-19 times) and could also be shared through peer-to-peer application sharing platforms. Save the Children's consultants acted by providing back-end support for app maintenance. Save the Children continue to integrate the content of the iMulat app with other national information and data sources (see Partnerships below).

Structurally, iMulat was designed to assist volunteers and professionals in the ECD sector. For example, Save the Children community volunteers who normally conduct in-person training downloaded the app as a refresher tool when providing key messages to families. Feedback from parents and other users (e.g., community volunteers) was collected and examined continuously by Save the Children staff.

## CONTENT

The COVID-19 pandemic highlighted the importance of partnering with families to support ECD through the home learning environment. Despite being unable to access early childhood education services, the focus on educating families around the importance of the first 1,000 days has been found to have a positive impact on children's early development within the home learning environment.

Ongoing feedback from users and key stakeholders has resulted in a number of iterations in content and

structure since its inception. For example, within the 2018 version, resources and messaging encouraged families to incorporate household items into their play with children.

Upon review, the latest version of the app provided families with instructions for specific games using these household items.

The core content of the iMulat app is organised around 10 parenting modules that include key messages, activities, and instructional videos:

1. Talking with your child
2. Counting with your child
3. Child development
4. Reading and storytelling with your child
5. Playing with your child
6. Singing with your child
7. Firm, fair and fun parenting
8. Health and nutrition
9. Risk reduction
10. Positive discipline

Other content and functions of the app include:

- Caregiver wellbeing content (including strategies for self-care and responding to stress) - this module was developed under the new ECCD project and was not originally part of the 10 parenting modules
- COVID-19 information and prevention messaging
- Quizzes for parents to self-assess the knowledge they had gained through the modules and videos
- Calendar (parents can use to log, plan, and monitor activities they do with their children)
- Line graph (provides an overview of progress and engagement)

During the pandemic, Save the Children leveraged an existing Facebook page to deliver video content to support families and their children alongside other non-contact deliveries such as remote group sessions and SMS messages. Save the Children also delivered home learning kits for parents and caregivers to continue play-based activities with children in the home environment.

### TRAINING & SUPPORT

A call out for consultancy from external consultants and app developers prior to the development of the app was made. Criteria for these positions included: (1) a proven record of innovation in the development of mobile apps for Android, and (2) the development of apps for NGOs or social enterprises. The decision was

ultimately based on the previous works presented by the applicant and how well they understood the process and expected outcome of the app. External consultants and app developers were then required to attend Save the Children's child safeguarding orientation.

As the app was developed in house prior to the pandemic, all technical inputs and most ECCD content for the app was already developed prior to the roll-out of the app and subsequently modified by the existing team. The content was designed to be easily accessible and self-explanatory. The app is used as a support for other programs.

### DURATION & INTENSITY

The iMulat app has been available to families since 2018. The adapted version of the app was made available from early 2020.

### FUNDING

When iMulat was first launched in 2018, it was supported by funding from the Prudence Foundation until 2019. The enhancement of the app during the pandemic was funded by a new ECCD project under its COVID-19 response.

### PARTNERSHIPS

Save the Children is part of a technical working group; a national level collaboration with the ECCD Council and other NGOs working closely to redesign early learning strategy and program delivery. The iMulat app was shared with government stakeholders and the ECCD Council to adapt and scale-up the app. Because other NGOs that were part of the technical working group had their own initiatives and apps developed in response to COVID-19, Save the Children Philippines has been investigating how to best integrate the content and learnings from these into iMulat.

### IMPACTS & OUTCOMES

An evaluation of the iMulat app was conducted in 2019 prior to the modifications implemented in response to the COVID-19 pandemic. Based on initial review, it was determined that,

- Families found the app easy to use with a colourful and satisfying interface
- The major topics retained by families were responsive parenting and COVID preparedness
- Data from impact evaluation identified that families deleted the app if it was taking up too much space on their phone
- When launched in 2018, there were between 500 and 1,000 users.
- There were 155 registered users since the relaunch of the modified app (early 2020)

## EVALUATION

In 2019, Save the Children conducted a community impact evaluation involving focus group discussions, with parents who had downloaded the app, to establish changes/arising familial needs and adapt the app to suit these. Feedback from parents and other users (e.g., community volunteers) is collected and examined continuously. App users can freely contact the developers to provide feedback on the app through various communication platforms. The iMulat development team also had access to the iMulat dashboard to track app usage.

