wed movement | 2021 - Abu Dhabi

هيئـــة أبوظـــي للطفـــولة المبكـــرة
Abu Dhabi Early Childhood Authority

BWG1
TECH HUMANITY FOR CHILDREN

FINAL REPORT

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Overview/Summary

Early Childhood Authority's WED Movement is a global stage focused on creating and disseminating knowledge for advancing Early Childhood Development (ECD) in Abu Dhabi and beyond. For this edition, the Movement focuses on the following three themes with working groups comprising researchers, academicians, and practitioners:

- Tech Humanity for Children
- 21st Century Lifestyle
- Emotional Wellbeing and Social Interaction

BWG1 addresses the theme "Tech Humanity for Children: Preparing to Meet the Fifth Industrial Revolution".

The members of the team are:

Dr Michael Rich (team leader) - Founder and Director, Digital Wellness Lab,

Boston Children's Hospital/Harvard Medical School

Dr Jenny Radesky- Assistant Professor of Pediatrics, University of Michigan Medical School

Dr Phil Mc Rae - Executive Staff officer Alberta teacher association

Dr Steve Horowitz - Partner at Alpha Edison

Dr Saaed Al Dhaheri – Director, Centre for Future Studies, University of Dubai

Dr Marco Guadarrama - User experience at IKEA Group

In line with WED Movement's need to equip children to face the challenges related to technology evolution and leverage technological advances to their fullest potential, the BWG has worked within the following lines of action set by the WED Movement:

- Exploring all the potential limits of technologies
- Remaining protected from the threats and risks of living in a digital world
- Adapting to new ways of learning without losing the ability to learn and create

The **team's ambition** has been and is to provide input that is meaningful, useful and relevant over time, a strategy oriented into the future and aimed …

"...to establish a trajectory, not to reach a fixed solution"

Enhancing the human side of technologies for children means working in a continuously evolving framework (technology) and with continuously evolving subjects (developing children age 0-8) and family behaviors: therefore, we are addressing *"3 moving targets".*

In this context, **our vision is to work toward a resilient, flexible stance in relation to shaping the digital environment to promote physical, mental and social wellness of Early Childhood and to share their engagement with the environment in ways that are supportive and empathetic.**

The **ecosystem considered by Tech Humanity for Children** is vast and complex, as the child grows up in a digital screen-saturated environment where parents, siblings, caregivers, teachers play key roles. Because children interact with technology, tech companies are powerful and have responsibility. The role of policy makers in defining strategies to promote the wellbeing of children in the digital environment is key. For the sake of its work, **BWG1** therefore **focused on the following** three key categories of **stakeholders**:

- Children aged 0-8, living in Abu Dhabi
- Their parents and caregivers
- National and international tech companies whose products and services are used by children and families in Abu Dhabi.

A key element of the team's innovative reframing is to **replace the traditional binary, values-based approach with a responsive and flexible evidence-based public health and wellness perspective. Instead of** "good versus bad" in technology use for children, we seek to support children to live well in the complex digital environment. "*We cannot address a multidimensional ecosystem with a bi-dimensional approach*", rather *"We need to address the Content (what you, the child, are watching) and the Context (where you are, who is watching with you and what kind of expectations you both have in that moment)."*

The team proposes to move "*from technology determinism to human determinism*", **reversing the relationship between little humans and big technology to grow resilient children.** We intend to **focus on child health and wellness** as a priority. Building and expanding on child safety and the ethics of technology, we aim to shift from a defensive stance to proactively put the child at the centre. We will **promote a non-paternalistic model** where parental control and screen time monitoring are replaced by **parental engagement with children in the effective use of digital technology. Parenting their children in the digital space, they will be able to monitor the content accessed online by children and control the context in which technology is used.**

Focus is on:

- Enhancing kids' self-determination in the digital world.
- Supporting parents' engagement in such a process.
- Working to improve families' trust in tech companies by enhancing child/parent-focused digital design.

The final set of **problem hypotheses** identified are**:**

1. **CHANGE** – meaningful change in children's media use requires change in digital environments and applications, not just changes in family behaviors.
2. **ENGAGEMENT** – engagement promoting design makes it harder for children to establish balanced relationships with technology and to engage with the social and physical world around them.
3. **REGULATIONS** – as governments start to regulate children technology use, there is a need for developers and content creators to prove that their products align with child-, family- and human-centered principles.

To address the above identified problems, the team proposes the following **solutions** detailed in the report and in Annex 1:

- **Annual Survey** investigating the use of digital technology by children and their parents and caregivers, assessing needs and charting the effectiveness of interventions.
- **Child-centered design principles –** a set of design principles for tech developers to educate and empower children to use tech effectively and to "*nurture the child-parent relationship and give voice and vision to children's minds."*
- **Disconnection Day/Reconnection Day** – a two-day event on the Friday and Saturday closest to Children's Day. For Disconnection Day, all of the family's audiovisual technology is switched off and families dedicate to in-person activities: making art, telling stories, playing games, exploring nature and connecting with community. This is an opportunity to experience and reflect on what they are not doing and those with whom they are not connecting when they are on screens. During Reconnection Day, families will mindfully reconnect with technologies that allow them to continue, extend and enrich the activities and relationships they remembered on Disconnection Day. The aim is to sensitize parents and children on the positive opportunities emerging from thoughtful and meaningful use of technology. This 2-day weekend event is to be repeated yearly, where families disconnect to reconnect again and differently with their children.

As specified and explored in the report, the realization of these outputs requires effective implementation to have impact in the short, medium, and long term. It requires the support of public and private entities throughout the human ecosystem to guarantee meaningful change.

Team: composition and role

BWG1 is led by **Dr Michael Rich (Team Leader)**, and composed of the following **Team members** (in alphabetical order):

Dr Michael Rich **USA** 	***Team Leader*** Founder and Director, Digital Wellness Lab, Boston Children's Hospital/Harvard Medical School Clinic for Interactive Media and Internet Disorders + 30 years of experience as pediatrician in ECD	Boston Children's Hospital Digital Wellness Lab Where the world comes for answers HARVARD MEDICAL SCHOOL TEACHING HOSPITAL
Dr Saeed Al Dhahreri **UAE** 	***Team Member*** A well-known technologist, entrepreneur, and international speaker from the UAE with +30 years of experience in academics, leadership, and advisory roles in public and private sectors.	WORLD ECONOMIC FORUM UNIVERSITY of DUBAI
Marco Guadarrama **Sweden** 	***Team Member*** User experience at IKEA Group +15 years of Experience in human centered design, design strategy and user experience	IKEA intel labs JICA
Steve Horowitz **USA** 	***Team Member*** Partner at Alpha Edison, 30+ years of experience in tech product development and innovation in worldwide leading companies (Motorola, Apple, Google, Microsoft)	Snap Inc.
Phil McRae **Canada** 	***Team Member*** Executive Staff officer Alberta teacher association 20+ years of experience as educator, scholar and interdisciplinary explorer in the field of education	The Alberta Teachers' Association Alberta Initiative for School Improvement AISI
Dr Jenny Radezky **USA** 	***Team Member*** Assistant Professor of Pediatrics, University of Michigan Medical School + 18 years of Experience in child behaviour and family dynamics in technology use	MEDICAL SCHOOL UNIVERSITY OF MICHIGAN

At the operational level, the team is supported by a Facilitator and a Technical Consultant:

Michael Eales **Australia** 	Facilitator, Michael has 20+ years of global experience in design thinking and strategy.
Stefania Aceto **Italy** 	Technical Consultant, Stefania has 20+ years of experience in research and policy advisory in the field of innovation and technology in education.

Process

Following the first Sprint, the team agreed on a common vision and started desk research activities to get a snapshot of the context in terms of media usage and related needs and concerns by Abu Dhabi families.

Soon the absence of available statistical data on tech use by Abu Dhabi families emerged. Therefore, the team decided to launch a wide-scale survey, investigating the needs and concerns of all Emirati and resident parents regarding the use of tech by themselves, their children, and as a family. The plan was to use the results of the survey to design best practices for parents and children and for tech companies.

In the subsequent months, the lack of a sufficient number of replies implied postponing survey closure and delaying data-sharing useful for the design of further steps by the BWG. Finally, because the response was not a representative sample and numbers were not statistically significant, the survey was closed. The lack of meaningful results from the survey and of available data from telecom made it impossible for the team to work on context-relevant solutions. With the help of Dr Saaed Al Dhaheri, Aseel Buhaji and other ECA staff, the team discussed and refined a global ideal to better meet contextual needs.

Interaction with other BWGs happened during demo days, best practice, and tech consultants' meetings, where the work of each group was periodically presented and discussed.

BWG1 took the perspective of the Bronfenbrenner socio-ecological model[1] that places the child at the center and works to improve the relationship among children and their parents/caregivers (at micro-system level), the enlarged family (and friends at mesosystem level) and with technology and the larger society (at exosystem level).

[1]Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, Massachusetts: Harvard University Press. (ISBN 0-674-22457-4)

The child is considered by the BWG in his/her relation to other actors of the environment, be they parents, teachers, or content providers, at different levels of closeness and influence. The chronosystem is especially important, given that we are considering 3 moving targets: the developing child, the evolving digital environment, and the transformation in human behaviors resulting from the devices and applications that we use.

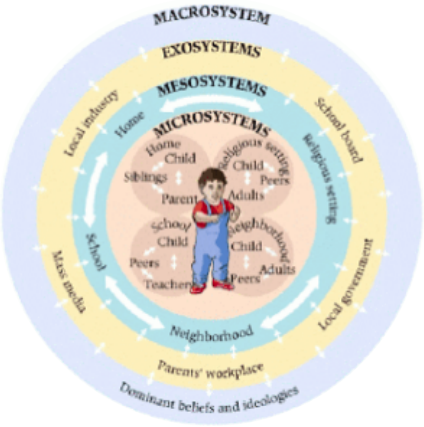


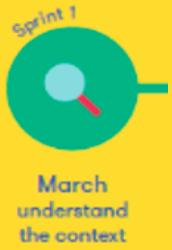
Fig 1: Brofenbrenner Socio-ecological model[2]

Interaction with BWG3b – Social Interaction - happened in the design of the survey addressed to families where questions from BWG3b on Play were integrated into BWG1 survey; this process was moderated by WED (Strategy Connect).

As reported in the Technical Committee meeting #2, BWG1 was concerned about the direction of other BWGs, as it had realized from informal discussions and presentations during Demo Days, that health, wellbeing, social interaction, and play were sometimes considered as being threatened by tech use. This binary perception of technology and healthy childhood as opposing concepts was, according to our team, not in line with the tech-integrated world we are living in. Unlike us adults, children see one world and move seamlessly between online and offline spaces. Technology is here to stay, and we will not succeed in a Luddite quest to keep them from it. We must acknowledge tech's existence, with its beneficial and problematic features, and we must use our knowledge to live with it and shape it to be better for us all rather than fight against it. The concern about a potential divergence of views among BWGs was shared with ECA and external advisors, and it was agreed that: 1) it would be acceptable that each team has their own interpretation of reality and how to address ongoing tensions; 2) it would be best that the teams did not provide contradictory messages. In the following months, informal dialogue allowed to reach a consensus with the BWG1 approach, and in particular on the acceptance of the fact that solutions need to be found to exploit technology and its balanced use to promote health and well-being.

[2] Retrieved from http://www.informainfanzia.net/asili-nido-e-scuole-dellinfanzia-arricchiscono-lo-sviluppo-dei-bambini-secondo-lapproccio-ecologico-di-urie-brofenbrenner/ on 21/07/06.

