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Conference on

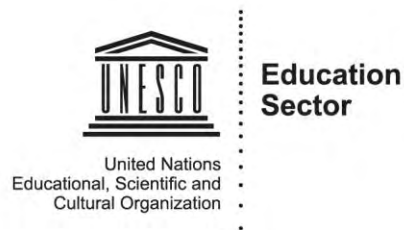
Digital Citizenship Education in Asia-Pacific

Outcome Document



UNESCO Education Sector

Education is UNESCO's top priority because it is a basic human right and the foundation on which to build peace and drive sustainable development. UNESCO is the United Nations' specialized agency for education and the Education Sector provides global and regional leadership in education, strengthens national education systems and responds to contemporary global challenges through education with a special focus on gender equality and Africa.



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UNESCO, as the United Nations' specialized agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030. Education, essential to achieve all of these goals, has its own dedicated Goal 4, which aims to ***"ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."*** The Education 2030 Framework for Action provides guidance for the implementation of this ambitious goal and commitments.



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The event was planned and implemented by the ICT in Education Programme, UNESCO Bangkok, as part of the “Fostering Digital Citizenship Education through Safe, Effective and Responsible Use of ICT” project.

Team Leader: Jonghwi Park

Project Coordinator: Maria Melizza Tan

Contributors to Outcome Document: Toan Dang, Auken Tungatarova

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Introduction

The proliferation of information and communications technology (ICT) has made them an indispensable part of our daily lives and have fundamentally changed the way in which our societies operate. The exponential growth of ICT in the past decades has significantly reduced the cost of its provision and consumption, consequently offering affordable access to technology for everyone, enabling easy access to information, people, goods, and services. As of 2015, there were almost 7 billion mobile telephone subscriptions globally, with around 4.5 billion unique subscribers (61% of the global population), while about 3.2 billion people (43% of the world's population) had internet access via mobile and/or fixed broadband subscriptions (International Telecommunication Union, 2015).

The international development community has acknowledged the “catalytic potential of ICTs to advance development agendas and priorities”, as laid out in the Millennium Development Goals (MDGs) and the recently adopted Sustainable Development Goals (SDGs). Accordingly, the Education 2030 Agenda highlights ICT as a means “to strengthen education systems, knowledge dissemination, information access, quality and effective learning, and more effective service provision”. Furthermore, the Education 2030 Framework for Action emphasizes ICT skills as a necessary skill set that citizens should acquire to confidently thrive in this globalized, knowledge-based and technology-driven world (UNESCO, 2015).

Asia-Pacific

The Asia-Pacific region occupies approximately 22% of the global land area with disparate landscapes and climates. The region accounts a population of over 4.2 billion in 2015, nearly 60% of the world's total population, of which more than 40% or over 1.8 billion are children and youth aged 0 to 24 years old (UNESCAP, 2015). Correspondingly, it entails a wide diversity of societies with varied cultures, value and belief systems, religions, languages, and economies.

Such diversity is also reflected in the levels of ICT development in the region. The International Telecommunication Union (ITU) has ranked the Asia-Pacific as the most diverse region in the world in terms of ICT development, with IDI ranging from 1.83 to 8.93, with 10 as the highest possible rating (International Telecommunication Union, 2015).

The use of ICT continues to expand tremendously among children and youth, through facilities in their homes, schools, and communities. In fact, ITU has observed that worldwide, young people are the most active users of ICT – they are nearly two times more networked than the other age groups – providing them access to information and venues for participation (UN Office of the Secretary General's Envoy on Youth, n.d.).

In the Asia-Pacific, it is estimated that 58% of youth (385M) aged 15-24 years old account for 30% of the total internet users in the region. Based on the sustained increase in internet use among youth, this figure is expected to more than double in the next five years. They are considered as one of the key drivers to ICT uptake, use, and impact in their respective countries.

Necessity for a Solid Knowledge Base to Develop Digital Citizenship Education

ICT has indeed changed the way we learn, travel, work, interact, and participate. It has made it easier for people to obtain information, process complex data, learn/enhance skills, share viewpoints and self-expressions, network with others, and collaborate on creative pursuits. Difficulties with accessing relevant knowledge bases, connecting with experts, participating in civic engagements, pursuing personal interests, and expanding one's horizon have been significantly reduced. Furthermore, ICT has enabled special sectors in society to access basic services and participate productively in the knowledge economy, such as assistive technologies for persons with disabilities (PWDs), distance and/or lifelong learning prospects for remote villages, e-health services for underserved areas, social media for e-government feedback mechanisms, e-commerce options for livelihoods among local communities, ICT for disaster and risk reduction and management for at-risk communities, and many more.

Although digital technologies have brought about significant opportunities and benefits, they have also raised an array of social and ethical issues, ranging from online scams and data theft to cyberbullying, online sex trafficking, and radicalization. The Internet has likewise provided a wide-reaching and cost-efficient vehicle for violent content, hate speech, and misleading propaganda.

Considering that ICT has become a dominant channel to participate in and contribute to the highly connected knowledge society, it is highly important for the education sector, with strong support from other sectors, to provide an enabling and conducive environment that fosters digital citizenship among children and youth. In its recent study, UNESCO (2016) articulates a broad definition of digital citizenship as “being able to find, access, use and create information effectively; engage with other users and with content in an active, critical, sensitive and ethical manner; and navigate the online and ICT environment safely and responsibly, being aware of one's own rights.” Thus, digital citizenship encompasses both the capacity to leverage the opportunities afforded by the internet for positive growth in areas such as education, skill-building, civic engagement as well as the capacity to neutralize threats and respect others.

Towards a Regional Comparative Research Framework

There is an expressed need among Member States, developed and developing nations alike, to help children and youths develop digital competencies and resilience. The educational programmes and policies that foster such competencies should be built upon a solid knowledge base and evidence-based understanding of children's behaviour, experiences, issues and perceptions in the digital space. In addition, they should include interventions that are most effective at building these competencies.

