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for Education

Fostering Digital Citizenship through Safe and Responsible Use of ICT

A review of
current status
in Asia and the Pacific
as of December 2014

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INTRODUCTION

Information and communications technology (ICT) plays a critical role in enabling inclusive and sustainable human development by providing people not only with “access” to information and services but also with opportunities to participate in (“voice”) and contribute to the knowledge economy (“networking”)¹. The “catalytic potential of ICTs to advance development agendas and priorities”, as laid out in the Millennium Development Goals (MDGs), has been emphasized and seen as a vehicle to promote, enable, and support the three pillars of sustainable development, namely economic growth, social inclusion, and environmental sustainability¹.

The exponential growth of ICT in the past decades has significantly reduced the cost of its provision and consumption, consequently enabling affordable access to technology for everyone. The International Telecommunication Union (ITU) estimated that, at the end of 2014, there were almost 7 billion mobile phone subscriptions (96% of global population) and roughly about 3 billion people (40% of global population) had internet access via mobile and/or fixed broadband subscriptions. To put this into perspective, this is a significant access considering that only 4.5 billion of the world population has access to a toilet facility (Figure 1). It was also estimated that at the end of 2014, 44% households had internet access².

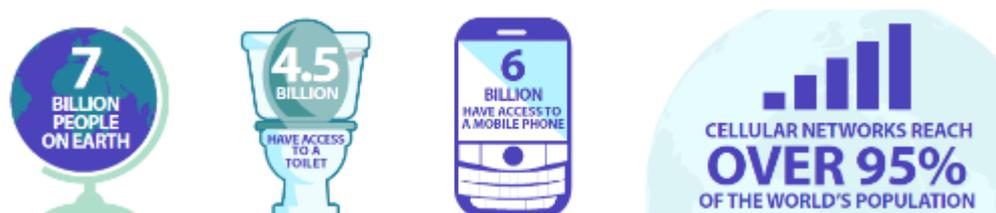


Figure 1 World ICT Coverage in perspective

ICT has indeed changed the way we learn, travel, work, interact, and participate. Without a doubt, the opportunities and benefits that ICT has brought to our lives are enormous. ICT has provided affordances for 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.

However, the very same technologies have posted an array of social and ethical issues to contend with. All over the world, numerous concerns and issues have been raised, ranging from online safety and security (identity theft, scams, system phishing, hacking, online predators and cyber bullying) to misuse of information (plagiarism, access to inappropriate contents, and misrepresentation) to health and mental hazard (long exposure to screen, back and arm pains, and game/internet addiction).

The Asia-Pacific (AP) region has not been exempted from various forms of ICT abuses, including spamming, intellectual property infringement (plagiarism and piracy), addiction,

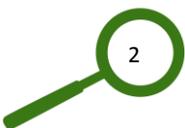
¹ Joint Statement: United Nations Group on the Information Society (UNGIS) on the Post-2015 Development Agenda (May 2013). Geneva.

http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/wsis/ungis_joint_statement_wsis_2013.pdf

² International Telecommunication Union (ITU). (2014). *Measuring the Information Society: 2014*. Retrieved from http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2014/MIS2014_without_Annex_4.pdf

delinquency, health and wellness issues, cyberbullying, identity theft, fraud/ scams, pornography, and online sex trafficking. Public anxiety has been rather high on these issues – particularly those affecting children and adolescents. Examples of which are:

- A Microsoft survey found that among 25 countries surveyed in 2012, China, Singapore, and India had the highest rates of online bullying – at 70%, 58%, 53% of surveyed children aged 8 to 17, respectively; while 33% of Malaysian children said they have been subjected to a range of online activities that some may consider to be online bullying (Microsoft’s Global Youth Online Behaviour Survey, 2012.
<http://www.microsoft.com/security/resources/research.aspx#onlinebullying>)
- 40% of Vietnamese youth survey respondents reported being cyberbullied through gaming websites, 43% from instant messaging/chat/calling mobile phones. Cyberbullying via SMS and by receiving phone calls is three times higher for females than males. (A Sinha, Youth of Viet Nam Online: A Study of the Vietnamese Landscape. April 2013.
<http://academiccommons.columbia.edu/catalog/ac%3A163004>)
- An annual study by the South Korean government found that “2% of South Koreans aged 10-19, or about 125,000 people, needed treatment for excessive online gaming or were at risk of addiction.” (“South Korean MPs consider measures to tackle online gaming addiction”. Associated Press in Seoul, 11 Dec 2013.
<http://www.theguardian.com/world/2013/dec/11/south-korea-online-gaming-addiction>)
- In Viet Nam, local reports connected the increase in juvenile crime and school truancy to the influence of and addiction to online games. (“Vietnam restricts online gaming over youth concerns”. CNN Wire Staff, CNN International, 29 July 2010.
<http://edition.cnn.com/2010/WORLD/asiapcf/07/29/vietnam.online.gaming/>)
- Cyber-terrorism is a main concern for the Tajikistan government in view of the proliferation of extremist propaganda and recruitment of youth to become militants via online means. (D Nabyeva, “Tajikistan to step up cyber-crime prevention”. Central Asia Online, 11 Mar 2014.
http://centralasiaonline.com/en_GB/articles/caii/features/main/2014/03/11/feature-01?change_locale=true)
- Surveyed youth in India are not aware of positive practices in internet use, cybercrime issues, and “privacy issues, including copyright infringement and plagiarism issues with regard to on-line materials”. (D Halder and K Jaishankar, Use and Misuse of Internet by Semi-Urban and Rural Youth in India. Centre for Cyber Victim Counselling, 2013.
<http://www.cybervictims.org/CCVCresearchreport2013.pdf>)
- In Indonesia, 70% of children surveyed said that strangers had tried to add them as a friend on a social networking site while 35% chatted with an online stranger who had tried to meet them in person. (Indonesian Youth online: An exploratory study of the Indonesian Digital Landscape. UNICEF NY, 31 January 2012. <http://www.slideshare.net/socialandcivic/indonesian-youth-online>)
- The Philippines has reportedly become a key hub for the global child cybersex industry, with victims mostly younger than 18 (youngest one reported was 3 years old), at times perpetrated by their own parents (“Philippines a global ‘source’ for child cybersex industry: police”. Agence France-Presse, Interaksyon (online), 18 January 2014.
<http://www.interaksyon.com/article/78920/philippines-a-global-source-for-child-cybersex-industry-police>)



This has prompted some groups to propose censorship or strict regulation of ICT use or Internet access³, discounting the loss of opportunities afforded by the technologies. Others have called for more in-depth understanding of the issues and moderation in use and access.

In view of these challenges, young digital citizens need to equip themselves – from early years and with ample support from those around them – with the knowledge, skills, and attitude to take advantage of the opportunities and be resilient in the face of risks. There is a clear need for specific training on the risks related to ICT use, not only for young people but their guardians (parents and teachers) as well. A core competency of digital citizenship should address how to use these technologies in an ethical, safe, and responsible way without restricting users from fully participating in and contributing to the knowledge society. As established by EU Kids Online Phase II, “efforts to increase opportunities may also increase risks, while efforts to reduce risks may restrict children’s opportunities. A careful balancing act, which recognizes children’s online experiences ‘in the round’, is vital...it is important to support children’s capacity to cope themselves, thereby building resilience for digital citizens.”⁴

SAFE AND RESPONSIBLE USE OF ICT

Digital technologies change at a rapid rate, and it will be very challenging and difficult to keep up with measures to prevent and mitigate risks associated with ICT use. Thus, a proactive approach would be to educate children, teachers, and parents on digital literacy and citizenship, or in other words, how to be a good citizen in the digital world.

There are a number of initiatives and programmes by many different governments and organisations around the world that are working on digital citizenship issues. In realising the opportunities and risks that ICT can simultaneously bring to the young generation, countries with higher Internet penetrations and technology provisions have recently paid great attention to the issues. OECD countries have come together to review the issues and the responding policies, resulting in a set of policy recommendations⁵. The European Union has also been surveying children’s behaviours annually to inform the promotion of safer and responsible use of technologies since 2011⁶.

However, despite the explosive growth of ICT in the AP region, experiences and practices of AP children remain under-researched, translating to the lack of policy responses to the issues. Researchers have observed that most of the relevant research has been done in the context of industrialized nations, i.e. Europe and Northern America. Furthermore, there is an observed lack of data for children below 15 years old, especially on ICT use in early childhood. The lack of understanding is exacerbated in relation to the situation in developing and emerging countries in which ICT devices abruptly introduce totally different opportunities and risks to children.