Formal child outcome-based or family capacity evaluations were yet to be completed as of November 2021.

## FACILITATORS & BARRIERS

### *Key Facilitators:*






- Included instructional videos to assist parents with low literacy skills
- Interactive and easy to navigate based on positive feedback from users
- Focus on supporting parental wellbeing and capacity building
- Being one of the pioneers in using technology in the Philippines context. The app was already developed and accessible to families in quarantine/isolation
- Provided information to fathers and other male caregivers who did not otherwise have access to in-person parenting programs

### *Key Barriers:*

- Due to COVID-19, there are now many more apps with which to compete
- Government investment in ECCD is not prioritised (particularly during COVID-19)
- Need to scale-up program; broader dissemination was facilitated by government, but it takes time for people to find out about the app and use it regularly
- There is an existing national ECCD strategy, however due to the COVID-19 pandemic, its dissemination was delayed
- The app dashboard could not distinguish whether downloads were online or via peer-to-peer sharing, therefore it cannot be determined if and/or how those without internet access could access the app during the pandemic

## LESSONS LEARNED AND FUTURE DIRECTIONS

- Current videos use animation but family feedback indicated they find it easier to follow when a real person explains and instructs the video content
- Increased focus on caregiver wellbeing; many parents lost their jobs, which increased stress, and this impeded familial capacity to provide support to children
- There is a need to advocate for wider implementation and expansion to other areas
- Potential to offer access to the app in other regions beyond the Philippines
- Focus on policy development to support quality and integrated early learning
- Child development assessments are based on assumptions from pre-COVID-19 times with no focus on remote learning; need for assessment tools for remote platforms
- There should be a deeper focus on encouraging fathers to play with children
- Integration of more salient themes (i.e., climate crisis, gender equality). Save the Children is working towards integrating other key themes and messages into iMulat and ECCD programs in 2022
- Expand focus to incorporate strategies that sustain parental behaviour change
- Further communicate ECD evidence base to parents to build knowledge and capacity (e.g., integrate messages from research on neuroscience and brain development, serve and return interactions, value of first 1000 days etc.)
- Need for stronger integration among key stakeholders and across sectors (not just educators) to avoid siloed approach to education, health organisations, etc.

LINKS TO THE WHO NURTURING CARE FRAMEWORK OUTCOMES	
 <p>Supportive health modules and play activities for families.</p>	 <p>Mulat encourages families to engage in play-based learning opportunities using household objects for their children by providing at home activity ideas and examples which can be integrated into everyday routines.</p>
 <p>Nutritional guidance within the health and nutrition module.</p>	 <p>Risk reduction and positive discipline modulus provide families with knowledge around safety and positive security for themselves and their children.</p>
 <p>Various modules within iMulat focused on responsive parental actions and interactions with their children.</p>	

## Mapping to Nurturing Care Framework (NCF)

### NURTURING CARE – OUTPUTS (STRATEGIC ACTIONS)

The NCF suggests five strategic actions for a program to align with best practice:



#### 1. LEAD AND INVEST

- There was a well-developed program plan, with clearly articulated vision, goals and targets for the app and its development.
- Ongoing efforts to work with government and NGO partners to position app and advance agenda.
- Clear responsibilities for app development and roll-out were assigned within Save the Children.
- The development of the app was initially funded through a foundation and the continuous work on the app is placed within funding models of other Save the Children projects. Preparing a long-term financial strategy to support the program was still needed.