While most previous research efforts have mostly concentrated on the context of industrialized Western nations, i.e. in Europe and North America, some recent research studies were conducted by various organizations and countries (e.g. Global Kids Online, WeProtect Global Alliance, ThinkYoung and Google's Digital Resilience study, UNICEF Digital Landscape studies, etc.) to expand the knowledge base in the Asia-Pacific region. However, a cross-national comparative study and framework specifically for the context of the region is still needed to provide research tools to guide education sector policies and programmes.

It is in this light that the UNESCO Asia-Pacific Regional Bureau for Education (UNESCO Bangkok) and Google Asia-Pacific co-organized the “Conference on Digital Citizenship Education in Asia-Pacific” on 2-3 March 2017 in Bangkok, Thailand. Key organizations from Member States, field experts, researchers, private organizations, and other relevant stakeholders were invited to the Conference. Based on mapping from various frameworks and studies, an agreement was reached on core sets or domains of digital citizenship competencies that needs to be developed among children, youth, and teachers. The outputs from this exercise will feed into the design of a research tool to measure these competencies.

Conference Objectives

The objectives of the Conference were:

- 1) to present and share research findings from different organizations and propose feasible action points to a multi-stakeholder audience,
- 2) to collectively review a number of internationally accepted frameworks, and
- 3) to provide an opportunity for the organizers to consult the participants on developing the framework and methodology for a new UNESCO research, namely the “Digital Kids Asia-Pacific (DKAP; working title)”.

The regional comparative study aims to establish a clear baseline understanding of the actual perception, competency levels, and use of ICT among Asia-Pacific children and youth, and will provide as an output, a concrete research toolkit that will be freely available for anyone to use. This toolkit aims to build the capacity of researchers in comparatively assessing children and youth’s attitudes, behaviours, experiences, levels of engagement, and challenges in the use of ICT within an educational context, while addressing contextual factors across the Asia-Pacific region.

Summary of Reviewed Frameworks for Digital Citizenship Education

To summarize the competencies already covered by existing frameworks related to digital citizenship and to identify gaps that still need to be filled, the organizing team reviewed and analyzed 13 different frameworks from internationally credited organizations. The results of this analysis were presented as a draft competency framework during the Conference for the participating experts and officials to deliberate on and analyze. Eventually, the findings of the ongoing review will inform the process of constructing a comprehensive framework that encompasses competencies for both maximizing the digital opportunities and strengthening resilience to potential risks in the digital world. The following are summaries of the 13 reviewed frameworks in alphabetical order.

The Australian Curriculum v8.3 by the Australian Curriculum Assessment and Reporting Authority (ACARA) is described as a three-dimensional curriculum, which emphasizes disciplinary knowledge, skills and understanding, and general capabilities. Its focus is on providing students with “practical opportunities to use design thinking and to be innovative developers of digital solutions and knowledge.”

Disciplinary knowledge focuses on eight learning areas and includes “Technologies” as one of the major topics. In each learning area, content descriptions specify what young people will learn, the depth of understanding, and knowledge and skill of the content.

General capabilities are defined as an interconnected set of knowledge, skills, behaviours and dispositions that enable students to become “successful learners, confident and creative individuals, and active and informed citizens.” “Information and Communication Technology Capability” is also listed among the seven general capabilities.



Figure 1: General Capabilities in the Australian Curriculum

Designed as a progression of learning from Foundation to Year 10, two technology curriculum components are used to develop student’s ICT knowledge and capabilities: The Design and Technologies curriculum and the Digital Technologies curriculum.

Design and Technologies focuses on “design thinking and technologies to generate and produce designed solutions for authentic needs and opportunities.” In contrast, Digital Technologies focuses on “using computational thinking and information systems to define, design and implement digital solutions.”

For more details, please visit:

<http://www.australiancurriculum.edu.au/technologies/digital-technologies/curriculum/f-10>

(Australian Curriculum Assessment and Reporting Authority, n.d.)

Common Sense Education



Common Sense Education’s Digital Citizenship curriculum is a program targeted towards K-12 students to “empower them to think critically, behave safely, and participate responsibly in the digital world.”

The curriculum is based on the research of Dr. Howard Gardner and the Good Play Project from the Harvard Graduate School of Education. The premises of the project were to focus on the ways young people thought about and managed moral and ethical issues as they interacted with new media, including online social networks, blogs, games, and content sharing sites.

The Common Sense Curriculum focuses on 10 topics: privacy & security, digital footprint & reputation, self-image and identity, creative credit & copyright, relationships & communication, information literacy, cyberbullying & digital drama, and internet safety.

Responsible digital participation is heavily focused on the Common Sense Curriculum. Starting with grades K-2, it introduces the concept of the digital footprint and establishes basic knowledge about safety and cyberbullying. The upper bands of the curriculum, segregated into grades 3-5, 6-8, and 9-12, emphasize more proactive use of ICT by teaching strategic use of online, living a digital life, and protection against more advanced risks such as identity theft.

For more details, please visit: <https://www.commonsense.org/education/digital-citizenship>

(Common Sense Media Inc., n.d.)

DQ Institute



The DQ Institute defines Digital Intelligence (DQ) as the sum of social, emotional, and cognitive abilities essential to digital life. In the same way as how IQ and EQ measure general and emotional intelligence, DQ

seeks to measure a person’s ability and command of digital media.

DQ is defined into three progressive levels: Citizenship, Creativity, and Entrepreneurship. At the first level, DQ Citizenship is the ability to take command of digital use in responsible and effective ways. At the second level, DQ Creativity is the ability to create new content and turn ideas into reality, using new technologies and media. At the last level, DQ Entrepreneurship is the ability to bring about change and solve problems through online use.



Figure 2: Topics in DQ Institute Curriculum

The curriculum from the DQ Institute cover eight aspects of digital citizenship education, that include: digital citizen identity, screen time management, digital footprint management, cyber bullying management, digital empathy, critical thinking, privacy management, and cyber security management.