In this regard, there has been a call for more active research on digital citizenship in developing countries (including the AP region) and to also address its unique characteristics and

³ Rininsland, A (2012). Internet censorship listed: how does each country compare? *The Guardian*. Retrieved from <http://www.theguardian.com/technology/datablog/2012/apr/16/internet-censorship-country-list>

⁴ Livingstone, S., Haddon, L., Gorzig, A., & Olafsson, K. (2011) *EU Kids Online (II) Final Report*. Retrieved from [http://www.lse.ac.uk/media%40lse/research/EUKidsOnline/EU%20Kids%20II%20\(2009-11\)/EUKidsOnlineIIReports/Final%20report.pdf](http://www.lse.ac.uk/media%40lse/research/EUKidsOnline/EU%20Kids%20II%20(2009-11)/EUKidsOnlineIIReports/Final%20report.pdf)

⁵ OECD. (2012). *The Protection of Children Online: Recommendation of OECD Council*.

⁶ The most recent report can be found at: www.eukidsonline.net

contextual factors⁷. It is hoped that lessons learned, best practices, and resources from developed countries, can help the less developed ones equip themselves with preventive measures. In addition, ITU emphasises the need to understand characteristics, practices, and motivations of “digital natives” (15-24-year-olds actively using the Internet for at least five years), particularly in the developing countries where they drive ICT growth and uptake⁸. These research findings would also equip policy makers and programme implementers with better knowledge to work on policies, campaigns, capacity building programmes, and other forms of interventions that are appropriate and customized to the region’s context and needs.

Growing interest in the notion of digital citizenship and cyber wellness is evident in more recent UNESCO ICT in Education forums. Participants of these forums from various member states, institutions/organisations, and schools have been expressing their concerns about the possible risks and downsides of using ICT, thereby establishing a sense of urgency to secure guidance on effectively educating children and youth on the responsible use of ICT. This indicates that despite an apparent level of awareness and the assortment of existing resources and campaigns, a gap persists in this area. The demand for relevant advocacy programmes, policy responses, capability building, and corresponding resources has increased in response to the growing concerns about the safe and responsible use of ICT in education and beyond and towards promoting opportunities to maximize benefits while managing risks to minimize harm.

In view of these, UNESCO Bangkok has been undertaking the **“Fostering Digital Citizenship through Safe and Responsible Use of ICT”** Project that aims to promote policy dialogue on the issues of the ethical, safe, and responsible use of ICT and in building the education sector’s capacity in fostering digital citizenship among children, by:

- providing member states with a sound evidence base to guide policy and practice
- raising the level of consciousness among member states on digital citizenship through policy guidelines and campaigns

The project includes the following activities (Figure 2): (a) collating, synthesizing, and transmitting the experiences and resources of existing key players in this area; these serve as basis in (b) providing educational policy reviews and recommendations for the member states across the Asia-Pacific region to guide country-specific roll-out of customized initiatives in their respective countries; and (c)

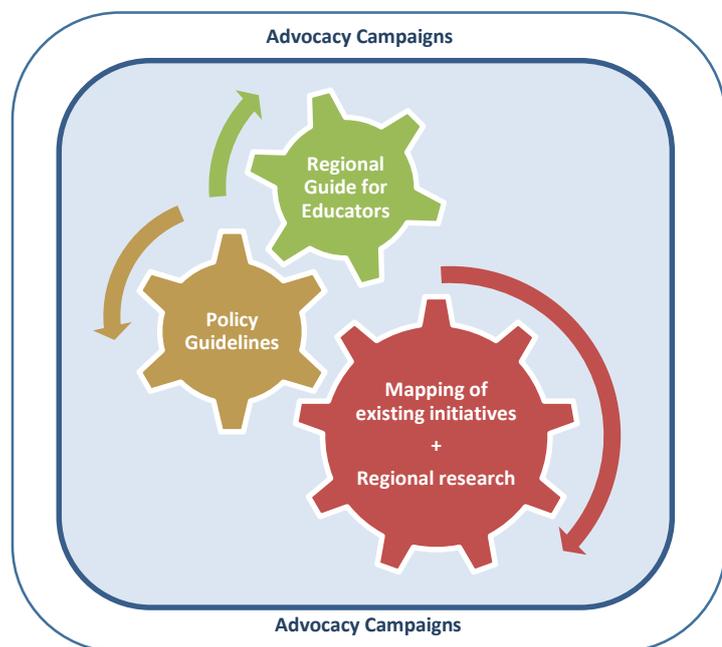


Figure 2 UNESCO's Project Activity Framework

⁷ Gasser, U., Maclay, C., Palfrey, J. (2010). Working Towards a Deeper Understanding of Digital Safety for Children and Young People in Developing Nations. *The Berkman Center for Internet & Society at Harvard University*. http://cyber.law.harvard.edu/sites/cyber.law.harvard.edu/files/Gasser_Maclay_Palfrey_Digital_Safety_Developing_Nations_Jun2010.pdf

⁸ ITU. (2014). Measuring the Information Society: 2014. Retrieved from http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2014/MIS2014_without_Annex_4.pdf

developing e-contents, including a regional guide for teachers, to build their capability in fostering student digital citizenship.