Table1 - Summary of key activities undertaken, and resources used during the Process

Sprint n. and deliverables	Key activities undertaken and resources used
 • **Clear team vision** • **Measurable outputs** • **Defined opportunity drivers**	Following the introductory meeting to get to know each other, in Sprint 1 the team started to discuss a common and shared vision, on possible outputs the team could bring and on opportunity drivers. It was agreed that: • The Vision is *"to work toward a resilient, flexible stance in relation to shaping the digital environment to promote physical, mental, and social wellness of Early Childhood and to share their engagement with the environment in ways that are supportive and empathetic".* • The group wished to define a *"trajectory"* for ongoing problem-solving indicating the direction for change, and not a fixed answer in a *"report to be put on the shelf and forgotten".* • BWG1 identified a need for data on the current family use of screen technology in Abu Dhabi. Mural Sprint 1
 • **2-3 clear problem hypotheses** • **Identified stakeholders** • **Riskiest assumptions per hypothesis** • **Scoped needs** • **>10 stakeholders' interviews**	During Sprint 2, the team decided to address three main categories of stakeholders, i.e.: parents, children aged 0-8 and tech companies (including product and service providers, platforms, content providers). The problems to be addressed and related KPIs were identified: • Empower children in the use of digital technologies • Engage parents in a meaningful use of digital technologies with their kids • Improve the perception of tech companies by parents, motivating tech companies to a child centered design where possible. Team members' knowledge and experience were identified and the team started to discuss the best way to address stakeholders in the local context (survey, focus groups, interviews). The group presented its results and plans for the next steps in the first Demo Day which took place on April 29th. All the foreseen operational meetings (among TCs, on Best Practices, TL and Facilitator Huddles took place per plan). Mural Sprint 2

May
validate
outcomes

- **1-2 validated problem hypotheses**
- **Most crucial stakeholders' needs validated**
- **Market size**
- **>10 potential customers' interviews**

Two new members joined the team: a new technical consultant, Stefania Aceto and a new team member; Dr Saeed Al Dhaheri.

Validated problem hypotheses were defined:

1. Parents will be interested to reflect on and reduce "meaningless" tech experiences and ambivalence so the "cultural bounds" around personal/family routines and solitude/boredom can be explored without judgement. ->Test with representative population survey.
2. We can embed "bright patterns", humanizing, child-centered design in digital content. ->Test with an event where children and tech dialogue on their respective desires and expectations of technology.
3. Child self-determination can be strengthened by a bright use of technology with parents engaged in the process -> test with observation of child-parent dyad behaviours with technology.

Most crucial stakeholders' needs validated: Stakeholders' needs validation took place informally and with a global approach with team members discussing with their stakeholders' networks. The following solutions were identified to test the hypothesis: 1) large scale stakeholders' survey (addressing parents and children); 2) interviews to tech companies or those representing the tech industry in UAE if possible.

Market size: the analysis carried out by the WED team suggested the lack of tech companies addressing early childhood, so the group concluded it was addressing a new market.

Potential customer interviews: the group discussed running experiments and observations involving parents, children, and tech companies.
Following the meeting with the Technical Committee, two representatives of ECA (Dr Youssef and Dr Aseel) took part in the BWG meeting of May 21 and confirmed ECA's support for the launch of a large-scale user survey in a very short time *"to see how we can translate the BWG international knowledge with some local context".*
The survey was then drafted and shared by the team in its final version on 31.05.2021. Also, following this meeting, further documentation was shared through the WED management on: ECA's initiatives in Early Childhood and reports on relevant initiatives that had taken place in the past (Quality of life survey, COVID-19 parents' survey, Summary of the Time Well Spent experiment, and Parents' Guidelines on Screen usage).
The group also requested specific sets of data to investigate on tech and social media usage of the population. (Data to be provided by local Telecom through ECA).

Mural Sprint 3

- **2-3 solutions per problem area**
- **Riskiest assumptions per solution**
- **>5 customers' interviews per solution**
- **First pitch deck**

The initially identified solutions were:

- **Annual Survey/report on tech use by families** investigating the use of tech by kids in early childhood and their parents and caregivers.
- **Child-centered design principles–** a set of design principles that tech companies might want to follow to ensure a more child centered design of tech and aimed also to "*nurture the relationship child-parent and open the vision on what is going on in children minds*"
- **Disconnection and Reconnection day** – a two-day event. During the Disconnection Day technology is switched off and families dedicate themselves to outdoor activities. During the Reconnection Day the aim is to sensitize parents and kids on the positive opportunities emerging from a meaningful use of technology. An event to be repeated yearly, where families disconnect to reconnect again and differently to their kids, with the support of technologies
- **Child-friendly award/label –** either an award delivered to tech companies (based on the design principles) following a competition
- **Hackathon –** A competition on child-centered apps and tech products

The team decided to wait for the survey results to proceed with interviews and with refinement of the outputs based on survey results.

The first pitch deck was produced and presented at the Demo Day

Mural Sprint 4

- **Finalised hypothesis**
- **Finalised solution**

The team worked on refining the hypotheses and related solutions. The solutions list was reduced to:

- Annual Survey/report on tech use by families
- Child-centered design principles
- Disconnection and Reconnection day
- Hackathon was renamed Ideathon

The main hypotheses are:

1. CHANGE – meaningful change in children's media use requires change in digital environments and applications, not just changes in family behaviors.
2. ENGAGEMENT – engagement promoting design makes it harder for children to establish balanced relationships with technology and to engage with the social and physical world around them.
3. REGULATIONS – as governments start to regulate children technology use, there is a need for developers and content creators to prove that their products align with child, family and human centered principles.

The team suffered the lack of data on the local context due to Delay in delivery of survey results, due to the low n. of replies, and Lack of data on social media usage despite the request to local Telecom companies.

Nevertheless, the Design Principles for tech companies raised the attention and interest of ECA and were shared with ECA's partners and external actors to get their feedback.

Mural Sprint 5

August
build
solutions

- **Business/policy model**
- **Validation interviews**
- **Potential key players**
- **Updated pitch deck**

Concern was shared by all members on the delay of the survey results, which impacted on the detailed planning of the foreseen solutions.

- Business/policy model: the overall approach is a time-based approach placing the proposed solutions in the short/medium/long term horizon. Also, three main pillars for action were identified: 1) Understand (find the objective information through the survey) 2) Create a space for reflection (Disconnection and Reconnection Day) 3) Make decisions.
- Validation: validation of the Design Principles is already ongoing: they have been shared with UNICEF and Anjal Z and validation by the latter took place during the meeting, paving the way for a possible collaboration. The results of the Survey are not yet available. The Disconnection and Reconnection Day have largely been discussed with ECA, WED and the Technical Committee and their concept has been approved. In addition, they have become part (as a concept) of the WED final event. As for the Ideathon, it has been decided to drop it from the list of outputs given the risk of overlapping with ECA's initiatives and given the need to focus on the most promising and actionable outputs in the available time frame.
- Potential Key players: a collaboration could be launched on the Design Principles with Anjal Z and Hub 71 for the use of the Design Principles by the Startups to be funded this year. Yearly organization of Disconnection and Reconnection Day needs to be discussed and approved at Government level. The possibility to involve the Royal Family in the promotion and awareness raising campaign of the Disconnection and Reconnection Days will be proposed to ECA through WED. For the Design Principles, some synergy with the ongoing UNICEF initiative on Digital rights for kids is being sought, with the possibility to propose ECA to manage the local chapter in Abu Dhabi. Further potential partners are identified in Annex 1 – Output proposals.

Mural Sprint 6

September
make it
actionable

- **Clear next steps**
- **Clear ask**
- **Operational owner/sponsor selected**
- **Final Pitch Deck**

The last Sprint was dedicated to finalizing the proposed solutions and figuring out their implementation plan. Also, we focused on the final pitch deck and discussed about the potential owners and sponsors of the proposed initiatives.

Part of the Sprint was taken by the presentation of some of the key results of the survey by the Data Management Team.

Mural Sprint 7

Key Insights

The **team's ambition** was to provide input that is meaningful, useful and relevant over time, a strategy oriented into the future, the BWG wanted…

"...to start a trajectory, not to reach a destination"

Enhancing the human side of technologies for children means working in a continuously evolving framework (technology) and with continuously evolving subjects (developing children age 0-8): therefore, we are addressing *"a moving target".* In this context, **the team's Vision was to work toward a resilient, flexible stance in relation to the shaping the digital environment to promote physical, mental and social wellness of Early Childhood and to share their engagement with the environment with ways that are supportive and empathetic**, in other words:

"Understand childhood from inside out, in order to reframe the way the world thinks about children- from «future workers and future consumers» to content creators and citizens who know how to live, love, play, and connect"

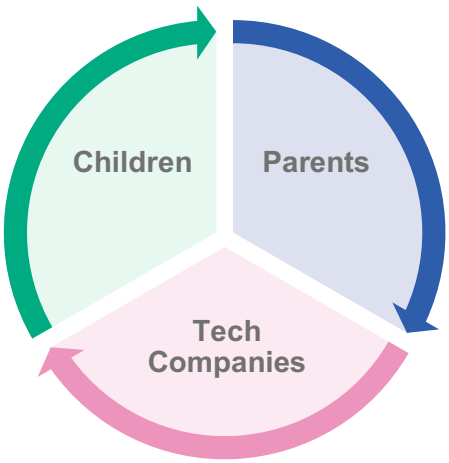
"Expand our view beyond safety.
Kids should not only be kept safe online, but healthy, happy, engaged, and kind"

This vision was translated into the following main **activities to promote change**:

Focus areas	Common feelings, emotions, experiences, behaviors in tech use, by children, by parents, by parents and children	Tech companies' strategies to address children
Aim	Develop a new way to look at children, explicitly involving kids as leaders in the processes and looking at children from a child mindset. From child as consumer to child as creator	
Objectives	Operationalizing universal principles that can be replicated everywhere, moving beyond children safety and children rights in the digital world.	Supporting tech companies in the process of re-gaining trust
Expected outcome	Help shaping a (global) digital environment that can promote children physical, mental, emotional, and social wellbeing in cooperation with tech industry	

The **ecosystem considered by Tech Humanity for Children** is vast and complex, as the child grows up in a digital screen-saturated environment where parents, siblings, caregivers, teachers play key roles. Tech companies' design principles and business strategies and policy are critical to promoting children's wellbeing. For the sake of its work, the **BWG1** therefore **focused on the following** three key categories of **stakeholders**:

- Children aged 0-8, living in Abu Dhabi
- Their parents and caregivers
- National and international tech companies whose products and services are used by children and families in Abu Dhabi.



Whilst analyzing the relationship among them to define **Opportunity drivers**, the following tensions were identified (the position of the BWG with respect to the tensions is marked by the green circles).

Fig 2: Tensions in tech use by families

A key element of the team's innovative reframing is to **replace the traditional binary, values-based approach with a responsive and flexible evidence-based public health and wellness perspective. Instead of "**good versus bad" in technology use for children, we seek to support children to live well in the complex digital environment. *"We cannot address a multidimensional ecosystem with a bi-dimensional approach", rather "We need to address the Content (what you, the child, are watching) and the Context (where you are, who is watching with you and what kind of expectations you both have in that moment)."*

The team proposes to move *"from technology determinism to human determinism*", as graphically shown in Fig 1, **reversing the relationship between little humans and big technology to grow resilient children.** We intend to **focus on child health and wellness** as a priority. Building and expanding on child safety and the ethics of technology, we aim to shift from a defensive stance to proactively put the child at the centre. We will **promote a non-paternalistic model** where parental control and screen time monitoring are replaced by **parental engagement with children in the effective use of digital technology. Parenting their children in the digital space, they will be able to monitor the content accessed online by children and control the context in which technology is used**.

Focus is on:

- Enhancing kids' self-determination in the digital world.
- Supporting parents' engagement in such a process.
- Working to improve families' trust in tech companies by enhancing child/parent-focused digital design.