Designed as a self-learning program for children aged 8-12, the programme provides comprehensive coverage of the digital skills necessary to create informed and discerning users of technology.

For more details, please visit: <https://www.dqinstitute.org/>

(DQ Institute, n.d.)

EU DigComp



Developed by the Joint Research Centre of the European Commission, the DigComp framework aims to provide a common reference to understand and improve digital competencies, specifically for the European initiatives. It also aims to assist the public and the private sector to be better informed on the approaches and training programmes needed in order to provide relevant services for citizens' digital skills development.

This initiative involved multiple stakeholders' inputs, bringing about the first draft. The updated version, DigComp 2.0, features updated concepts, vocabulary, and various examples of its use in the European context. More specifically, the update includes four dimensions and 21 competence descriptors.

Dimension 1:	Areas identified to be part of the digital competence
Dimension 2:	Competence descriptors and titles that are pertinent to each area
Dimension 3:	Levels of proficiency for each competence
Dimension 4:	Examples of the knowledge, skills and attitudes applicable to each competence

Figure 3: EU DigComp Competence Dimensions

Dimension 1 includes the following five competence areas, with corresponding competences that provide more descriptive indicators for each area:

- Information and data literacy
- Communication and collaboration
- Digital content creation
- Safety
- Problem solving

Some of the notable features of the framework include its focus on transversal skills; consideration of the digital environment as not having a clear dichotomy between online and offline worlds; and the inclusion of problem solving as one of key digital competencies that are necessary for the future world of work. New concepts, such as data literacy and collaboration, were added in version 2.0 to underline the changing world of digital use and competences. Additionally, it incorporates items on ethics as competences or knowledge, rather than behaviour, leaving it up to the implementing bodies to define this notion. Finally, the competences aim to act as a descriptive reference framework that provides various initiatives enough room to tailor and contextualize its application.

For more details, please visit:

<https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework>

(Vuorikari, Punie, & Carretero, 2016)

Global Kids Online



While not providing a specific set of competencies that children should acquire, Global Kids Online (GKO) serves as an international project aiming to collect comparative research data and provide evidence-based information on children's self-perceived skills and actual use of the Internet around the world.

GKO was developed as a joint initiative between UNICEF Office of Research-Innocenti, the London School of Economics and Political Science (LSE), and the EU Kids Online Network.

Developed together with various stakeholders, the GKO research toolkit consists of the following:

- Qualitative toolkit - tools to develop, collect, and analyze qualitative findings
- Quantitative toolkit - tools to develop, collect, and analyze quantitative findings
- Method guides
- Tool adaptation

The main questions that the project aims to answer are: (1) when and how does the use of the Internet contribute positively to children’s lives, and (2) when and how is the use of the Internet problematic in children’s lives.

The quantitative toolkit consists of twelve survey modules, i.e. child identity and resources, access, opportunities and practices, digital ecology, skills, risks, unwanted sexual experiences, well-being, family, school, peers and the community, and the parent module.

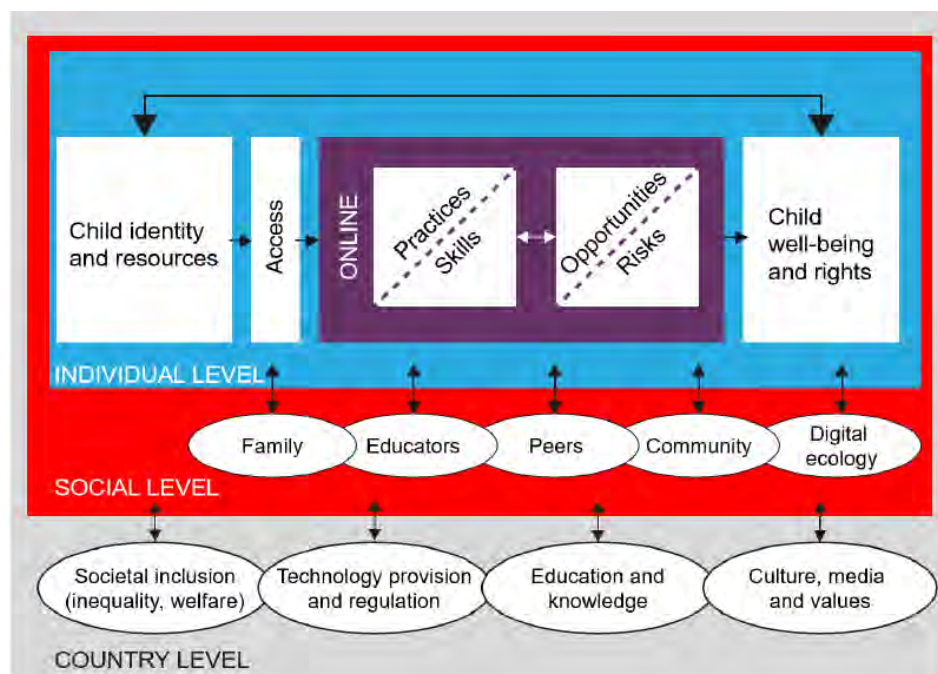


Figure 4: Environmental factors in online use

The notable component of GKO is its focus on how a child’s environmental factors – at the individual, social, and country levels – affect his/her use of the online digital space. Additionally, it promotes a balanced approach to maximizing opportunities and managing risks to minimize potential harm. It likewise dispels the idea that risks and opportunities as completely separate and disjointed concepts, since some risks can actually serve as opportunities to build competencies. Currently, research results are available from Argentina, Montenegro, Serbia, South Africa, and the Philippines (Kardefelt, 2017).