To initiate the project, a preliminary mapping exercise was conducted to take stock of and learn from experiences, findings, and resources from various existing programmes and initiatives related to fostering digital citizenship, implemented by governments, international organisations, civil society, and the private sector. This allowed the UNESCO project team to map out the current initiatives, determine specific focus areas, contextualize activities, and identify the gaps between what these initiatives do and do not cover. Specifically, the mapping exercise looked into type of initiatives, scope, target audience, activities, impacts, challenges, and success factors, among others.

Using the guiding framework shown in Figure 3, this exercise involved a desk review of online reports, studies, and other resources, to gather information about current digital citizenship and cyber wellness initiatives and programmes led by various key players in the Asia-Pacific region. An online survey was also conducted among participating experts and groups.

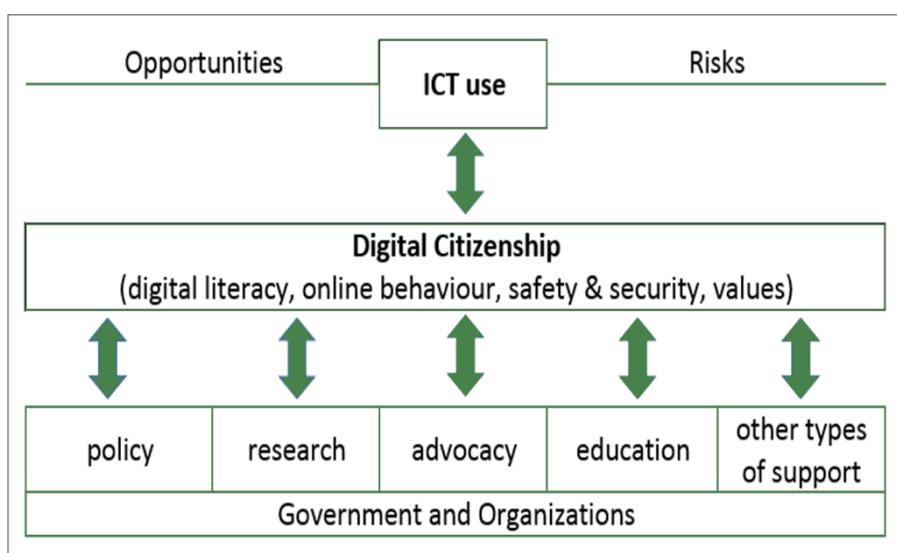


Figure 3 Guiding Framework for UNESCO's Mapping Exercise

In addition, a group of experts and practitioners were gathered through an Experts' Meeting on 6-7 March 2014 at Nanyang Technological University in Singapore, to share experiences, good practices, and resources.

This report is a synthesis of the cases, promising initiatives, and national responses related to the safe and responsible use of ICT that were gathered from the desk research and presented during the Experts' Meeting. It should be noted that the scope of this document is limited to these sources and does not represent an exhaustive analysis of all the initiatives related to the safe and responsible use of ICT.

ICT PROFILE IN THE ASIA-PACIFIC REGION

Covering 46 member states from Iran to the Pacific Islands, the Asia-Pacific (AP) region occupies approximately 22% of the global land area with disparate landscapes and climates, and correspondingly, a wide diversity of societies, cultures, value and belief systems, religions, languages, and economies. With an estimated population of 4.07 billion, the region accounts for 57%

of the world's total population, with China, India, Indonesia, Pakistan, Bangladesh, and Japan belonging to the top 10 highly populated countries in the world⁹.

ICT Development Index

As reflected in the ICT Development Index (IDI), determined by the International Telecommunication Union (ITU), the Asia-Pacific region has the largest disparity in terms of ICT development, with the IDI values (2013) ranging from 1.67 to 8.85, having 10 as the highest possible rating. The high end of the spectrum includes highly networked countries like Republic of Korea, Australia, Japan, Singapore, and New Zealand; while on the other end lies Pakistan, Bangladesh, Myanmar, and Afghanistan. In fact, 12 countries fall short of the IDI average for developing countries (Figure 4). “As a result, [the region] has by far the highest range (7.18 in IDI 2013) [and] the highest coefficient of variation (50.44 in IDI 2013), which underlines that there is an important divide in terms of ICT development between the highest and lowest ranked countries. The stark differences in ICT development reflect the region’s diversity in terms of development and income levels.”¹⁰