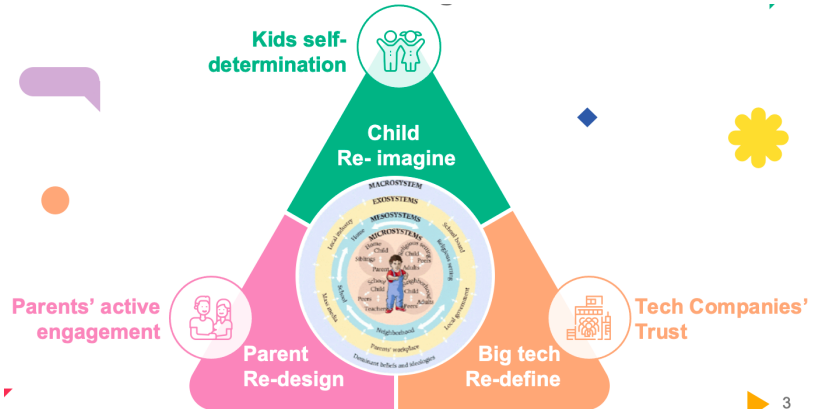


Fig 3: Problem areas and solutions

Problem-solving

1. RE-IMAGINE: How might we re-imagine the connection between the child and technology?

With a child-focused perspective, the idea is to analyze how kids consider technology and how they position themselves in the use of technology. Evidence shows that kids are often worried, or even bothered, by their parents' use of technological devices. Kids would like parents to pay more attention to them, and to spend more time with them (instead of spending it on their devices). "*Once parents spent their time at the playground looking at what their kids were doing and interacting with them, but they now stare at their mobile*" There is also a risk for children to have a sense of inferiority, comparing their intelligence against tech. We aim to empower kids and shift their position in the market from mere

consumers to creators, or co-creators. To do so, **we need to help children understand: how to critically use technology in ways that enhance human connection and wellbeing; how to master the exploration of digital spaces with self-determination and without coercion from commercial forces.**

2. RE-DEFINE: how can we help tech companies re-gaining and re-defining trust?

The focus of tech companies is on adolescents and adults, not on Early Childhood as it is legally forbidden to target them. However, **children in this age range end up consuming and using tech that has not been designed for them** (watching YouTube videos, for instance). As a result, tech companies are distrusted by parents, who see them as responsible for the safety and balanced growth of their kids. In this context, we want to **support tech companies (identified as content creators and distribution platforms) in re-gaining parents' trust by considering the very young children's use in their future design strategies.** *"There has been a lot of focus on access until now, and little or no focus on the design you get when you access the technologies*".

3. RE-DESIGN: how might we redesign the parent (and caregiver) tech use?

The binary values-based system (right vs wrong) is severely affecting parents' self-confidence in relation to technology use within their relationship with kids. We would like to support a **shift from** a paternalistic view, where **parents need to control** the activity of their kids online **to parents' engagement with their kids online** "*we cannot tell kids don't eat, but we can teach them how to eat well, the same should happen with technology*". We live in a world where increasingly we are "*alone together*" ("*all in the same house, but in different rooms and each one watching a different thing on Netflix*") and we should **support parents in learning how to use technology to facilitate parenting, i.e.: to connect and improve the relationship with their kids,** how to use it to get support in difficult situations (like managing dysregulated kids) whilst better understanding the emotional and mental experiences of their children, **to enhance their wellbeing and their self-regulation**. Parents need to understand that they can change the ecosystem; they need to be empowered to drive the market: "*companies will produce what we want to consume*".

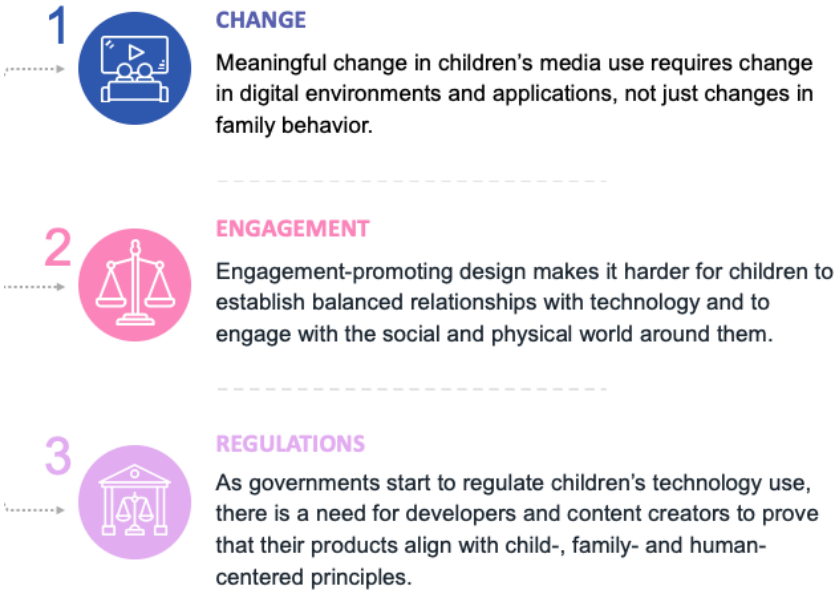
Many of the current interventions in relation to children, parents, and technologies are focused on protection and safety, not on aspiration (i.e.: what technologies can do for children).

Very often, parents are using screens as "e-babysitters" and expecting technology to care for their children. BWG1 aim is to empower and engage parents to accompany their children in engaging with the digital environment.

To enhance a meaningful change in the use of technologies, we need to change family behavior, but also redesign the digital space to be nurturing and inspirational, rather than just safer. In this perspective, we need to engage tech companies to renovate the digital environment. Governments are also increasing their regulation of technology.

BWG1 has focused on how to develop regulations supportive of a positive digital environment rather than forcing a restrictive, negative stance.

BWG1 considerations can be grouped into three main hypotheses:



As said in the beginning of this report, the aim of our team was to provide a trajectory and not a solution. In other words, we hoped to be able to pave the way for actions with an impact over time (short/medium/long term) and on all relevant stakeholders' categories (including policy and decision makers, the tech industry, and of course our main beneficiaries, i.e.: kids and their families and caregivers). To support this change, the BWG identified three solutions:

- Periodic survey on tech use by Abu Dhabi families
- Design Principles for Tech companies
- Disconnection Day/Reconnection Day

These are described in the next chapter and analyzed in depth in Annex 1

Outputs/solutions

An overview of the outputs identified by the Team is provided in this section. further information on problems addressed, target audience, proposed activities and reflections on feasibility, affordability, accessibility, universality, equity and sustainability are described in depth in Annex 1 to this report.

The **Survey Report on Tech use by families in Abu Dhabi** is expected to provide an overview on the tech habits of children and their families, shedding light on the tech use reasons and modes at local level.

In the short term, this will help in designing the activities of the near future. In the medium-long term, conducting such a monitoring exercise periodically (annually or every two years) will support ECA and the Abu Dhabi Government in the design of evidence-based policy actions and initiatives to enhance the meaningful use of technology in Abu Dhabi families and by Abu Dhabi children. Monitoring children's and families' use of technologies will facilitate the envisioning of future evolution of learning and living in Abu Dhabi and in the UAE. Results of the annual monitoring should be published in the local press in a user-friendly way and discussed by local media to help the population become aware and engage in the process of change.

This representative, forward-looking survey could be run yearly by ECA to analyse the current status of families' tech use. It could be accompanied by events involving children, parents and tech companies to gather tech use-related challenges from the ground and support evidence-based and informed corporate and policy actions.

BWG1 has drafted a set of Design Principles (see Annex 1) to promote meaningful change, with the idea that in order to change behaviour and attitudes, you also need to change the digital space. The aim of these principles is threefold:

- Evolve from protecting the child to promoting his/her active and self-determined behavior in the digital space. With this in mind, BWG1 promotes aspirational design, nurturing as well as protecting children.
- Promote active parenting in the digital space, providing parents with the right tech use, whatever their parenting style is.
- Enhance a child-centred/child-sensitive design for technological solutions, allowing a compromise between corporate and pedagogical value propositions.

The Design Principles are addressing tech companies operating in Abu Dhabi (local and international) with the aim to support child-centered design and promote child-friendly digital spaces.

The **Disconnection and Reconnection Days.** The former is to be considered as a day when families disconnect from all media technologies and dedicate their time to family activities, either outdoors (treasure hunts, running competitions) or indoors that do not need the use of technology (unplugged coding, for instance). A day to play and see things from a child's perspective**.** The Disconnection day should be followed by the Reconnection day and they would take place once a year, always on the same couple of days. **The Reconnection Day** follows the Disconnection day and lets all families re-connect to technologies in a more meaningful and mindful way, conscious of its potential for the health, wellbeing, social interaction and growth of the child.

Both days are addressing Families, Educators, experts, tech companies, politicians. It is a day when a set of free activities are organised in town so that all willing families can join. The tables below summarise the features of the three outputs:

Output 1 - Annual Survey on tech use by Abu Dhabi families

Problem addressed	**Lack of data on tech use by local families – need for evidence-based policy and decision making by public and corporate sectors**
Key audience	All families in Abu Dhabi
Details of the solution	Survey questionnaire distributed yearly to all families, and two annual reports: one addressing policy and decision makers and one addressing the public opinion and educators.
Implementation plan	Establishment of a statistical team (the Data management team of ECA?) Establishment of an expert committee to analyze results, draft reports and questions for the next survey Promotion and awareness raising on the survey with the support of key influencers
Resources needed	Staff for statistical analysis Experts for critical analysis and reporting Governmental support for implementation needed, partnerships with telecom recommended
Indicators of success	% of respondents and their growth from one year to the next Reports published annually Data shared with media to increase outreach to the public opinion
Sustainability	Needs investment by the Government to be sustainable.

Output 2 - Accelerating innovative child-centered Design Principles with Technology Companies

Problem addressed	**Mistrust in tech companies, lack of child-centred design**
Key audience	Tech companies, platforms and content providers
Details of the solution	A list of actionable principles to be implemented by tech companies in the design of their products to promote children self-determined behavior in digital spaces and active involvement of their parents
Implementation plan	Stakeholders' engagement and networking Piloting with start ups Implementation in UAE Exposure at international level (UNICEF? Digital Rights for Kids?)
Resources needed	Staff to promote stakeholders' engagement and networking Tech start ups to pllot the principles (Anjal Z available for testing) Governmental support for implementation at local level
Indicators of success	% of adoption at local level Agreements signed for implementation Launch event ECA label PHD course on child-friendly design open to all students of the world
Sustainability	Initial investment by Government, then in principle ROI should be guaranteed by increased trust in tech products and services.

Output 3 - Disconnection and Reconnection Days

Problem addressed	Change in attitude towards technology
Key audience	All families in Abu Dhabi
Details of the solution	Two days to be celebrated yearly. Around March 15, the UAE Children Day. The aim is to promote a critical reflection on how families use technology and how it impacts family life and to nurture a self-determined use of technology by children and their parents and caregivers. The two days function as awareness actions towards the population
Implementation plan	Announcement at WED Conference Nov 21 Promotional campaign by Royal Family and local influencers Identification of staff to support the foreseen activities (which will be virtual and conducted at home)
Resources needed	Advertising agencies Royal Family and local influencers active involvement Staff to support the events Committee of experts to organize yearly events based also on survey results
Indicators of success	No. of participants and yearly growth Increase in the long term of STEAM graduates Decrease in cyberbullying
Sustainability	Public and private sponsors could guarantee the sustainability of the event

It goes without saying that the three outputs have been developed as complementary solutions to reach the BWG objectives. A time perspective has been adopted to frame the interaction and interconnection among them: the survey provides a snapshot of tech use by Abu Dhabi families in the short term, helps raising awareness and mobilizing the public opinion for a common reflective action in the medium term (during the Disconnection and Reconnection Days) and supports change in digital environments and in policy initiatives in the long term. Thus, three main pillars for action have been identified: 1) Understand (find the objective information through the survey); 2) Create a space for reflection (Disconnection Day and Reconnection Day) and 3) Make decisions.