For more details, please visit: <http://blogs.lse.ac.uk/gko/>

(Livingstone, 2016)

International Computer and Information Literacy Study



The International Computer and Information Literacy Study (ICILS) is part of a series of studies that focused on the ways young people are developing computer and information literacy to support their capacity to participate in the digital age. The first of these studies began in 1989 with the Computers in Education Study, and carried throughout the 1990s and 2000s, containing various modules that reflected updates on the

implementation of computer technology resources in schools and their utilization in the teaching process.

Due to its length and standardization, the ICILS is the first international comparative study to investigate how students are developing the set of knowledge, understanding, attitudes, dispositions, and skills that comprise computer and information literacy.

The study defines Computer Information Literacy (CIL) as “an individual’s ability to use computers to investigate, create, and communicate in order to participate effectively at home, at school, in the workplace, and in society.” It is divided into two strands: strand 1 emphasizing the collection of information and strand 2 emphasizing the production and exchange of information. According to the study, CIL must combine the ability to find and synthesize relevant resources, connect to people and networks, and knowledge of how to present and express oneself online in general and through online systems.

For more details, please visit: https://www.acer.org/files/ICILS_2013_Framework.pdf

(Fraillon, Schulz, & Ainley, 2013)

International Society for Technology in Education



The International Society for Technology in Education (ISTE) Standards aim to act as a support mechanism to provide a clear set of requirements, covering skills and knowledge, that are necessary for the future world of work and to keep up with the rapid advancements in technology. The

Standards also aim to support students to become lifelong learners and equip them with the necessary skills to be able to react effectively to future challenges. It does not focus on digital resources or technologies, but rather on harnessing the competencies through technologies.

The ISTE Standards for Students defines stages of learner attributes that enable them to thrive in the future world of work. These include: Empowered Learner, Digital Citizen, Knowledge Constructor, Innovative Designer, Computational Thinker, Creative Communicator, and Global Collaborator. Each stage consists of a set of indicators, measures, and description. These Standards are encouraged to be used by educators for every age group in order to promote the development of these skills throughout the students' academic lifespan.



Figure 5: ISTE Stages of Learners

For more details, please visit:

<https://www.iste.org/standards/standards/for-students-2016>
(ISTE, 2016)

OCED Skills Research



The OECD Survey of Adult Skills is a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC). The study is designed to measure three main domains of adults' proficiency in literacy, numeracy, and problem-

solving skills, and whether and how those skills are used on the job and throughout life.

The first round of the survey in 2013 covered 24 countries and economies and was reported in "OECD Skills Outlook 2013: First Results from the Survey of Adult Skills". Data was collected from an additional nine other countries and economies during 2014-15, increasing the coverage to thirty-three countries over two rounds. In total, over 215,942 people participated in the study, or a minimum of at least 4,000 participants from each country.

Of the three domains, proficiency in literacy and proficiency in problem-solving are related to ICT competencies.

- The Survey defines literacy as "the ability to understand, evaluate, use and engage with written texts in order to participate in society, achieve one's goals, and develop one's knowledge and potential." Due to the growing importance of digital devices and applications as a means of generating, accessing and storing written text, the survey included "reading digital texts" as an integral part of how literacy was measured.
- Problem solving in technology-rich environments is defined as "the ability to use digital technology, communication tools and networks to acquire and evaluate information,

communicate with others and perform practical tasks. It focuses on the abilities to solve problems for personal, work and civic purposes through the use of information through computers and computer networks.”

Focused on how education and training assist individuals in participating in society and the economy, the competencies defined in the study emphasizes how well adults can use ICT tools and applications to assess, process, evaluate and analyze information in a goal-oriented way.

For more details, please visit:

<http://www.oecd.org/skills/skills-matter-9789264258051-en.htm>

(OECD, 2016)

ThinkYoung Digital Resilience



The ThinkYoung Digital Resilience study is a multinational research project exploring the ability of children aged 9-18 to prevent and respond to online risk. It also looks into how education can be provided to develop their skills and characteristics to use the Internet safely.

Going beyond the viewpoint that risks and opportunities online are placed in opposition, the study sought to answer the question of “how to best keep children safe when online but also free to access and use the internet in a way for both individual empowerment and for actively seeking and benefiting opportunities.”

At the centre of the study is the concept of digital resilience, which encompasses a set of skills and attitudes that allow a young person to avoid and/or adapt to risky situations faced online. These range from being able to avoid risk through online awareness and prevention, the abilities to be unfazed by risk, and the competence in using strategies to respond to risk.



Figure 6: Skills and Characteristics for Digital Resilience

According to the framework, a digitally resilient young person has the following set of skills and characteristics:

- Awareness of the risks present
- Cognitive strategies to engage and problem solve
- Instrumental actions to cope and respond to risk
- Communication when faced with risk or upsetting situations

The unique difference about the Digital Resilience framework is its consideration of the differences between preventive competencies

and reactive competencies. Preventive competencies refer to the ability to use specific technical instruments and behaviours to avoid risks, while reactive competencies refer to the ability to tackle adverse situations in a problem-focused way, and to transfer negative emotions into positive (or neutral) feelings.

For more details, please visit:

<http://www.thinkyoung.eu/digitalcitizenship>

(ThinkYoung, Rimini, Howard, & Ghersengorin, 2016)

UNESCO ERI-NET Transversal Skills



The UNESCO-ERI-NET Transversal Skills framework is the result of a regional study on integrating 21st century/transversal competencies in education policy and curriculum framework in ten countries in the Asia-Pacific Region.

The framework seeks to cover the broad range of skills and competencies that are necessary for learners to navigate the changing global landscape. Transversal skills are sometimes referred to as 21st century skills and include innovative thinking, creativity, adaptability, respect, global awareness and communication, among others.

The framework is split into four broad domains of skills, competencies, values and/or attributes:

- critical and innovative thinking
- inter-personal skills
- intra-personal skills
- global citizenship.

For more details, please visit: <http://unesdoc.unesco.org/images/0024/002465/246590E.pdf>

(Care & Luo, 2016)

UNESCO Global Citizenship Education



The publication, “Global Citizenship Education: Topics and learning objectives” by UNESCO is a pedagogical guidance on global citizenship education.