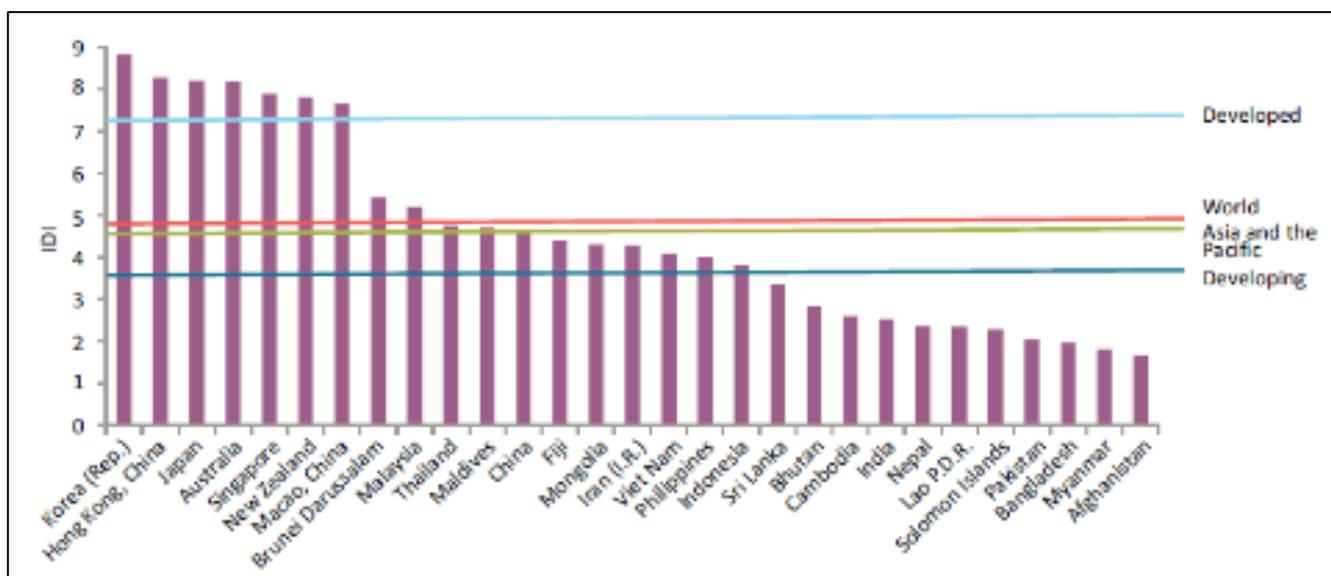


Figure 4 Comparative IDI values, Asia-Pacific, 2013

Source: ITU

Figures 5 and 6 show how the region fares with regards to various ICT indicators against averages for the world, developing countries, and developed countries. As the graphs indicate, in terms of ICT development, the region falls below world averages. And as expected, ICT indicators for the region resemble the averages for developing countries, considering the fact that 43 of its 46

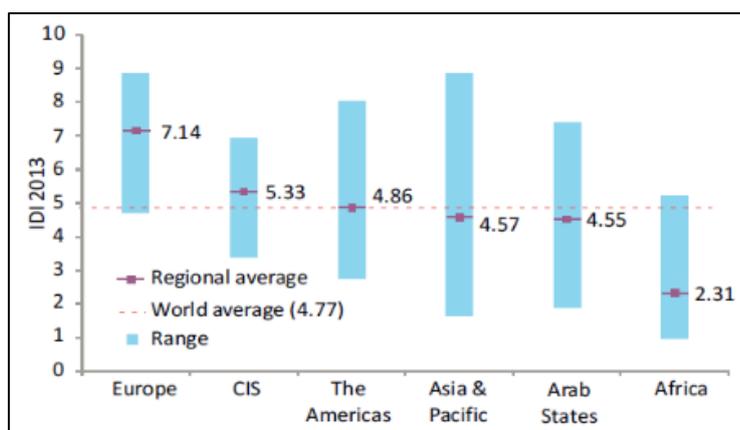


Figure 5 IDI ranges and averages, by region (2013)

Source: ITU

⁹ Internet World Stats. (June 2014). *The World Population and the Top Ten Countries with the Highest Population*. Retrieved from <http://www.internetworldstats.com/stats8.htm>

¹⁰ ITU. (2014). *Measuring the Information Society: 2014*. Retrieved from http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2014/MIS2014_without_Annex_4.pdf

countries fall under this category¹¹. It should be noted that the region has higher mobile-cellular phone penetration than computer-based access and Internet penetration.