The graphical representation below shows the virtuous cycle we propose to launch at the WED Final Conference:

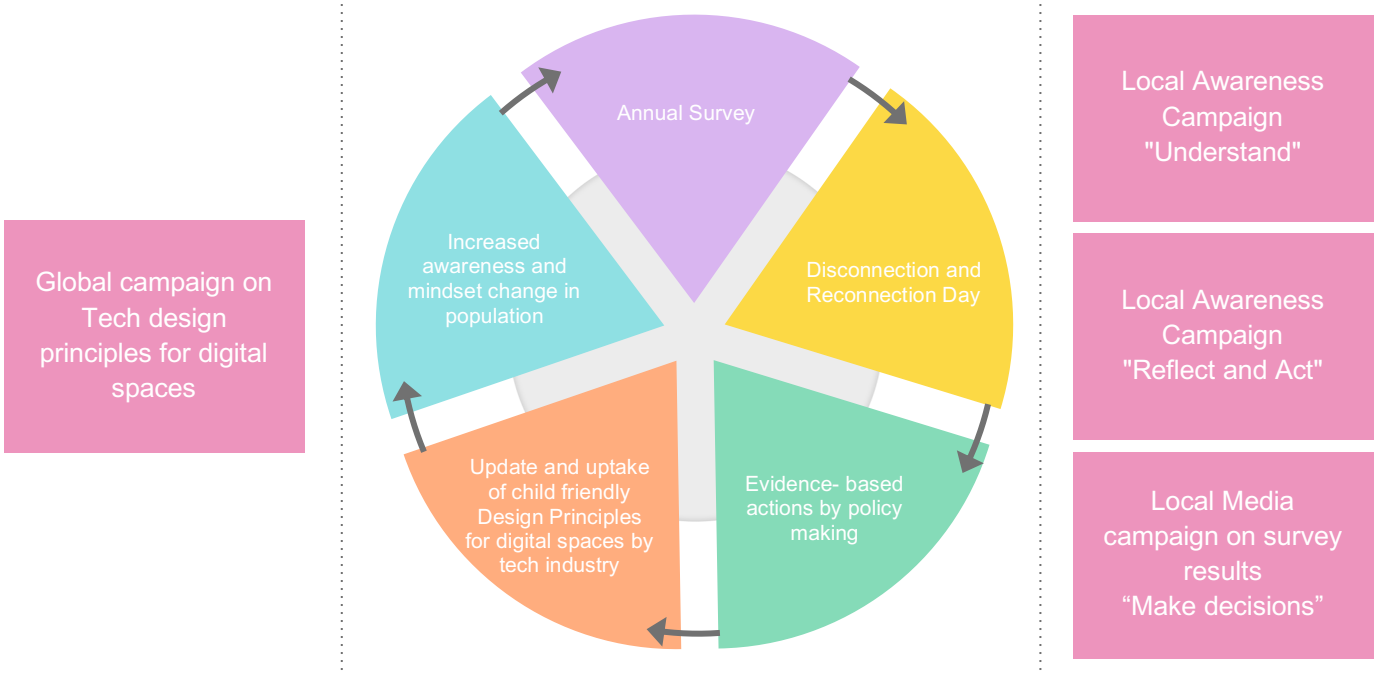


Fig 4 The envisaged sequence of BWG1 solutions

A promotional campaign will invite all families to share their needs and concerns in terms of tech use by answering a survey, promoted by government agencies and endorsed, hopefully by the Royal Family. A family friendly version of survey results will be promoted by media, so that also the population becomes aware of the current trends in media use in Abu Dhabi and better understand the actions which will be undertaken by the government to fill in the gaps highlighted by the survey. The results of the survey will help design the Disconnection and Reconnection Days, also anticipated by a strong awareness campaign and addressing and hopefully involving all Abu Dhabi families in a process aimed to reflect on how parents and children use technology, its impact on their lives and how this could be changed for the better. The results of the survey, coupled with the outcomes of the Disconnection and Reconnection Days, will feed more contextually relevant policy actions to support a meaningful use of tech in Abu Dhabi families, with the objective to grow independent and self-determined children having the right knowledge, skills and attitudes to meet the challenges of the Fifth Industrial Revolution.

At the same time, the survey results will be considered to update the Design Principles for child-friendly Digital Spaces. In this latter case, the promotional campaign is suggested to be international, as, once tested and implemented locally, the design principles could be shared worldwide, and Abu Dhabi could become the cradle for tech industries dedicated to child-centric digital spaces.

The idea is to implement this sequence/virtual cycle yearly, to gradually promote a trajectory of change in the mindset of the population, to design ad-hoc policies and initiatives, and to support the establishment of the infrastructure behind the launch of a child-centric tech industry (including for instance also international master courses in child-centered tech design).

Intended outcome/impact

With its work, the team has tried to provide a trajectory to enhance change in the perception of technology and in its use in Abu Dhabi families, and potentially worldwide. In a way, the approach adopted is very relevant to the 'Theory of Change' (Pawson and Tilley, 1997; Weiss, 1995).

A Theory of Change tells the story of a project's 'change journey' from the 'presenting problem' it seeks to solve through to the expected impact it hopes to make on that problem when it has reached the end of its journey. It consists of a sequential progression of 'step-changes', each of which influences subsequent steps.
The sequence of steps can also be described as a process that starts from a set of objectives that lead to a set of actions that produce a set of outputs that in turn lead to short term (immediate) outcomes to intermediate outcomes that ultimately lead to longer term impacts.

A simplified Theory of Change for the Theme "Tech Humanity for Children" is shown in the graphical representation below.

PROBLEM	ACTIVITIES	OUTPUTS	OUTCOMES	IMPACT
• Knowledge gap in the needs, concerns, and habits of the population towards tech use • Paternalistic attitude towards technology • Mistrust in tech companies • Focus on adults and not on children	• Setting up BWG1 and familiarizing with the design thinking approach • Discussing the global situation in relation to tech use in early childhood • Analyzing the local situation • Discussing possible solutions • Stakeholders' consultation for validation purposes	• Annual survey on tech use by local families • Child-centred design principles for tech companies • Disconnection and reconnection days	• Public opinion mobilization through wide campaign • Parents' mindset shift from control to engagement • Change of paradigm from children as consumers to children as creators • More empowered and tech savy children • Better knowledge on tech use by local families • Increased awareness on child centred design importance in tech companies	• SHORT TERM - increased awareness on the need for a paradigm change in the relationship parent-child-technology. • MEDIUM TERM - evidence based policy and decision-making in the field of technology for early childhood • LONG TERM - Abu Dhabi becomes the cradle of child-centered digital space design.

Fig 5: The Theory of Change applied to the work of BWG1

The tables below provide, for each output, the expected impact and KPIs

Output 1: Annual Survey

Action	Impact (short/medium/long term)	KPIs
Annual survey on tech use by Abu Dhabi families	Short term: the statistical data gap on tech use by local families is addressed and filled in. Medium term: awareness is raised at policy and corporate level, as well as in the public opinion on the needs and concerns of parents and their kids when using technologies Long term: policies and initiatives shift from a paternalistic to an empowering approach, oriented towards a meaningful exploitation of tech solutions focusing on how technology can be used (rather than avoided) to support well being	• The survey is carried out annually in a systematic way • At least 3000 responses are gathered the first year and an increase of 10% per year in responses is recorded. • A yearly report is produced based on survey results and distributed to relevant ministries and agencies. • The key results of the survey are presented in the media (press, TV; web site, social networks) to ensure awareness raising and outreach to the public opinion

Output 2: Design Principles

Action	Impact (short/medium/long term)	KPIs
Stakeholders' engagement and networking	Short term expected impact: Awareness is raised at local and international level on the Digital principles and various kinds of actors are invited to review and endorse them	• Digital principles endorsed by at least 1 international organization and 2 countries outside UAE • At least 10 national and international stakeholders involved representing: international organisations, governments, tech companies, educators
Piloting	Medium term –evidence is provided on their applicability and feasibility	• At least 10 pilots carried out with 10 companies

Implementation at local level	Long term – innovative tech products and services are child-friendly and support child empowerment and child-parent engagement in tech use.	• Principles adopted by at least 60% of local tech companies • A child friendly ECA label is created to be assigned to the tech companies proving to follow the design principles
Launch at international level	Long term – UAE is recognized as a forerunner in promoting innovative approaches in tech design for children	• At least 1 international partnership agreement signed with an international organization or at least 2 partnership agreements signed with other countries • 1 international launch event organized, hosted by Abyìu Dhabi • Design principles adopted internationally

Output 3: Disconnection Day/Reconnection Day

Action	Impact (short/medium/long term)	KPIs
Disconnection and Reconnection Day promotion	Short term expected impact: Awareness is raised at local level on the Disconnection Day and various kinds of actors are invited to endorse them	• At least 1 press conference is organized during the WED final event to announce the Disconnection and Reconnection days dates. • The event is promoted across all national media (TV, radio, social networks) • The event is promoted by the Royal Family • The event is promoted by the Ministry of Education and of Public Education across all schools attended

		by children in early childhood
Disconnection and Reconnection Day Implementation	Medium term expected impact: the event organized in 2022 raises awareness on the power that human beings can have on technology and stimulates reflections among parents on the influence their own use of technology can have on children behaviour. Reflection is also improved on the voice of children	• At least 3000 families participate in the first edition of the Disconnection and Reconnection Day • Increase in participation of at least 20% each year in the next 5 years • At least 30% of participants fill in the evaluation survey of the event
Supporting change in behavior and attitudes	Long term expected impact: a cultural shift happens in Abu Dhabi society moving from technology to human determinism, abandoning the binary approach (technology is good vs technology is bad) and making parents aware of the power they have to define the digital space their children are living in, and children aware of the power they have to improve their future exploiting technology	• Raise of 15% in the coming 5 years of the students choosing a STEM path • New child centred tech industry pole launched In Abu Dhabi

All in all, the proposed solutions should be considered as part of a long-term transformative, scalable, sustainable, and inclusive process of change in Abu Dhabi, possibly scaling up to the international level.

Annex 1 – BWG1 Outputs

Output 1 – Annual Survey on Tech Use in families

Section 1 – Overview

Vision and Objectives

BWG1's first attempts focused on data search and retrieval at global and local level. The lack of local data in this field was confirmed by the ECA Data Management team, and to date the data requested to telecom companies about population social media use back in May 2021 are not yet available. This scarcity of primary data led the team to propose the launch of an ad-hoc survey, provided in Section 2 and focused on attitudes, behaviors, needs, and concerns linked to technological devices, Internet, gaming and social media use in Abu Dhabi families, with special attention to families with children in the age 0-8 and not particularly worried about the potential impact of technology use in early childhood, and focusing on the interaction between parents and kids in the use of tech, and on how tech use affects such interaction.

By the time this output description is being written, results have just been made available. Despite keeping the survey open for almost two months, the efforts to get a statistically representative sample (3000 respondents) were not reached and ca. 400+ valid answers were gathered.
The team is currently considering two possible scenarios of evolution:

1. Once the results are available, a short report will be provided addressing families, the public opinion as well as policy makers and industry, to show the main picture emerging. The results will be presented in the WED Final Event.
2. The survey is revised and shortened, open questions are dropped (and eventually addressed via dedicated focus groups) and a new survey is launched prior to the final WED event, with the support of a polling agency for distribution and for getting a representative number of replies.

In any case, the BWG1 is convinced that a continuous monitoring of tech use in Abu Dhabi families would be necessary to feed evidence-based policy and corporate decision making with a more contextualized orientation to families' needs and concerns.

Therefore, the proposal of the BWG1 for this output is the launch of an Annual Survey on tech use in families, which could build on the survey presented in Section 2 and which could complement the already conducted periodic surveys by ECA in the field of Early Childhood health and wellbeing.

The survey, addressing any Aby Dhabi family with children in the age 0-8 and provided in the main local languages (Arabic, Urdu, English) could be conducted by ECA, with the support of the Data Management team, in partnership with relevant Ministries (such as the Ministry of Education) and private actors (such as telecom companies)

Context

By investigating and monitoring constantly the evolution of the relationship between the parent-child dyad and technology, the annual survey is expected to provide key information on the needs and concerns of Abu Dhabi families in relation to kids in early age and their use of technology and at the same time to provide elements of reflection for parents on their own relationship to technology and on how this affects their relationship and connection to their kids.

Considering the constant evolution of technology, it is not possible to provide a one-stop shop solution to the challenges parents face in their relationship with kids and technology, as this is also evolving in line with children's growth and, at the meso and macro level, with the cultural changes of society.

This dynamic evolution can only be “captured” through periodic screenshots (the annual surveys) that depict the situation in that moment, allow comparison with the past, help design possible future scenarios, and feed evidence-based policy making in the field as well as corporate “socially responsible” decision making.

The annual survey is a medium – long term output (an activity that the BWG suggest is started from 2022 and continued systematically in the future. It is suggested that the key results are shared with the public opinion and with families and not just with decision makers.

The expected long-term outcome of this output is an increasingly context-responsive and informed decision-making implying policies and initiatives shifting from a paternalistic approach – focused on child protection- to a nurturing and emancipating approach – focused on child empowerment and supporting a meaningful use of technology solutions by children and their parents.

Audience

The primary target group of this output is policy making: the Government, ECA, the relevant Ministries involved in the design, development and implementation of policies and initiatives aimed to guarantee the wellbeing of Abu Dhabi families, including parents, kids aged 0-8 and their caregivers and relatives being active part of family life.