Global citizenship education aims to be transformative, building the knowledge, skills, values and attitudes that learners need to be able to contribute to a more inclusive, just and peaceful world. It takes a multifaceted approach, employing concepts and methodologies already applied in other areas that include human rights education, peace education, education for sustainable development and education for international understanding and aims to advance their common objectives.

The core conceptual dimensions of global citizenship education are:

- Cognitive: To acquire knowledge, understanding and critical thinking about global, regional, national and local issues and the interconnectedness and interdependency of different countries and populations.
- Socio-emotional: To have a sense of belonging to a common humanity, sharing values and responsibilities, empathy, solidarity and respect for differences and diversity.
- Behavioural: To act effectively and responsibly at local, national and global levels for a more peaceful and sustainable world.

For more details please visit: <http://unesdoc.unesco.org/images/0023/002329/232993e.pdf>

(UNESCO, 2015)

UNESCO Media Information Literacy



The UNESCO Media Information Literacy (MIL) framework brings together the previously separate disciplines into one: media literacy and information literacy, in order to approach these fields in a holistic manner. While information literacy focuses on access to information and evaluation of its use, media literacy

underlines the skills of understanding, evaluating, and engaging with media.

MIL is defined as a set of competencies that empowers citizens to access, retrieve, understand, evaluate and use, create, as well as share information and media content in all formats, using various tools, in a critical, ethical and effective way, in order to participate and engage in personal, professional and societal activities. Key elements of MIL are outlined in Figure 7:

Information Literacy

Define and articulate information needs	Locate and access information	Assess information	Organize information	Make ethical use of information	Communicate information	Use ICT skills for information processing
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Media Literacy²

Understand the role and functions of media in democratic societies	Understand the conditions under which media can fulfil their functions	Critically evaluate media content in the light of media functions	Engage with media for self-expression and democratic participation	Review skills (including ICTs) needed to produce user-generated content
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Figure 7: Elements of Media Information Literacy

The main focus of MIL is to equip citizens with 21st century skills. There are two main categories of the proposed MIL indicators that are further divided into sub-categories:

- Tier 1: focuses on measuring the availability of institutions that promote MIL. In other words, analyzing the readiness at policy and institutional levels.
- Tier 2: focuses on developing MIL among students, teachers, and teacher trainers. This would imply measuring competencies for each of these groups.

For more details, please visit:

http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/unesco_mil_indicators_background_document_2011_final_en.pdf

<http://unesdoc.unesco.org/images/0019/001929/192971e.pdf>

(UNESCO, 2013)

UNICEF Digital Landscape Studies



The “Voices of Youth Citizens” report was a result of UNICEF’s desk review of the digital landscape in a number of countries around the world.

The review was led by the Social and Civic Media unit in the Division of Communication, UNICEF Headquarters, in partnership with various country offices, government agencies, and/or local NGOs. It aimed to understand the use, access and impact of digital technologies and social media on adolescents and young people in its respective countries.

The report examines the role of technology in the lives of adolescents and young people living in middle-income and developing nations. Although it does not provide a framework for digital citizenship, the report provides broad insights of the legal and digital environmental contexts within which digital citizenship operates.

For more details, please visit:

https://www.unicef.org/malaysia/UNICEF_Digital_Landscape_in_Malaysia-FINAL-lowres.pdf

(UNICEF, 2014)

Patumwan Demonstration School. What follows are key points that emerged from a synthesis of presentations and discussions.

Room for Improvement in Government and Education Policy Preparedness

Ms Jonghwi Park, Project Specialist at UNESCO Bangkok, shared about the role that UNESCO is playing in supporting digital citizenship education with its [Safe, Effective, and Responsible Use of ICT \(SERU-ICT\) Project](#).

From 2015 to 2019, UNESCO is implementing a three-phase project to promote policy dialogue and develop the digital education capacities of its Member States in the region. Phase 1 of the project was rolled out from 2015-2016 and encompassed a baseline study of government and education policies to take stock of the policy readiness in the region.

The study found that countries were generally taking a multi-sector approach with involvement from health, law, education, and cyber security professionals. Although many countries had some form of policy measure to support children's digital citizenship, 36% of participating countries were still lacking any element of policy measure.

At the national curriculum level, there was sufficient emphasis on basic ICT skills. However, more sophisticated ICT skills such as cyber-wellness, screen management, and resilience were less covered, especially for the younger age groups.

There is also plenty of room for improvement in preparing teachers with ICT skills, where only 30-43% of participating countries had an ICT skills standard for pre-service teachers. Likewise, focus on in-service teacher training is more on basic ICT skills and less on more sophisticated ICT skills.

Lastly, the study found strong evidence that there was a positive correlation between Member States' policy readiness to empower children through ICT opportunities and policy readiness to address potential risks.

Starting from 2017-2018, Phase 2 of the project will conduct a study with the working title "Digital Kids Asia-Pacific" (DKAP), which will provide evidence-based knowledge to guide policy and practice through:

- Tools to investigate ICT capacities, behaviours, and actual use among children and adolescents
- Documentation of existing programmes/initiatives from various regions
- A regional guide for teachers

Risks and Opportunities Progress Along a Spectrum

Both Mr Daniel Kardefelt-Winther, Research Coordinator at UNICEF-Innocenti, and Mr Andrea Gerosa, Founder at ThinkYoung, called attention to the notion that risks and opportunities are not a dichotomy but are actually placed along a spectrum. The context of the users must be understood because what can be seen as a risk for one individual can be an opportunity for another. And what can be an opportunity for one individual can be a risk for another. Further, Mr Kardefelt-Winther emphasized that the surrounding factors such as the individual, support

networks, social norms, and political and legal context are all deeply linked to the individual's positive or negative online experience, and thus should be included in the analysis.