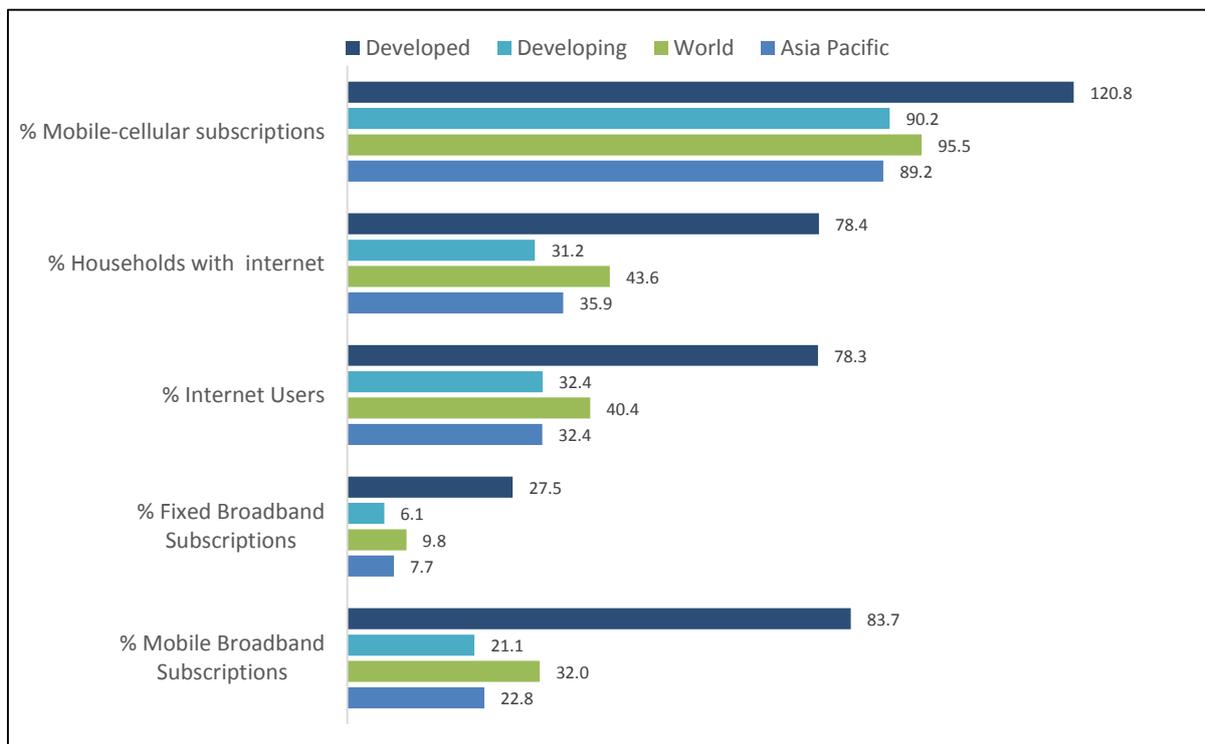


Figure 6 ICT Status of the Asia-Pacific Region, 2014 (estimates)

Source: ITU

Based on the Net Index data provided by Ookla Speedtest¹² (Figures 7 and 8), a number of countries in the region need to put in a substantial amount of effort in improving their wired and mobile broadband speeds to access the online opportunities that other countries are benefitting from. The data on wired broadband rates show that countries like Uzbekistan, Pakistan, Philippines, Lao-PDR, and Papua New Guinea have download speeds ranging from 2.71 to 3.83 mbps, trailing behind neighbours like Singapore and Republic of Korea with download speeds of 67.77 and 53.18, respectively. A similar situation is presented in the case of mobile broadband rates where most of the countries whose data are available have download speeds ranging from 0.37 to 3.84 mbps, severely lagging behind speeds available in more developed countries like Republic of Korea (21.63 mbps), Australia (20.10 mbps), PR China (18.42 mbps), and Singapore (15.13 mbps).

¹¹ Country classifications by development status, based on the UNM49 (a standard for area codes used by the United Nations for statistical purposes, developed and maintained by the United Nations Statistics Division). Retrieved from <http://www.itu.int/ITU-D/ict/definitions/regions/> Accessed: March 2014.

¹² Ookla. (June 2014). *Net Index*. Retrieved from <http://www.netindex.com/download/allcountries/> Accessed: 24 June 2014.