The secondary target group is composed of all the actors populating the ecosystem where children grow, and including therefore educators, tech and media companies, and all the organizations supporting families in the growth of their children.

The beneficiaries are all Abu Dhabi kids and families, irrespective of their nationality, ethnicity, social and income status, who will benefit from policies and initiatives able to address timely their challenges, needs and concerns.

Implementation Resources and Partners

To implement the survey, the following resources would be needed:

- Selected staff within the ECA Data management team to be dedicated to the survey design, testing, development and to data elaboration
- An advertising agency to organize an awareness raising and survey promotion campaign to enhance replies by the population
- A partnership with local telecom providers to support survey promotion and distribution and to provide complementary data on the use of mobile devices and social networks
- A polling agency to ensure the collection of a statistically significant number of replies

It could be interesting to involve local higher education institutions in the elaboration of the survey and in its annual update. In addition, an agreement with the local press for the publication of survey data in a

user-friendly way is suggested. In particular, BWG1 suggests considering the following actors as potential partners:

a) Abu Dhabi Educational Council (ADEC): to all public and private schools to encourage parents of EC to participate and fill the survey.
b) Government universities and colleges including Higher Colleges of Technologies (HCT), Khalifa University, UAE University, Abu Dhabi Technical and Vocational Education and Training (ACTVET).
c) Announce the survey through circulation to all Abu Dhabi government departments to encourage parents of EC to participate in the survey
d) Involve the youth council in Abu Dhabi to spread awareness to parents to participate in the survey.
e) Involve the local telecom company Etisalat to spread the survey through SMS to Abu Dhabi-based parents (similar to what Department of Community Development DCD surveys).
f) Partnering with other government entities such as The Supreme Council for Motherhood and Childhood (SCMS), The Digital Well-being Council, etc.
g) Involve influencers to advertise the survey. Maybe involvement of members of Royal family in Abu Dhabi will boost participation by local and expat communities in Abu Dhabi.

Impact

The foreseen impact areas are detailed in the table below:

Action	Impact (short/medium/long term)	KPIs
Annual survey on tech use by Abu Dhabi families	Short term: the statistical data gap on tech use by local families is addressed and filled in. Medium term: awareness is raised at policy and corporate level, as well as in the public opinion on the needs and concerns of parents and their kids when using technologies Long term: policies and initiatives shift from a paternalistic to an empowering approach, oriented towards a meaningful exploitation of tech solutions focusing on how technology can be used (rather than avoided) to support well being	• The survey is carried out annually in a systematic way • At least 3000 responses are gathered the first year and an increase of 10% per year in responses is recorded. • A yearly report is produced based on survey results and distributed to relevant ministries and agencies. • The key results of the survey are presented in the media (press, TV; web site, social networks) to ensure awareness raising and outreach to the public opinion

Scientific-based Evidence

The main assumption of this output is that a periodic monitoring of technology use by families in Abu Dhabi (or elsewhere) could help in better steering future policies and initiatives addressing the happiness and wellbeing of children making them ready to face and exploit meaningfully the Fifth Industrial revolution.

Many are the policies and initiatives at world level that are based (also) on field research and particularly surveys to have a glimpse of attitudes, behaviors, needs and concerns of a specific sample of the population.

The Digital Strategy of the European Commission relies on the results of research funded through various programmes (Horizon Europe to quote the EU key funding programme for Research and Innovation) and of surveys and stakeholders' consultations run periodically across EU Member States to determine priorities of action, objectives at short, medium and long term and research priorities. For instance, the Survey of Schools on ICT in Education launched back in 2019 had the objective to benchmark the situation of ICT use across EU member states and at the same time to define a model for "highly equipped and connected classrooms".

In the US, the Digital Wellness Lab led by the Team Leader of our BWG, Dr Michael Rich, conducts research and surveys to support parents and feed with primary data the research of clinicians in the field of tech media use by young generations and its impact on family life and relationships.

At world level, again in the field of Education, PISA – the OECD's Programme for International Student Assessment – measures periodically (every 3 years since 2000) 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges. Although the results of PISA's periodic surveys have been largely contested, it is undeniable that they have strongly influenced policy orientation (see https://www.oecd.org/pisa/aboutpisa/ - how PISA shapes educational reform).

Section 2 – Survey

The text of the survey carried out in Summer 2021 is provided below. Based on the results of the survey (not yet fully available at the time this report is being written) it is suggested to revise the survey before its re-launch as detailed below (Implementable Programme section).

3 languages: Arabic, English, and Urdu

Dear Parents/Caregivers,

WED Movement is interested in learning more about technology use, social interaction, and opportunities to engage in play activities for children aged 0 to 8-years-old. This survey is strictly private and confidential and will be used exclusively by the team.

1. ECA
   a) Will not disclose Confidential Information to any third party.
   b) Will protect Confidential Information from disclosure with the same degree of care as it treats its own confidential and proprietary information of a similar nature, but in all events not less than a reasonable degree of care.
   c) Will not use such Confidential Information other than to carry out its obligations.

2. Confidential Information shall mean all information disclosed by whatever means, in any medium or format (for which ECA shall use its best efforts to identify as "confidential" including by way of marking it as such, as practical and feasible) either directly or from any other person, which concerns the business, operations or any other information, whether containing personally identifiable information or not, ECA, its Affiliates or subcontractors, will not share the personal information without consent of the respondents.

We appreciate your valuable time to assist us with this survey. We look forward to receiving your responses.

Please start the survey by clicking on the button below:

1. Are you the parent, grandparent, or guardian of any children between the ages of 0 and 8 years of age who currently live with you?

   ❑ Yes - parent/guardian

   ❑ Yes - grandparent

   ❑ No (If no, then they are automatically screened out to a thank you message).

**If Yes, then give this message:* You are eligible to take this survey.

When answering these questions, we want you to think of your child who is 8 years old or younger. If you have more than one child/grandchild who is 8 or younger, please choose only one and include their details below.

2. Please enter the full name OR initials of your child's name

3. Please indicate the Month and Year of birth of your child: (drop down menu – January to December and 2013 to 2021)

4. How many children do you have from each of the age groups are outlined below? 0-1

   2-3

   4-5

   6-8

5. Gender of your child

   ❑ Boy

   ❑ Girl

6. Does your household have a nanny or domestic housekeeper who spends time with your children?

   Yes - full-time Yes - part-time No

7. Please rank up to three types of screen media that [CHILD] uses the most (for longest and most frequently): [have response options 1,2, and 3 but only allow 3 items to be ranked]
   - YouTube
   - Streaming video on demand (e.g.: Netflix, Amazon Prime, Apple TV, Hulu, etc.)
   - Mobile games or apps
   - Shopping sites, (e.g.: Amazon, eBay, Noon.com,etc.)
   - Console games (e.g.: Nintendo Switch, X-Box, or Playstation)
   - Video chat (e.g.: WhatsApp, ToTok, BOTIM, C'Me, Facebook, Messenger)
   - Streaming music
   - Looking things up online
   - Other (…)

   7a): Based on your child's first choice in the above question, what is your level of trust in that company/platform?

   Trust rating: From 0 to 5, 0 being *no trust at all*, and 5 being *full trust*,

   7b) Please indicate how much of a problem this use is for the child from 0 to 5, 0 being *not at all*, and 5 being *a major problem*

8. True/False: Please answer the following
   a. I have my phone with me all the time
   b. I let my child use my phone or tablet when they are bored
   c. I use digital media (e.g., phones, tablets, TV, or video games) to fill leisure time
   d. I silence my phone or put it away during meals with my family
   e. When I am bored, digital media (e.g., phones, tablets, TV, or video games) is my first choice as a distraction
   f. I use my phone as an alarm clock
   g. I check my phone for messages before I do anything else in the morning
   h. If my phone buzzes, I check it right away regardless of what I am doing at the time
   i. If I am feeling stressed, using digital media (e.g., phones, tablets, TV, or video games) calms me down
   j. I use my phone while driving
   k. I do work-related emails or communications after work hours
   l. When using my phone, I lose track of time
   m. It is hard to disengage from digital media (e.g., phones, tablets, TV, or video games)
   n. My child and I use screen media together most of the time

o. Our family uses screens at meals
p. Our family uses screens during car rides
q. Devices (e.g., phones, tablets, or laptops) are in the children's bedrooms at night

9. True/False: Please answer the following

Do you use screen media (including mobile devices, streaming videos, video games, or TV shows):

a. To help [CHILD] fall asleep at night?
b. When [CHILD] is upset (crying, yelling, showing big emotions) and needs to calm down?
c. To keep [CHILD] occupied at a scheduled (consistent) time of day, while you get things done (such as making dinner)?
d. To keep [CHILD] occupied as-needed (in-the-moment, not at a scheduled time of day), when you need to get a few things done or need some time to yourself?
e. Because [CHILD] demands to play their favorite apps, video games, or shows?
f. When in transit (riding in your car or on public transit) with [CHILD]?
g. To keep [CHILD] at the table or help them eat at mealtime?

10. What are the aspects of screen media that are hard to control for you? (Please tick all that applies)

❑ Social media
❑ Video games
❑ Checking emails
❑ Checking texts
❑ Working online
❑ Seeking information online
❑ Watching videos
❑ Technology distraction
❑ Other

11. What are your favorite screen-based activities to do with [CHILD]? (rank up to 3)

❑ Watching movies together
❑ Watching TV shows or streaming video together
❑ Showing them funny or interesting things, I saw online
❑ Playing video games together
❑ Video chatting with friends or family members together
❑ Other
❑ I don't use screen media with [CHILD]

12. What are your favorite NON-screen-based activities to do with [CHILD]? (rank up to 3)

- ❑ Reading together
- ❑ Going out in nature
- ❑ Going to the beach
- ❑ Visiting families and friends
- ❑ Going shopping
- ❑ Going to theme parks
- ❑ Being with pets or animals
- ❑ Playing sports
- ❑ Community and after school activities (e.g.: Swimming lessons, chess club, robotics club, art classes)
- ❑ Volunteering
- ❑ Music lessons
- ❑ Singing together
- ❑ Dancing together
- ❑ Cooking together
- ❑ Praying together
- ❑ Arts and crafts (like drawing or painting)
- ❑ Gardening
- ❑ Playing games (like board games, card games)
- ❑ Playing imaginative games (like dress-up)
- ❑ Building things together (like LEGO, woodworking)
- ❑ Other

13. Please describe two ways that you find technology useful for your family:

14. Please describe two challenges or frustrations you have about technology use in your family

15. When it comes to technology and humanity, what are your hopes and dreams for your child in 20 years?

16. Do you have any questions or concerns about the impact of digital technologies on the physical, mental, social, and emotional well-being of children, youth, or adults?

17. Any other comments:

We have some questions about you:

18. What is your gender?

    ❑ Female

    ❑ Male

19. What is your age? (numeric response)

20. How far did you go in school?

    ❑ Some high school or less

    ❑ High school

    ❑ Some college or technical training

    ❑ Some university

    ❑ College or technical certificate or diploma

    ❑ University undergraduate degree

    ❑ University graduate degree (e.g., Masters, PhD, MD, etc.)

21. What is the total estimation of your household's income [get response options for whatever the usual income brackets are in UAE]

22. Please specify the following, you are a:

    Emirati

    Citizen

    Non-Emirati

    Resident

23. Where do you live?

    ❑ Abu Dhabi

    ❑ Al Ain

    ❑ Western Region

24. How long have you lived in Abu Dhabi?

    ❑ Less than 5 years

    ❑ 5-10 years

    ❑ >10 years

25. Does your child have any of these conditions (check all that apply):

- ❑ ADHD
- ❑ Aggressive behavior
- ❑ Anxiety
- ❑ Autism
- ❑ Cerebral palsy
- ❑ Depression
- ❑ Hearing impairment
- ❑ Language delay
- ❑ Learning problems
- ❑ Vision impairment
- ❑ None of the above
- ❑ I prefer not to say

Thank you for taking our survey! If you would like to be contacted to discuss your family's screen media use with our ECA children and technology team, please provide your email address.

Implementable Program

The aim of the annual survey would be to collect systematic data on families' use of technologies, their behavior and attitudes, the impact at the level of connection among family members with specific reference to the parent/child or caregiver/child dyad. The survey should address all Abu Dhabi families irrespective of their social status, nationality and income. Indeed, a strategy should be identified to make sure that the least interested families on the impact of technologies on the life and future of their children would be involved.