Exposure to certain degrees of risks and vulnerabilities is not necessarily bad. More exposure can lead to increased experience and stronger resilience, explained Mr Gerosa. Dr Amanda Third, Associate Professor at the University of Western Sydney, added that children who are exposed to vulnerabilities and have experience with overcoming problems can become active agents and teachers for their peers. As such, participants were encouraged to minimize the impact of over-reaching content filters that might undermine a child's access to information and restrict the child's ability to lead, explore, and build resilience through active engagement with the online world.

Ultimately, digital citizenship education should seek to both aid in increasing the opportunities for one's benefit and managing risks to minimize harm for the individual.

Incorporate Young People in Policy Development

Dr Third emphasized that the idea of digital citizenship is an idea that is projected by us, but with the greatest stake for young people, with the divide between the offline and online digital space being less defined for the younger generation. In light of this, policy makers must involve young people at a deeper and more consistent level to reflect their voices and concerns about their wellbeing in digital space.

The panel including Ms Lucy Thomas, Co-founder at Project Rokit; Mr James Sayer, Head of Mathematics at Patumwan Demonstration School; and Mr Arnakorn Baimongkol, Student President at Patumwan Demonstration School, underscored this sentiment. "Kids see things differently. The good and bad behaviours happen both online and offline," says Mr Baimongkol. You need to have real conversations with children, use their language, and empower them, says Ms Thomas.

Start Digital Citizenship Education at a Young Age

Heavy use of digital media and devices can start as young as 7 years old. The Infocomm and Media Development Authority (IMDA) of Singapore found that 64% of its respondents who used social media had done so between the ages of 7 and 10. Dr Yuhyun Park of DQ Institute confirmed that many children start getting their own devices by 10 years old.

In contrast to such reality, UNESCO's policy review study found that cyber-wellness and digital skills development is much less established in the national curriculum for the younger children than for older children. The study also recommends governments to provide age-appropriate ICT infrastructure for early childhood education to enable the provision of the digital citizenship education, starting from younger ages.

Engage Multiple Stakeholders

All of the experts and panelists underscored the need for digital citizenship education to be developed through a holistic approach, with engagement and collaboration from multiple stakeholders and various sectors.

For example, according to Dr Park, the close participation of international organizations, NGOs, governments, research institutions, IT industry, and community leaders enabled the [DQ Institute](#) to accelerate its outreach into 90% of primary schools in Singapore.

The behaviours of youth in dealing with the risks and opportunities that they meet online requires the engagement of schools, teachers, parents, and most importantly other students and youth.

The study by [Global Kids Online](#) (GKO) found that when something upsetting occurred online among its young respondents, the majority of them talked to friends, a smaller percentage with their parents, but a very small percentage with their teachers. [ThinkYoung](#) found that although 50-60% of its respondents in the Asia-Pacific were capable of dealing with online risks through independent cognitive or instrumental resilience, only 27% were capable of communication resilience by speaking with others. [Project Rokit](#) found that 36% of teens had experienced cyberbullying but only 49% of them were confident in challenging cyberbullying. Clearly, interventions must come from multiple sources in order to provide appropriate and timely interventions.

Dr Yongtae Shin from Soongsil University reflected that although South Korea is the most developed country in the world in terms of IDI, there is still a significant need for the upskilling of teachers and parents. Mr Sayer expressed the need for adequately localized resources, incentives, standards, and environmental factors to support teachers.

Designing the Competency Framework

Draft Framework

Based on the review of the 13 frameworks as well as a wide range of inputs from the participants during the Conference, the organizing team presented an initial draft competency framework with seven domains: basic IT literacy, information literacy, creation and adaptation, communication and collaboration, digital identity, digital ethics, and digital wellbeing. These domains encompassed the spectrum of knowledge, skills, and attitudes.

Table 1: Mapped Competencies from Reviewed Frameworks

	Domain	Description
1	Basic IT Literacy	Access, locate, and find information, navigate multiple pages and apps
2	Information Literacy	Use, organize, and evaluate info in a critical manner
3	Creation and adaptation	Create and adapt contents to their own context
4	Communication and collaboration	Connect and engage with others as well as contents
5	Digital identity (safety)	Digital footprint, privacy, and protecting personal information
6	Digital ethics	Respect others / differences, rights of others
7	Digital wellbeing	Screen time, health, own rights, cyberbullying, coping strategies, etc.

The draft framework was refined through Session 6.1, where participants deliberated, by groups, to determine the appropriateness and comprehensiveness of the 7-domain framework and its suitability for the Asia-Pacific context.

Some of the key points discussed amongst the groups were:

- The framework must distinguish between inputs, skills, and outcomes (e.g. digital wellbeing and empowerment are outcomes but not necessarily skills).
- The framework should consider the environmental context such as parents, schools, ICT system, and peers.
- Safety is a critical component that should be highlighted as an individual competency.
- Digital citizenship does not just happen exclusively online, the framework should consider the intersection between online and offline environments, and how children navigate between the two spaces.
- Fewer domains would benefit the future design and mapping of the measurement instruments for the framework. It would also make it easier for Member States or organizations to adapt the framework to their local contexts, hence more opportunities for successful implementations.

Refined Framework



Figure 9: Refined Framework

Feedback from the experts, country representatives, and other participants were consolidated and guided the organizing team in refining the framework. The revised framework is composed of four succinct domains, with a couple of open domains for further consideration. Drawn on the earlier discussion, the four domains represented competencies that are required to achieve digital wellbeing – which was clarified as the target output instead of being one of the competency domains.

Digital Literacy

A number of the previous skills domains such as basic IT literacy, information literacy, and creation and adaptation were merged into one Digital Literacy domain. Defining this domain

is especially important and timely as it is related to one of the global indicators of Sustainable Development Goal 4, namely Indicator 16.2 “Proportion of youth and adults with ICT skills”.