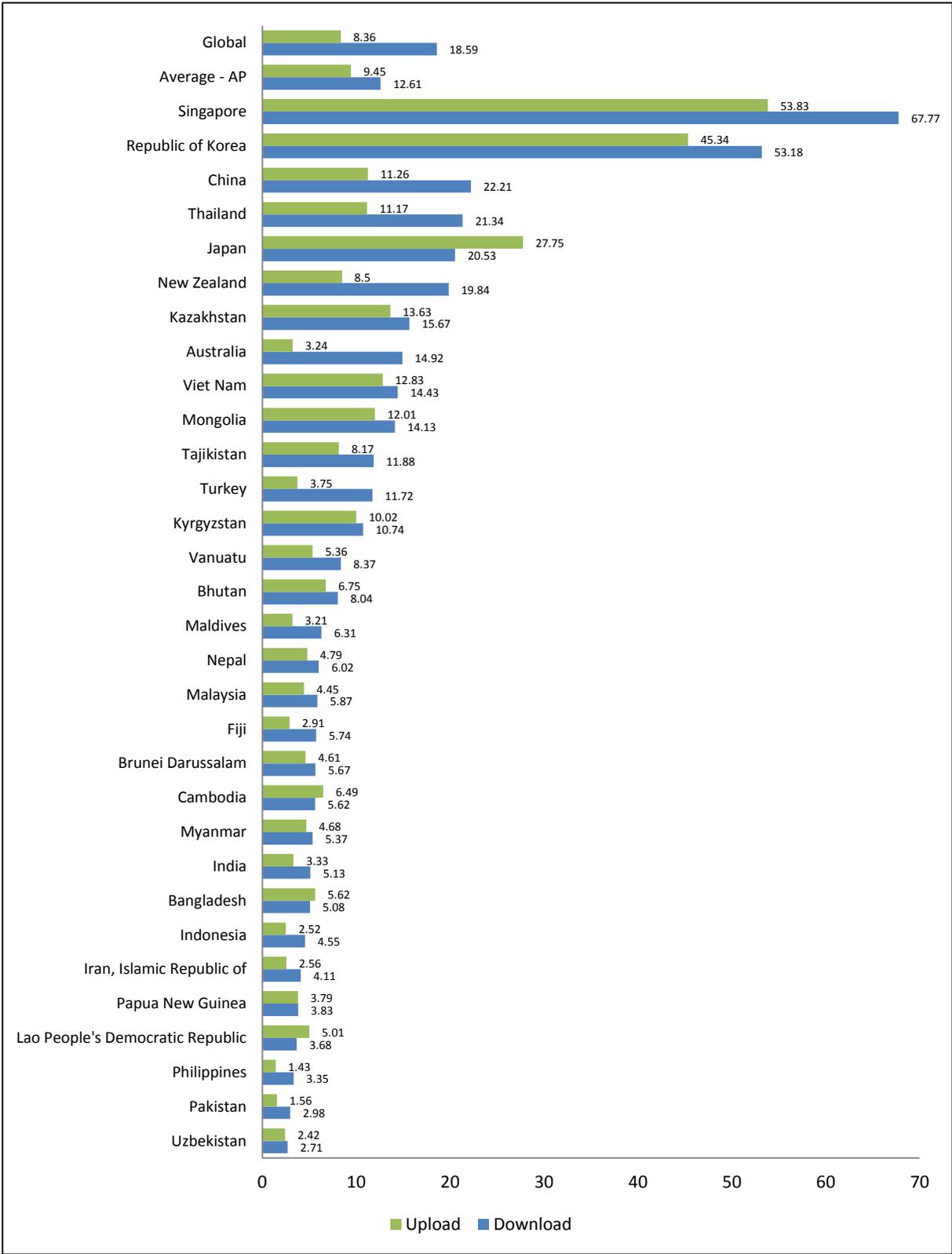


Figure 7 Wired Broadband Rates (mbps) in the Asia-Pacific Region

Note: limited to available data only; shows rolling mean speeds in mbps, real-time test; data as of 24 June 2014