#### 2. FOCUS ON FAMILIES

- The primary focus was to support families directly through the iMulat app, including the provision of activities to enhance home learning experiences.
- Families provided feedback on the experiences and app content, which afforded opportunities for responsive needs basis amendments.

#### 3. STRENGTHEN SERVICES

- The iMulat app was adjusted in response to the pandemic, building upon the strong foundations of the previously piloted app roll-out. In the future, the app could strengthen other existing programs or ECD services by maintaining and extending its content, and providing a platform for ongoing content integration.

#### 4. MONITOR PROGRESS

- App evaluation, based on community impact work and focus group discussions, were used to adapt the app to the familial needs.

#### 5. USE DATA AND INNOVATE

- Data and resources have been shared with and through partnerships, such as ARNEC, to support an international platform for early learning and research regarding effective practices in response to the pandemic.



**NURTURING CARE – OUTCOMES**

To reach children’s full potential of adequate early development, the NCF identifies five components of nurturing care, including good health, adequate nutrition, responsive caregiving, opportunities for early learning, and security and safety.



## Stakeholder experiences and considerations for future implementation

Stakeholders from Education, Health and Nutrition sectors recognised that this program:

- Ensured primary caregivers and young children had access to good-quality health and nutrition information
- Made health services more supportive of nurturing care
- Increased outreach to families and children who were unable to access early childhood education and care
- Reinforced the importance of the first 1,000 days and provided specific resources for parents of under 3s.
- Ensured good health and nutrition practices in the context of an early childhood program
- Put family engagement and play at the core of an early childhood program

This program was aimed to be beneficial for parents, children, and educators. Future implementation of the program would benefit from a broader reach, encompassing geographical regions outside of Save the Children Philippine's current focus (solely in the Philippines). Further to this, the focus was largely on supporting children, but it was recognised that an increased focus on caregiver wellbeing would ensure increased capacity to provide quality support to children. There is also scope to include more modules within the app, covering broader areas of need (a key consideration of Save the Children in 2022). The opportunity to incorporate more content should be balanced carefully against the simplicity and accessibility of the current app.

## Links to research base and previous evidence

- While there is growing evidence that information technology (IT) can be used to improve a wide range of parent and child outcomes, this research is still in its infancy, particularly in relation to smart-phone apps (Sartore et al., 2016). Evidence on supporting parenting through IT further suggests that the effectiveness of interventions/programs is highly dependent on the underlying approach and contents rather than the delivery mode (Sartore et al., 2016). It is also suggested that all approaches using IT require rigorous outcome evaluation.
- Parental engagement through play-based and positive interactions in the early years of a child's

life is associated with positive developmental outcomes for children (Boonk et al., 2017; Lehl et al., 2020; Melhuish et al., 2008; Zhang et al, 2021). It is important that programs seeking to support positive outcomes for children through parental interventions focus on messaging around supporting child development to ensure that parents do not feel that ideas are being forced upon them (L'Hote et al., 2018). This is reflected within the development of the iMulat app as there was a focus providing messaging to parents around the evidence base for ECD, such as research on brain development and the importance of the first 1000 days of development.



## Policy considerations

In the Philippines, young children spent 20 months at home during the initial stages of the COVID-19 pandemic, with no access to in-person early childhood education and care. Save the Children Philippines responded swiftly to the changing landscape, expanding their iMulat app to provide remote home learning support.

The app provided parenting modules in support of child development, with content regarding reading, play, health and nutrition, and more. Caregiver wellbeing content was also included, recognising the need to support parents/caregivers, in order to facilitate a supportive home learning environment.

The successful design, development, implementation and evaluation of the program depended on a number of background conditions that should be highlighted. These include, but are not limited to,

### 1. Use of technology

Save the Children Philippines recognised the need for digital/mobile technology in supporting families pre-COVID-19. The need for this form of support became even more apparent once the pandemic resulted in closure of early childhood education and care facilities. The app provided a variety of content, pertinent to both children and caregivers in the home environment. To ensure an inclusive and equitable approach, use of technology – necessitating funding and necessary digital infrastructure – is critical in supporting families during times of crisis and beyond. It is also essential that apps are accessible even in the absence of a stable internet connection.