Digital Safety

As staying safe and resilient to potential risks is one of the most essential competencies for digital citizenship, all the participants agreed that Digital Safety deserved one separate domain. It will serve to address the required skills for ensuring digital safety, such as adjusting configuration to protect personal information and privacy, and blocking harmful content providers and assailants.

Digital Participation

Domains such as communication, collaboration and responsible online engagement were merged into Digital Participation.

Digital Emotional Intelligence

While Digital Safety subsumes specific skills, Digital Emotional Intelligence addresses required values and attitudes for Digital Citizenship, such as digital ethics, rights, empathy, respecting diversity, etc.

There is potential for two additional competencies: one was suggested as “Creativity and Innovation”, to reflect the attainment of opportunities and benefits from ICT through one’s actions. The UNESCO team will further consult with an expert team to identify if any major competencies may have been missed and may necessitate a sixth competency domain.

Conclusion and Next Steps

The results from the Conference on Digital Citizenship Education in Asia-Pacific have provided the building blocks for the regional comparative framework.

Two agreed-upon principles during the Conference were to not duplicate and invent another framework but to build upon existing frameworks and tools that have already been proven effective. Also, the framework must be adaptable to multiple stakeholders and organizational contexts.

The ICT in Education team from UNESCO Bangkok will take the refined framework and further analyze it with a team of experts at a consultation meeting planned for mid-2017.

During the Conference, the organizers gathered feedback on establishing a regional network to build upon the deliberations and agreements. Participants shared their ideas on the network’s roles, potential activities, and outputs, including a clearinghouse of relevant knowledge and good practices that will contribute to expanding digital citizenship education within the region. Google Asia Pacific has agreed to take the lead in continuing the discussion to consider its feasibility and opportunities. It will also talk to potential partners to ensure the best implementation for the platform.

Upon completion of the regional framework in mid-2017, the next step for the DKAP project will be an official launch with three to four pilot countries in the third quarter of 2017.

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Annex A: Final Programme of the Conference

Day 1	
08:30-9:00	REGISTRATION @ Napalai Room
09:00-9:30	<p>INTRODUCTION - Opening Ceremony</p> <p>Welcome Remarks by <i>Barbara Navarro, Director of Public Policy and Government Relations, Asia Pacific- Google</i></p> <p>Meeting Overview by <i>Jake Lucchi, Head of Online Safety and Social Impact, Public Policy and Government Relations Asia Pacific- Google and Jonghwi Park, Programme Specialist, ICT in Education, UNESCO Asia Pacific Regional Bureau for Education</i></p> <p>Introduction of Participants & Agenda-Setting</p>
9:30-10:15	<p>Session 1: DEFINITION - Keynote on Digital Citizenship: A holistic approach for empowering young users online</p> <ul style="list-style-type: none"> By <i>Daniel Kardefelt Winther, Research Coordinator - Children & ICT, UNICEFInnocenti</i>
10:15-10:45	COFFEE BREAK
10:45-12:30	<p>Session 2: STUDIES - Panel on Research Exploring Aspects of Digital Citizenship Moderator: Narayanan Sreenivas, DigiBaynihan</p> <p>Research:</p> <ul style="list-style-type: none"> UNESCO's "Digital Citizenship Policy Review and Digital Kids Asia Pacific" by <i>Jonghwi Park, Programme Specialist on ICT in Education, UNESCO Bangkok</i> "Digital Resilience: Empowering Youth Online" by <i>Andrea Gerosa, Founder & Chief Thinker, ThinkYoung</i> "Digital Intelligence, DQ" by <i>Dr Yuhyun Park, Founder, DQ Institute</i>
12:30-1:30	LUNCH
1:30-3:00	<p>Session 3: PRACTICES - Digital Citizenship in Practice: Current Initiatives Moderator: Dr. Amanda Third, Associate Professor, University of Western Sydney</p> <p>Panelists:</p> <ul style="list-style-type: none"> Government Rep: <i>Chee Wee Tan, Director of Digital Literacy and Outreach at the Infocomm and Media Development Authority of Singapore</i> NGO Rep: <i>Lucy Thomas, Co-founder / Co-CEO, Project Rockit- Australia</i>

	<ul style="list-style-type: none"> • Academic Rep: <i>Dr Yongtae Shin, Soongsil University, Korea</i> • Educator Rep: <i>James Sayer, Head of Mathematics and IT Coordinator, Patumwan Demonstration School</i>
3:00-3:30	COFFEE BREAK
3:30-5:30	Session 4: MOVING FORWARD <ul style="list-style-type: none"> • Discuss APAC Digital Citizenship network and platform (Google) • Small Group reflection and reporting back
6:00-	Cocktail Reception @ 22 Kitchen & Bar
Day 2	
09:00-09:15	Review of Day 1
09:15-10:00	Session 5 - DAY 2 KICK OFF Building a Knowledge Base on Digital Citizenship Keynote by <i>Dr Amanda Third, Western Sydney University</i>
10:00-12:30	Session 6.1 Introduction to Existing Frameworks <ul style="list-style-type: none"> • Overview of DKAP and Presentation on a synthesis of different frameworks (e.g. EU Kids, Digital Landscape studies, Digital Resilience, CyberSAFE, etc), UNESCO • Group work (synthesizing, enhancing and finalizing the assigned domain (key research elements) from the competency framework) <p>Coffee break incorporated</p>
12:30-13:30	Lunch
13:30 - 14:30	Session 6.2 Reporting back (group)
14:30- 15:30	Session 7 Next Steps <ul style="list-style-type: none"> • Additional recommendations for DKAP framework • Target: initial agreement from 3-4 countries to take part in DKAP pilot
15:30 - 15:45	Closing Remarks (Farewell tea)
16:00-17:30	Key organizations meeting (by invitation only)