This would allow:

- To support future policies and initiatives in the field of technologies for early childhood
- To get the necessary information to feed strategies aimed at supporting a cultural change in the Abu Dhabi Society
- To get evidence (in the long term) on the impact of the adopted policies and initiatives
- To design more contextualized actions to support parents in growing their children with an empowering rather than paternalistic approach in the use of technology.

To implement this output:

- A team should be established of statisticians (ideally, these could be identified in the staff of the ECA Data Management team that worked on the survey "Life During COVID-19: Young Children and their Parents in Abu Dhabi Emirate".

- An expert committee should be established with representatives of: policy making (Ministry of Education, Public Education, Youth, Community Development to quote some); Research (in the field of pedagogy, health and technology – ideally researchers and professors from local Higher Education Institutions) and Practice (parents, educators and children).
- Partners to support awareness raising, dissemination of the survey and to ensure that a representative number of respondents is reached (Advertising agencies, telecom companies, media companies and influencers)

In Section 2 above, the questions are provided for the pilot survey run in the frame of the WED Movement 2021 activities. Starting from this survey, and its results, the Expert committee would need to work on the new survey questions for the first large scale survey to be run in 2022. Questions would need to be signed off by the technical team of statisticians before the launch. The elaboration of replies would bring two main outputs: a "technical report" addressing policy and decision makers as well as researchers and a more user-friendly version addressing parents, educators, kids, and the public opinion in general.

Subsequent versions of the survey questions would be adjusted and changed, from one year to the next, based on the survey results of the previous year. This could be coupled with additional activities stemming from consultations with stakeholders happening for instance in the frame of ECA events.

The suggested periodicity of the survey is annual, but the decision could also be taken, based on the results of the first two-three years to run it once every two or three years to better detect change in attitudes, behavior, and culture.

Conceptual details

Evidence at global level shows **little or no attention given to Early Childhood in the use and design of technologies, either at the policy making or at the market level.** Policies on technology use and access are usually designed having adolescents and adults in mind (unless strictly related to education, with a recent hype due to the pandemic). Tech companies do not address Early Childhood as it is legally not allowed. There is a lack of child-centered design approach including the parent-child dyad- **However, small children do have access to technology and to platforms and content that is not designed for them.**

At local level, no research evidence appears to exist in UAE on the use of technology, social media, platforms and multimedia content by children aged 0-8

In this context, the Parents and Caregivers survey, is aimed to understand technology use, social interaction, and opportunities to engage in play activities for children aged 0 to 8 years old. The survey is articulated in 3 main sections: a section focused on tech use by families (with questions aimed at investigating the relation between parents and tech, children and tech, families and tech, a section on play and a demographic section.

In the past, similar exercises have been conducted in the US and Canada. See for instance:

- The Growing Up Digital Initiative in Alberta (Canada).
- The Pulse Surveys of the Digital Wellness Lab in the USA.

Research carried out by some of the team members by means of interviews and focus groups.[3]

[3] Domoff SE, Borgen AL, Radesky JS. Interactional theory of childhood problematic media use. Hum Behav & Emerg Tech. 2020;2:343–353. https://doi.org/10.1002/hbe2.217DOMOFF ET AL. 353

Overstimulated Consumers or Next-Generation Learners? Parent Tensions About Child Mobile Technology Use Jenny S. Radesky, Staci Eisenberg, Caroline J. Kistin, Jamie Gross, Gabrielle Block, Barry Zuckerman and Michael Silverstein The Annals of Family Medicine November 2016, 14 (6) 503-508; DOI: https://doi.org/10.1370/afm.1976

Output 2 –

Accelerating innovative child-centered

Design Principles with Technology Companies

Section 1 - Overview

Vision and Objectives

Children's screen media and digital technology use have changed dramatically over the past two decades. When most parents were children themselves, children's media was delivered in predictable ways through a small number of channels. Though not all children's media was educational, it was easier for parents to identify the "junk food" media and set limits around "screen time" on family televisions and video games.

Then Internet-connect devices and smart technologies arrived. Children could take their favorite shows to the dinner table, the bedroom, or any moment of boredom. Anyone with a camera could create a video, post it on a major technology platform, and make money from children's advertising impressions. A few channels no longer controlled the distribution of children's media. The vast scale of content development meant that humans weren't reviewing what videos or apps children were offered before they clicked or downloaded them.

In addition, the ad-driven monetization of these new media meant that their goal was to keep users (kids included) on devices for as long as possible and coming back again and again. Children use platforms and apps filled with design tricks to keep them online longer. Parents express more difficulty keeping limits on screen time, getting children to sleep, having healthy conversations around the dinner table, and helping children learn and socialize without distractions.

Therefore, the Tech for Humanity BWG1 made one of its primary goals to **change the cultural conversation about children and technology:**

1

Children and families no longer live in a world with brief doses of "screen time" – they are immersed in digital spaces where they play, connect, learn, or get taken down rabbit holes or pressured to make purchases. Therefore, we intentionally avoid using the term "screen time" and focus more on the design of children's digital spaces and environments.

2

Parents are not the only force shaping children's digital habits. Healthy environments determine children's opportunities, make healthy decisions easier, and are more equitable than solutions that ask individual families to change their behavior. Therefore, we call for a child-centered design movement within the tech community that builds children's digital spaces , showing respect for the unique needs of young minds and their parents. By helping technology companies develop a "second bottom line" regarding positive early childhood development (ECD), we can both re-establish parents' trust in technology and make it easier for children to establish healthy tech habits.

3

Our approach moves from protecting the child to promoting their active and self-determined behaviour in digital spaces; it also promotes the involvement of their parents. With this in mind, BWG1 promotes aspirational design that nurtures, protects, and teaches digital literacy – and moves away from a "good/bad" or "do/don't" model that families often hear.

Around the world, policy makers debate what types of regulations are necessary to improve children's digital spaces. Most of these discussions focus on protection: digital privacy, data collection, and online safety. Our child-centered design approach harnesses scientific evidence about early childhood development (ECD) and insight into how the tech industry works to challenge tech designers to see their products from a child's perspective. These aspirational design principles encourage innovation to meet a "double bottom line" of both profitability and early childhood development (ECD) goals.

Families have now spent a year and a half relying on technology that doesn't always prioritize children's needs. Parents will be relieved to have new technology options whose design is intended to make parenting around screens easier, help children engage with tech meaningfully but then disengage calmly, and get the most from the time they spend in the digital world.

The primary target group of this output are tech companies (who will get suggestions on how to innovate their products and services to make them more child-friendly, thereby increasing/improving the trust parents and families have towards them. The direct beneficiaries are families, particularly children and their parents and caregivers who will get a better and more child-friendly and child-centric digital space, where their children will be able to grow and learn not just in a safe environment, but in an empowering environment.

Context

Early Childhood Authority's WED Movement is a global stage focused on creating and disseminating knowledge for advancing Early Childhood Development (ECD) in Abu Dhabi and beyond. For this edition, the Movement focuses on the following three themes with working groups comprising researchers, academicians, and practitioners:

- Tech Humanity for Children
- 21st Century Lifestyle
- Emotional Wellbeing and Social Interaction

As a part of this initiative, Team: Tech Humanity for Children has prepared a set of design principles for tech companies to adopt for making the apps, products, and content child-centric.

The WED Movement is ideally positioned to drive innovative thinking and design for children's digital spaces.

Expert Knowledge

WED and the ECA understand young minds and the contexts in which they develop. However, most tech designers and engineers have little child development or parenting background and need advice on creating products that authentically meet families' needs. In addition, prior child-centered design movements have been informed by children who can talk/express themselves (i.e., school-aged children and teens). Still, early childhood is when life skills are developed, media habits are established, and parent-child relationships and family context enormously impact child wellbeing.

UAE and Abu Dhabi's Technologic Innovation

Through ECA's start-up competition and innovative tech clusters such as Hub71, WED is unique in its ability to work directly with technology designers and engineers, test out digital products, get feedback from families, and demonstrate real-life benefits or drawbacks.

Communication with Parents

Parents who are smart tech users raise children who are smart tech users. Insights WED and ECA gain from child-centered product design will help guide novel ways to communicate with parents about finding good digital experiences for their families, how to avoid tech junk food, and supporting (rather than judging) each other.

Audience

The primary target group of this output are tech companies (who will get suggestions on how to innovate their products and services to make them more child-friendly, thereby increasing/improving the trust parents and families have towards them. The direct beneficiaries are families, particularly children and their parents and caregivers who will get a better and more child-friendly and child-centric digital space, where their children will be able to grow and learn not just in a safe environment, but in an empowering environment.

By tech companies we mean product and service providers (already established and start up) in the tech world delivering games, apps, web sites, IOT, AI, social networks, edutainment which directly and indirectly addresses and involves children, including providers of services officially addressing +14 or +16 or +18 but used by children through their parents' devices.

By families we mean parents, children in their early childhood (0-8), grandparents and all the relatives and caregivers involved in the growth of the children aged 0-8 present in all families in Abu Dhabi, regardless of their nationality, ethnicity, social status, income status and educational level.

Implementation Resources and Partners

The desired scenario is one where tech companies adopt and implement the principles when designing their products and services. This is of course a long-term objective. BWG1 recommends that the Humane Design for Children principles first be disseminated and implemented on global and local scales after sufficient feedback has been received by global experts in child-centered design and technology companies that create digital products for children.

Proposed partners for this output are:

- For actions to be undertaken at policy level: ECA and other relevant government agencies as identified by the Government and ECA itself.
- For actions to be undertaken to position the output at international level: UNICEF
- For actions to be undertaken for piloting: Anjal Z and Hub 71

As for the resources, all the proposed steps in the short and medium terms are at cost 0 as:

- The stakeholders' engagement and networking does not require any fee payment
- The piloting would be included in ongoing and already funded initiatives

In the long term, resources would be needed to

- Finalise the design principles and make them operational in the local context (the creation of an expert committee including experts in the legal, technological, social and pedagogical fields could be considered)
- Train companies in child-oriented design
- Prepare future generations of tech designers in child-centric tech design (university courses/PHD could be considered).

Impact

The foreseen impact areas are detailed in the table below:

Action	Impact (short/medium/long term)	KPIs
Stakeholders' engagement and networking	Short term expected impact: Awareness is raised at local and international level on the Digital principles and various kinds of actors are invited to endorse them	• Digital principles endorsed by at least 1 international organization and 2 countries outside UAE • At least 10 national and international stakeholders involved representing: international organisations, governments, tech companies, educators
Piloting	Medium term –evidence is provided on their applicability and feasibility	• At least 10 pilots carried out with 10 companies
Implementation at local level	Long term – innovative tech products and services are child-friendly and support child empowerment and child-parent engagement in tech use.	• Principles adopted by at least 60% of local tech companies • A child-friendly ECA label is created to be assigned to the tech companies proving to follow the design principles
Launch at international level	Long term – UAE is recognized as a forerunner in promoting innovative approaches in tech design for children	• At least 1 international partnership agreement signed with an international organization or at least 2 partnership agreements signed with other countries • 1 international launch event organized, hosted by Abu Dhabi • The Design Principles are adopted at international level.

Scientific-based Evidence

Research evidence and case studies backing up this output are provided in Section 2 below.

Section 2- Child-Centered Tech Design Principles

BWG1 has developed the following 12 Humane Design for Children principles that focus on the needs of young children, their parents and how technology companies can create sustainable and trusted relationships with children as they grow. The scientific rationale and evidence for each principle is described. Brief examples of how these could be operationalized into ECD metrics are provided for illustrative purposes, but many more innovative metrics will hopefully be developed as WED and technology designers work together over time.