### 2. Emphasis on importance of home-learning environment

The most critical step policymakers can take is to better understand the home learning environment through rigorous formative research. Due to the COVID-19 pandemic and additional roles undertaken by parents outside of traditional education settings, the time is ripe to better understand 1) how to support parents in the home environment, and 2) how supporting parents influences children in the home environment. Further to this, it is critical to understand how parental mental health and wellbeing impacts child engagement in home learning.

### 3. Pre-existing programs and workforce

The iMulat app was an existing initiative of Save the Children Philippines, recognising the need to support parents/caregivers in the home learning environment. The app was originally designed as a supplement to face-to-face parenting programs. The app was developed with the Nurturing Care Framework as its foundation, encouraging parents to engage with their children by equipping them with knowledge of ECD. With the program already developed in 2019, it was then shaped to be of further relevance in a COVID-19 context where parents/caregivers and children were largely restricted to the home environment. It is critical for policymakers to develop policy that focuses on quality, integrated early learning that is well-suited to remote implementation. Further, early learning approaches should be embedded in the Nurturing Care Framework – or similar – to ensure ECD is fully supported in the home environment.

### 4. Flexibility and program responsiveness

Funding for the iMulat app was part of a pre-existing foundation grant, allowing the Save the Children Philippines team the flexibility and responsiveness to pull together a quality product in a short timeframe. This speaks to the importance of funding for future implementation.

It is important to note that while the potential integration of digital platforms has much to offer in supporting children, families and communities, there is little evidence that such platforms offer effective stand-alone solutions for the challenges facing families, or as an intervention to support improved outcomes for children by influencing the home environment. How such platforms and associated resources function best is an issue that needs further examination through appropriate evaluations and research.

## Reference list

- Boonk, L., Gijsselaers, H.J.M., Ritzen, H., & Brand-Gruwel, S. (2017). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review*, 24, 10-30. <https://doi.org/10.1016/j.edurev.2018.02.001>
- Lehr, S., Evangelou, M., & Sammons, P. (2020). The home learning environment and its role in shaping children's educational development. *School Effectiveness and School Improvement*, 31(1), 1-6. <https://doi.org/10.1080/09243453.2020.1693487>
- L'Hote, E.L., Kendall-Taylor, N., O'Neil, M., Busso, D., Volmert, D., & Nichols, J. (2018). Talking about the science of parenting. Frameworks Institute. <https://www.parentingrc.org.au/wp-content/uploads/Talking-about-the-Science-of-Parenting.pdf>
- Melhuish, E.C., Phan, M.B., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2008). Effects of the home learning environment and preschool centre experience upon literacy and numeracy development in early primary school. *Journal of Social Issues*, 64(1), 95-114. <https://doi.org/10.1111/j.1540-4560.2008.00550.x>
- Sartore, G-M., Devine, B., Macvean, M., Green, J., & Cann, W. (2016). Information technology-based support for parents – a rapid evidence assessment. Report prepared by the Parenting Research Centre on behalf of the Victorian Government Department of Education and Training, Australia. <https://www.parentingrc.org.au/wp-content/uploads/2018/03/PRC-technology-and-parenting-REA-report-071116.pdf>
- Zhang, C., Qiu, W., Li, H., Zhang, L., Li, X., & Li, J. (2021). Parental stress and home activities for young children during the stay-at-home quarantine time in China. *Early Education and Development*, 32(6), 843-862. <https://doi.org/10.1080/10409289.2021.1949561>

This is one of the ten case studies from ARNEC's documentation of good ECD practices and innovations in the context of COVID-19.

The case study was prepared for ARNEC by the team from the University of Wollongong led by Professor Marc de Rosnay in collaboration with partners from the Asia-Pacific region.

ARNEC would like to thank Save the Children Philippines for allowing us to document its good practice.