Annex B: List of Participants

	First Name	Last Name	Organization	Position	Country
1	Arnakorn	Baimongkol	Patumwan Demonstration School	Student	Thailand
2	Thatsanavanh	Banchong	FES	Program Officer	Thailand
3	Wivina	Belmonte	UNICEF EAPRO	Deputy Regional Director	Thailand
4	Rodeliza	Barriertas-Casado	UNICEF EAPRO		Thailand
5	Mustaffa	Bin Ahmad	Ministry of Science, Technology and Innovation (MOSTI)	Senior Vice President, Outreach & Capacity Building	Malaysia
6	Edgar Marshall	Brinas	Department of Education	OIC-Education Program Supervisor	Philippines
7	Sarah	Cerreta	Google.org, APAC	Regional Manager	Singapore
8	Khomsom	Cherdsungnoen	Office of Basic Education, Ministry of Education	Educator, Senior Professional level, Bureau of Technology for Teaching and Learning	Thailand
9	Jae-Young	Chung	Ewha Womans University	Associate Director, Institute of School Violence Prevention	Republic of Korea
10	Toan	Dang	UNESCO Bangkok	Intern	Thailand
11	Uwin	Day	Nawala		Indonesia
12	Sutin	Dechaboon	UNESCO Bangkok	Administrative Assistant	Thailand
13	Ysrael	Diloy	Stairway Foundation	Senior Advocacy Officer	Philippines
14	Devashish	Dutta	UNICEF EAPRO	Youth & Adolescent Development Specialist	Thailand
15	Bill	Fridini	Nawala		Indonesia
16	Akihiro	Fushimi	UNICEF EAPRO	Education Specialist	Thailand
17	Andrea	Gerosa	ThinkYoung	Founder and Chief Thinker	Switzerland
18	Afrooz	Johnson	UNICEF EAPRO	Child Protection Consultant	Thailand
19	Suhaimi	Kadir	Ministry of Education	Principal Assistant Director/Head of Smart School Sector, Educational Technology Division	Malaysia
20	Daniel	Kardefelt-Winther	UNICEF Office of Research (UNICEF Innocenti)	Research Coordinator – Children and ICT	Italy
21	Myo-eun	Kim	Korea Federation of Science Culture and Education Societies	CEO	Republic of Korea

	First Name	Last Name	Organization	Position	Country
22	Gwang Jo	Kim	UNESCO Bangkok	Director	Thailand
23	Na Yeon	Kim	Google Korea		Republic of Korea
24	Supinya	Klangnarong	National Broadcasting & Telecommunication Commission	Commissioner	Thailand
25	Phansasiri	Kularb	Faculty of Communication Arts, Culalongkorn University	Lecturer	Thailand
26	Jihong	Lee	UNESCO APCEIU	Programme Specialist, Office of Education and Training	Republic of Korea
27	Jaeik	Lee	UNESCO Bangkok	Intern	Thailand
28	Matte	Love			
29	Anita	Low-Lim	TOUCH Youth & Community Relations	Director	Singapore
30	Jake	Lucchi	Google	Public Policy and Government Relations Manager	Hong Kong
31	Ann	Marie Murphy	UNESCO Bangkok	Volunteer	Thailand
32	Elina	Mubin	Ministry of Science, Technology and Innovation (MOSTI)		Malaysia
33	Madhu	Narasimhan			
34	Ashish	Narayan	ITU	Programme Officer	Thailand
35	Sreenivas	Narayanan	ASSIST	Managing Director	
36	Barbara	Navarro	Google	Director of Public Policy and Government Relations, Asia Pacific	Hong Kong
37	Rita	Nurlita	KISA	Founder	Indonesia
38	Rosalie	O'Neale	India	Senior Advisor	Australia
39	Lee Jong	Park			
40	Yuhyun	Park	DQ Institute	CEO and Co-Founder	Singapore
41	Jonghwi	Park	UNESCO Bangkok	Programme Specialist	Thailand
42	Siddhartha	Pillai	Aarambh India	Resource Lead	India
43	Jirawat	Poomsrikaew	Google		Thailand

	First Name	Last Name	Organization	Position	Country
45	Wilita	Putrinda	Inibudi	Director	Indonesia
46	Trai	Sasatavadhana	FACE	Legal Advisor	Thailand
47	Somakiat	Sankhapong	Office of Basic Education, Ministry of Education	Director Technology, Teaching and Learning Bureau	Thailand
48	James	Sayer	Patumwan Demonstration School	Head of Mathematics and IT Coordinator	Thailand
49	Sudarat	Sereewat	FACE	Executive Director	Thailand
50	Hassan Adeel	Shehzad	UNESCO Bangkok	Technical Assistant	Thailand
51	Yong-Tae	Shin	Soongsil University	Professor	Republic of Korea
52	Sam	Shoushi	Google	Public Policy and Government Relations Associate	Hong Kong
53	Alexandra	Stenbock-Fermor	UNESCO Bangkok	Intern	Thailand
54	Uma	Subramanian	Aarambh India	Founder	India
55	Chee Wee	Tan	Infocomm and Media Development Authority Of Singapore	Director of Digital Literacy and Outreach	Singapore
56	Maria Melizza	Tan	UNESCO Bangkok	Programme Officer	Thailand
57	Srida	Tauta-atipanit	FACE	Managing Director	Thailand
58	Lucian	Teo	Google		Singapore
59	Amanda	Third	Western Sydney University	Associate Professor	Australia
60	Lucy	Thomas	Project Rockit	Co-Founder	Australia
61	Hong Nam	To	Ministry of Education and Training	Deputy Director of ICT Department	Viet Nam
62	Auken	Tungatarova	UNESCO Bangkok	Programme Assistant	Thailand
63	Krisda	Tuprung	FACE	Project Manager	Thailand
64	Hoang Lien	Vu	VIA (Vietnam Internet Association)	Chairman	Viet Nam
65	Muhammad	Yamin	Nawala	CEO	Indonesia
66	Porntip	Yenjabok	Kasetsart University	Dept of Communication, Arts and Information Science Faculty of Humanities	Thailand