Accelerating innovative child-centered design

Design Principles with Technology Companies Design Principles with Technology Companies

CHILDREN

Main Principles: Autonomy, imagination, being seen and heard, building meaningful insight and knowledge; not distracted or coerced to engage

1. **Children are seen and recognized as being in digital spaces.**
    - Rationale: Children often access platforms and digital products that were intended for adults.[1] For example, until 2019, YouTube claimed that children should not used its main site, despite evidence that most US children did,[2] often for longer than they watch TV on a given day.[3] Platforms like YouTube and TikTok have had to retro-fit their policies and design practices for children after the fact – rather than designing for children as a first principle.
    - ECD Metric: Tech companies know what ages of children use their products, how they use them, whether they co-play with parents, and whether their use is excessive. Products could self-identify as “child-centered” so that parents can easily find them, and know that their child will be acknowledged and taken care of in that digital space

2. **Children have a voice and can express themselves within digital spaces.**
    - Rationale: Much of children’s media is intended for *consumption* rather than *creation,*[4] often following a repetitive set of tasks[5] rather than open-ended expression or creativity. More products are needed to support children developing their own ideas, stories, and technological ingenuity (e.g., *Scratch Jr,* developed at MIT Media Lab) rather than following an app’s prompts.
    - ECD Metric: Product design includes open-ended opportunities, voice, photo, art or video recording options that are not predetermined or constrained by the tech designers.

3. **Children are given room to explore, tinker and fail, and use their imagination to generate their responses without being coerced or nudged in different directions.**
    - Rationale: Recent reviews of the app marketplace suggest that most "educational" apps have closed-loop design that focuses on rote skills, followed by simplistic rewards like virtual stickers, coins, stars, and fireworks.[5] In addition, apps have been found to use manipulative practices to nudge children to watch advertisements.[6] Open-ended "sandbox"-type apps like those from *Toca Boca* and *LEGO* score more strongly on metrics of educational quality[7] because they let children's minds take the lead.
    - ECD Metric: Product design is open-ended, not a repetitive loop of activities. Kids can fail, re-adjust, debug, and learn from the inside-out (instead of being motivated by excessive digital rewards, virtual toys, gold stars, etc.). Apps and games are easy to navigate and give the child autonomy regarding what to do next, rather than funneling down a set of activities.

4. **Design has emotional insight and an empathic lens. It helps the child see others' perspectives in rich and meaningful ways.**
    - Rationale: Well-designed programs like *Daniel Tiger's Neighborhood*, which focuses on emotional awareness and problem-solving through songs and stories, have been found to improve social-emotional skills in young children, especially when co-viewed by parents.[8] On the other hand, excessive use of mobile devices can sometimes make family members feel cut off from one another's perspectives and feelings.[9]
    - ECD Metric: Design of characters includes an explanation and understanding of their feelings, unique personalities, and inner experiences. Prompts and nudges allow children to reflect on their own experiences and inner state, not their outer appearance. Apps for parents help them understand their child or spouse's emotional experience, but also put the device away.

5. **Design processes take into account differences in children's contexts and neurodiversity.**
    - Rationale: Children with autism spectrum disorder and other developmental disabilities use media differently than typically developing children, including more use for communication and social connection,[10] but also excessive video gaming that can displace healthy behaviors.[11] Experts know that there is no "average user" when it comes to children – rather, media affects children differently based on their individual strengths and challenges.[12]
    - ECD Metric: During app or game setup, the child and parent can personalize based on the child's differences (e.g., for dyslexia: easier text/language appearance; for impulse control difficulties: setting external reminders to stop playing).

6. **Children can easily engage and disengage at will (i.e., the design provides natural stoppage points, launching points for play in the physical world) so that children can carry ideas from media into the social and physical world around them.**
    - Rationale: Children only truly learn from technology when they can carry the ideas they learned on the 2-dimensional screen to their 3-dimensional life.[7, 13] Unfortunately, design that prioritizes engagement with the screen - a goal of monetization - does not usually help children disengage and interact with the world around them.[14] Children's refusals to disengage from media is exhausting and overwhelming for parents.[15, 16]

- ECD Metric: Design helps children to not spend excessive time on the app/video/platform, particularly into the evening hours. App or platform provides stoppage cues, prompts to take a break or transfer the play idea to the physical world, or something to discuss with a caregiver. Parents report fewer tantrums trying to take technology away from young children.

7. **Design has transparent surface cues that naturally teach the child digital literacy skills (e.g., understanding advertising, data collection, algorithms), as they play. Interactive design and algorithms are transparent and fair.**
   - Rationale: A lot goes on "behind the scenes" of children's apps and platforms, including data collection and behavioral advertising[17] – without making these processes transparent to child users. Kids pick up on digital literacy ideas based on what digital products teach and reveal to them, such as the reasons for recommended videos on *Netflix* or how to pick safe usernames on *ROBLOX*.[18] More could be built into user interfaces to help children naturally learn digital literacy.
   - ECD Metric: When setting up accounts or avatars, children could be coached on privacy measures, told what the app/game remembers about them and where it stores these "memories," and what data it collects and why. Children are given the choice to easily turn off automated recommender systems.

PARENTS

Main Principles: Young children learn in the context of relationships. Designs often don't make room for the parent or the child's context.

8. **Design makes space for the parent to accompany the child and help them make sense of digital experiences, is attractive to adults, and is easy to interact with the child during digital play.**
   - Rationale: When interactive design commands children's attention, it is harder for parents to interact with them,[19] especially when designs are fast-paced and don't make room for the parent (e.g., lack dual-touch input so the parent can play along).[20] "Dyadic design" that encourages parent involvement helps young children learn from media better.[8, 21] but most apps are not designed this way.[5, 22]
   - ECD Metric: Product design includes features such as dual-touch input on touchscreens, modes where several players take turns, prompts for the parents and children to talk about what they experienced together, and pacing of the app/game so that the child's attention can be attuned to the parent as well as the game.

9. **Designs of user interfaces (UIs) and setup features are flexible enough to account for diverse parenting approaches and goals (e.g., allowing more or less child autonomy) - but avoids the need for parent heavy-handedness.**
   - Rationale: Parents have diverse styles of managing kids' media use,[23] but account set-ups and parental controls are one-size-fits-all. In addition, parental controls on kids' digital products often just restrict media use, rather than helping the parent be a media mentor.[24]

- ECD Metric: The app, platform, or game has an easy-to-use setup and home screen that allow the parent to set filters, time limits or stimulates important conversations for the parent and child to have about what the child has watched. Rather than conforming to how "parent controls" are designed, parents can customize their family media planning approach to fit their parenting style.

10. **Parents' need to disengage from technology (work email, social media, mobile gaming) is considered in the design of devices and work policies.**
    - Rationale: Parents use their mobile devices for hours per day, and report feeling overly distracted. Parent mobile device use negatively impacts parent-child interaction,[25-27] child social-emotional development,[28] and feeding interactions.[29] Parents/couples who use mobile devices around each other have less satisfying relationships and poorer coparenting.[30, 31]
    - ECD Metric: Employers could consider time-outs, filters, and other technological solutions to limit the amount of work email and notifications parents need to answer while at home with their families. Parents can easily disable notifications or other disruptive phone features while at home, and work culture could reinforce that parents don't need to be "always on."

SUSTAINABLE TECHNOLOGY

Main Principles: Create sustainable, trusted relationships with parents and children

11. **Long-lasting and sustainable: Child can form a relationship with the technology over time, rather than churning in and out of the marketplace**
    - Rationale: App researchers have found that many children's mobile games disappear from the app store after only a few months.[32]
    - Sustainability Metric: Digital product lasts more than 5-10 years, driven by authentic user engagement and child-centered updates as needed.

12. **Design is environmentally friendly by default and doesn't take up too much of a carbon footprint unnecessarily (e.g., through ads, data collection).**
    - Rationale: Recent research suggests that there is a large carbon footprint of training some machine learning models[33] and the data processing involved in online advertising.[34] Neither of these features are crucial in child digital products.
    - Sustainability Metric: Carbon footprint analyses are conducted, and redesigns are undertaken to reduce energy use. Online ads and data collection are minimized or eliminated.

Implementable Program

Short term: (e.g., October – December 2021)

1. *Stakeholders' engagement* in the finalization of the principles: the design principles need to be shared with public and private actors, so that all their needs and concerns are incorporated and motivation to adopt them grows. We recommend that WED distribute Humane Design for Children principles to expert researchers (e.g., Shuli Gilutz PhD, Tel Aviv University; Sonia Livingstone PhD, London School of Economics), advocates (e.g., Common Sense Media legislative lead Ariel Fox Johnson, JD), and industry designers (e.g., LEGO, Sesame Workshop, Noggin, Bidaya Media, etc.). BWG1 members can be available for in-person meetings to incorporate feedback and revision of design principles.
2. *Networking* with already ongoing similar/complementary initiatives in the world – to foster knowledge and experience sharing and avoid overlapping. These might include: Designing For Children's Rights; Reset Australia; The Digital Futures Commission (UK).

Status: At the time this report is being written, the Design Principles have been shared with the following actors within and outside the UAE:

- UNICEF
- Anjal Z and Hub 71
- Shuli Gilutz, PhD

In drafting the Principles, BWG1 has taken into consideration two major relevant initiatives at world level:

- The Children Code in the UK - (or Age appropriate design code) is a data protection code of practice for online services, such as apps, online games, and web and social media sites, likely to be accessed by children
- The Design for Children Rights, a global non-profit association, supporting the Designing for Children's Rights Guide that integrates children's* rights in the design, business and development of products and services around the world.

The feedback received has allowed to improve the principles in the final version provided in section 2.

Medium term (2021-2022)

3. *Continued Networking* - Work with UNICEF to spearhead a global consortium of child-centered designers, academics, and advocates that will raise awareness about WED early childhood Humane Design for Children principles.
4. *Piloting* – Anjal Z has offered to pilot the implementation of the Design Principles with the Startups that will be funded in its programme as of Autumn 2021. If the plan is implemented, piloting would last 4 months (Sept to December 2021). The results of piloting would need to be assessed in view of improving the Design Principles further.

Long term

5. *Adoption* - following stakeholders' engagement, networking, piloting, ideally the ECA could consider, together with relevant governmental agencies, to promote the adoption of the principles to all the tech companies based in UAE in the first stage and propose the adoption to all the companies operating in the UAE in the second stage.

   At policy level, ECA could consider the following options:

   - Implementation of the Design principles at national level and Launch of the Design Principles at international level possibly in partnership with international organisations such as UNICEF – promoting local chapters around the world.
   - Partnership with Digital Rights for Kids, integration of the Design principles with the Design for Children Rights, activation of local chapters in UAE
   - Recommend to popular platforms that algorithmic recommendation feeds elevate products (e.g., apps, videos, channels) that have met the child-centered design criteria.

Conceptual Details

In drafting the Principles, BWG1 has taken into consideration two major relevant initiatives at world level:

- The Children Code in the UK - (or Age appropriate design code) is a data protection code of practice for online services, such as apps, online games, and web and social media sites, likely to be accessed by children
- The Design for Children Rights, a global non-profit association, supporting the Designing for Children's Rights Guide that integrates children's* rights in the design, business and development of products and services around the world.

Several studies and case studies have in addition been considered as quoted directly in the Design Principles Section (see References below as well for a detailed list).

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Output 3 – Disconnection Day/Reconnection Day

Section 1 - Overview

Vision and Objectives

The output consists of two events: the Disconnection and the Reconnection days, to be organized one after the other on a specific date, which ideally becomes the national (or international?) Disconnection and Reconnection Day and is celebrated yearly.

The main objective of this output is to actively engage families in a reflection on the impact of technology use in their life and on how to exploit it to reinforce connection within the family and at community level.

BWG1 proposes to celebrate the Disconnection Day (a day when families are invited to switch off their technological devices, do outdoor or “offline” activities and reflect on the impact that being without technology has on their lives) the Friday prior to March 15, the Emirati’s Children Day, and the Reconnection Day on Saturday. The Reconnection Day would propose activities that enhance family connection and community building through a meaningful use of technology.

The reason for such a proposal is to let families Disconnect on a day associated with the concepts of family, religion, introspection, reflection, when the concept of Digital Fasting could easily be accepted. The following day could be dedicated to Reconnection, still in a family environment and in a day that is usually dedicated already to family activities. Organizing these events around March 15 could add further value to the Children Day.

Context

This output, as the other outputs proposed by BWG1, fit within the general aim of the WED movement to support the growth of children able to exploit technology at best rather than being driven by it. One of the main initial aims of the BWG was to prepare new generations for the fifth industrial revolution. In this process, children must acquire competences that help them use technologies and tech solutions in a meaningful way. A competency is commonly described as a combination of skills, knowledge and attitudes that enable an individual to perform a task or an activity successfully within a given context. Whereas knowledge and skills can be acquired through learning and practice, the attitude is more difficult to be addressed. And these events focus exactly on the attitude of children and adults towards technology, and on gradually changing it so that a positive relationship between humans and technology is created.

Audience

The events are aimed at Abu Dhabi families (kids aged 0-8, their siblings, their parents, relatives and caregivers) of any income and social status or nationality. Particular effort should be put on involving the least interested families in the impact of technology on children.

Implementation Resources and Partners:

This initiative needs proper promotion from the leadership and executive management of ECA as it is a unique one, but its outcome can be very effective in terms of the relationship between parents and children in creating meaningful interaction in the physical and digital space. ECA and Abu Dhabi as a child-friendly city can be a role model globally if this initiative is promoted at a higher level. The team suggests to:

- Involve members of royal family to announce and engage during the disconnection/reconnection day. Participation from Royal family members and their children will give a boost to this event and will encourage other families local and expat to participate.
- Involve the local and international media to cover the event and share videos (through digital platforms and SM channels) and experiences of children and parents before and after the event.
- Disseminate information about the disconnection/reconnection days through ECA programs such as schools, therapists, and other family support networks. This way, the natural support systems of these programs can be leveraged to help families creatively “unplug” during the disconnection day and find alternate activities that suit their family’s unique dynamics.
- Engage with local parks, museums, play spaces, and stores to support families in effectively disconnecting from technology and exploring other opportunities for connecting in physical and social spaces.
- Request that local businesses allow parents time away from technology on the Disconnect Day.

Impact

Action	Impact (short/medium/long term)	KPIs
Disconnection and Reconnection Day promotion	Short term expected impact: Awareness is raised at local level on the Disconnection and Reconnection Day and various kinds of actors are invited to endorse them	• At least 1 press conference is organized during the WED event to announce the Disconnection and Reconnection days dates. • The events are promoted across all national media (TV, radio, social networks) • The events are promoted by the Royal Family • The event is promoted by the Ministry of Education and of Public Education across all schools attended by children in early childhood

Disconnection and Reconnection Day Implementation	Medium term expected impact: the events organized in 2022 raise awareness on the power that human beings can have on technology and stimulates reflections among parents on the influence their own use of technology can have on children behaviour. Reflection is also improved on the voice of children	• At least 3000 families participate in the first edition of the Disconnection and Reconnection Day • Increase in participation of at least 20% each year in the next 5 years • At least 30% of participants fill in the evaluation survey of the event
Supporting change in behavior and attitudes	Long term expected impact: a cultural shift happens in Abu Dhabi society moving from technology to human determinism, abandoning the binary approach (technology is good vs technology is bad) and making parents aware of the power they have to define the digital space their children are living in, and children aware of the power they have to improve their future exploiting technology	• Raise of 15% in the coming 5 years of the students choosing a STEM path • New child centred tech industry pole launched In Abu Dhabi

Scientific-based Evidence

The idea of having a Disconnection Day came first, and was based on the experience of the Alberta Disconnection Challenge: back in 2020, in Alberta (Canada), teenagers were invited to participate in a two-week activity where "*Alberta students would assess how technology affects their sense of connection with themselves and others. With support from their teachers and families, participating students would document their technology use for one week and then embark on a one-week media fast: avoiding social media platforms, nocturnal screen time, technology around the dinner table, Internet browsing (except for schoolwork), texting (save for their parents/guardians), and listening to music with headphones*"[4].

This activity extended and supported key research findings from two main initiatives carried out in Canada: the Alberta Teachers' Association's Growing Up Digital (GUD) initiative (a study of technology, learning and health impacts on K–12 students reframing issues surrounding children's consumption of media, moving into an evidence-based examination of media's social, learning and health impacts within the population of Alberta K–12 students) and the eQuality Project (dedicated to the creation of new

[4] https://disconnectchallenge.ca https://disconnectchallenge.ca/wp-content/uploads/2020/01/Disconnect-Challenge-Alberta-2020-Lesson-Plan.pdf

knowledge about young people's use of networked spaces, with special emphasis of privacy and equality issues).

At the end of the digital fasting week, a video was produced on the impact of the Disconnection challenge on participating teens. In general, digital fasting meant more time for reflection and boredom, more outdoor activities, improved relationships, and a more conscious use of social media when re-connecting.

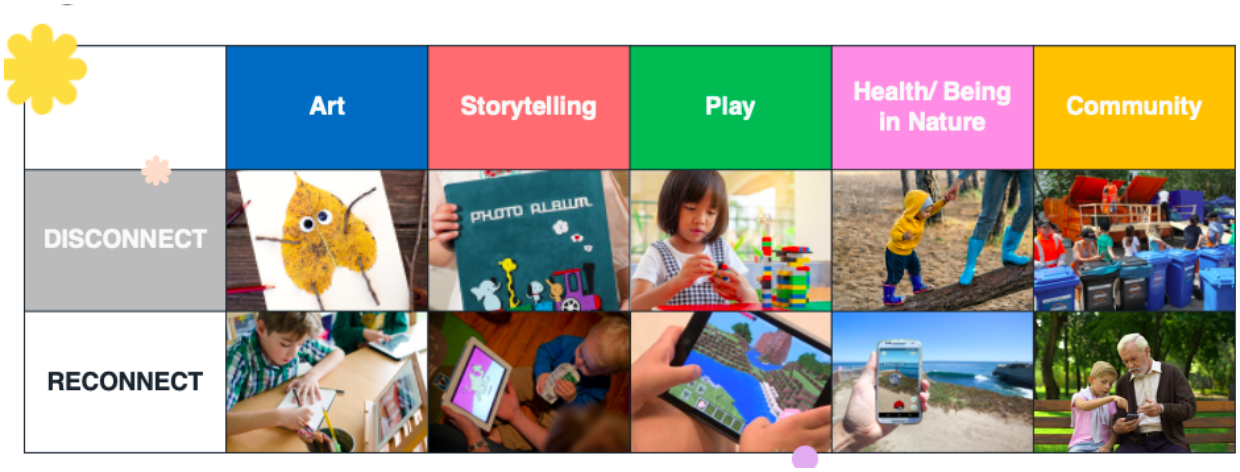
Section 2 – Disconnection and Reconnection Days

A two-day event on the Friday and Saturday closest to Children's Day. For Disconnection Day, all of the family's audiovisual technology is switched off and families dedicate to in-person activities: making art, telling stories, playing games, exploring nature and connecting with community. This is an opportunity to experience and reflect on what they are not doing and those with whom they are not connecting when they are on screens. During Reconnection Day, families will mindfully reconnect with technologies that allow them to continue, extend and enrich the activities and relationships they remembered on Disconnection Day. The aim is to sensitize parents and children on the positive opportunities emerging from thoughtful and meaningful use of technology. This 2-day weekend event is to be repeated yearly, where families disconnect to reconnect again and differently with their children

The suggested activities for the Disconnection and Reconnection Day can be implemented directly by families, with no need for mediation or facilitation.

The idea is to provide some practical suggestions and examples to families on activities that could be implemented during the Disconnection and Reconnection Day, with the possibility for families to choose their own way to spend these two days.

Below, a list of possible activities is proposed articulated in five main fields: Art, Storytelling, Play, Health/Being in Nature and Community.



For each field, Disconnection and Reconnection activities are presented. It goes without saying, the provided list is exemplary and not exhaustive, nor mandatory. Links are provided to URLs describing experiences that could be adapted to the local context or just carried out if in line with local habits.

Art (Creation of Artifacts)	
DISCONNECT	**RECONNECT**
Pick your favorite thing to create with (crayons, paint, clay, collages, sewing - whatever feels the most meaningful), and make a family portrait. *Music! kids create a music instrument – see tutorials at (https://www.bashthetrash.com/kidscorner).* *Nature Art with kids – create nature art, see tutorials at https://www.firefliesandmudpies.com/creating-nature-art-with-kids/*	*Use YouTube for creation, not consumption: Try Art for Kids Hub, which has side-by-side parent-child drawing lessons that are positive and easy to follow.* *Children creating digital art, see:* *http://scrapcoloring.com* *https://bomomo.com* *http://aminahsworld.org* *http://toytheater.com/category/art/*

Storytelling	
DISCONNECT	**RECONNECT**
Oral histories: children can ask questions to their parents and grandparents to understand unique aspects of their experiences. *Look at old family albums (not online) and see family resemblances.* *Children Story book. Children create their own books*	*Use a creative app like iMovie (on iPads - for older children) or OK Play (for younger children) to try a new way to tell your stories* *Create story books https://www.scholastic.com/parents/school-success/learning-toolkit-blog/websites-where-kids-can-create-books.html* *Create a story* *https://okplay.co*

Play	
DISCONNECT	**RECONNECT**
LEGO Serious Play: https://www.lego.com/en-us/seriousplay *Melissa & Doug screen-free ideas: https://www.melissaanddoug.com/blogpost/?postId=the-best-play-ideas-and-activities-for-screen-free-week* *Loose parts Play! https://www.playscotland.org/play/playful-learning/loose-parts-play/* *Risky PLAY! https://www.cbc.ca/natureofthings/features/risky-play-for-children-why-we-should-let-kids-go-outside-and-then-get-out*	*Try out your child's favorite video game or mobile app - racing games (like Mario Kart) or other competition games (Wii) are especially easy to try.* *If your child loves Minecraft or Roblox, have them take you on a tour of their world and everything they've built* *Play multiplayer family friendly games (Roblox, Minecraft, Just Dance, etc.)* *Learn Coding by Playing: https://www.lightbot.com https://www.scratchjr.org*

Health/ Being in Nature	
DISCONNECT	**RECONNECT**
Body movement ideas: Walks, Explorations, Play, Swimming, going to the beach (See for instance: https://letsmove.obamawhitehouse.archives.gov/what-do) *Connecting kids with nature: See for instance the NWF Green Hour initiative: https://www.nwf.org/Kids-and-Family/Connecting-Kids-and-Nature#:~:text=The%20National%20Wildlife%20Federation's%20Green,and%20learn%20outdoors%20in%20nature* *Participate with parents to environment related activities (plant trees, plastic cleaning etc.).*	*Have a look at the social profile of Nature enthusiast influencers: https://izea.com/2020/01/16/nature-enthusiasts/* *National Geographic or Disney Nature specials (or local channels)* *Create posts about nature issues and ways to help (write the posts with your kids)*

Community	
DISCONNECT	**RECONNECT**
A city run by children for a day! *https://www.fastcompany.com/90538391/see-inside-a-city-run-by-children* *Volunteering with animals* *Cleaning up public spaces (e.g., Plogging. Cleaning a city while running:* *https://waste4change.com/blog/plogging-the-new-swedish-trend-of-running-while-picking-up-trash/* • Donating unwanted toys and children read books to others • Donating portion of pocket money to charity • Start a school recycling or awareness program • Write a message of thanks to a community heroes • Participate with parents in a fun run to raise money for charity	*Geo-catching with kids. (to show that tech and nature can play well together)* *https://runwildmychild.com/geocaching-with-kids/* *Children teach grandparents how to use tech!* *https://medium.com/@pumpic/this-is-why-children-should-teach-grandparents-new-technologies-182b82b9cf5c*

Implementable Program

We suggest that implementation follows the following steps:

- October – December 2021: Refinement and adaptation of the possible activities to be carried out
- January – February 2022 – Campaign about the Disconnection and Reconnection Day with local influencers, and if possible, with the public endorsement of the Royal Family.
- Early March 2022 – publication of the list of possible activities in the form of a short and simple guide on the ECA's web site, which is also distributed to ECA-affiliated family support services so that personnel can discuss the Disconnection/Reconnection day with parents. Press coverage of the upcoming Disconnection/Reconnection Days could amplify at this point, on an international scale.
- March 11, 2022 – Disconnection Day
- March 12, 2022 – Reconnection Day
- Late March 2022: International press coverage highlighting the successes of the event

Conceptual Details

See section “Scientific -based evidence”.

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At home activity booklet for parents

Child Online Protection Guide

Enhancing Quality of Life in Abu Dhabi - results

Healthy Use of Technology Guidelines for Children from 0-8

Life During COVID-19: Young Children and their Parents in Abu Dhabi Emirate Survey - results

Parents' Guide to COVID-19 Pandemic

Parents' Platform

Time well spent initiative – results