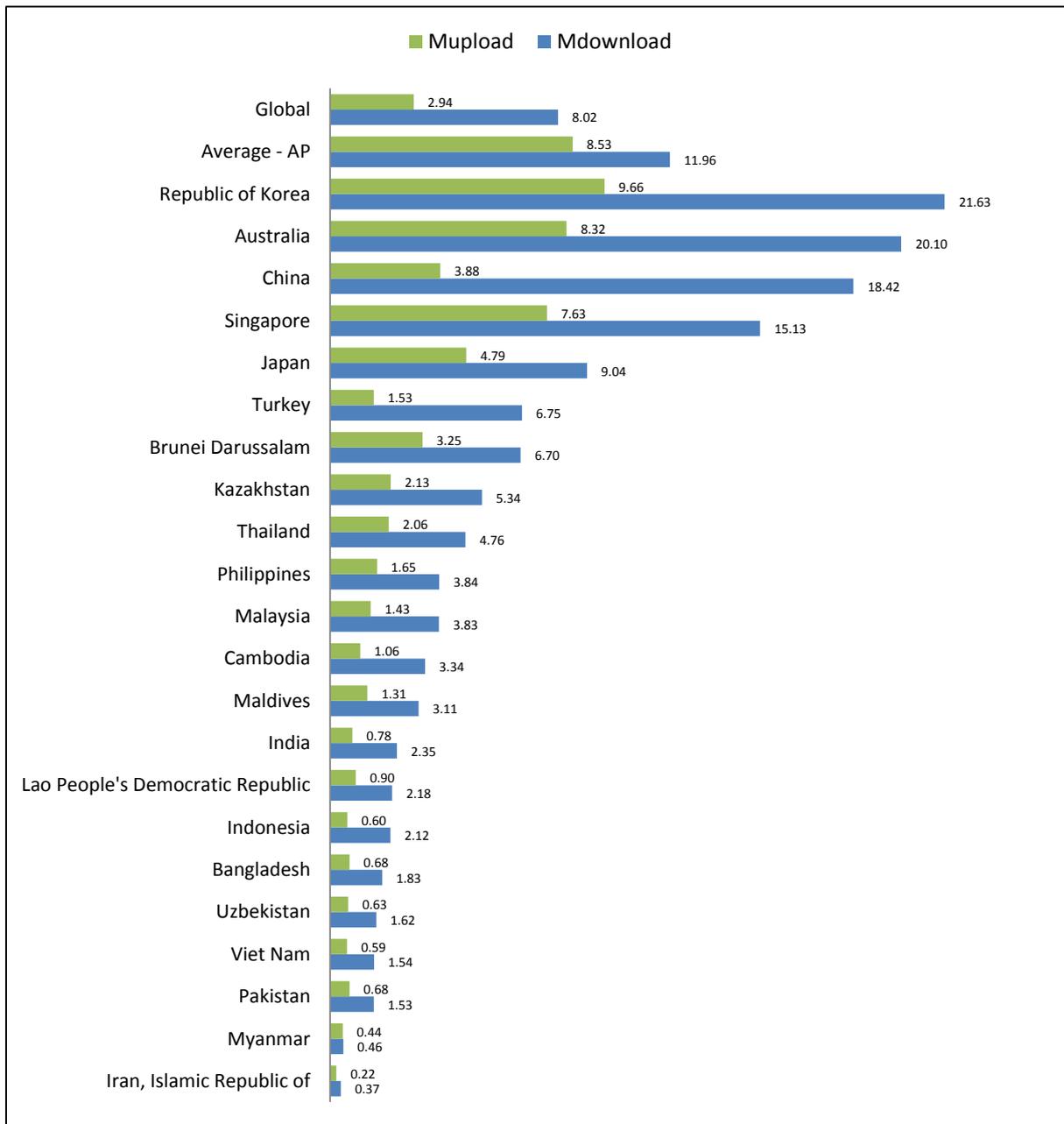


Figure 8 Mobile Broadband Rates (Mbps) in the Asia-Pacific Region

Note: limited to available data only; shows rolling mean speeds in Mbps, real-time test; data as of 24 June 2014

IDI represents “the development potential of ICTs or the extent to which countries can make use of ICTs to enhance growth and development, based on available capabilities and skills”¹³. To leverage and enjoy the potential benefits of ICTs on socio-economic development, a country has to actively and productively use ICTs and the Internet – i.e. levels of ICT skills and Internet use both have to be developed, along with availability of infrastructure and connectivity.

The IDI sub-index “ICT skills” used by ITU indicates that the AP region has a long way to go in terms of bridging the ICT skills divide among its people, with the sub-index ranging from 2.98 in Afghanistan to 9.81 in South Korea (Figure 9). It should be noted, however, that there is a need for an internationally recognized set of standards/indicators to get a more accurate measure of ICT literacy – presently, ITU uses a combination of adult literacy rate, gross secondary enrolment ratio, and gross tertiary enrolment ratio for this sub-index.

Furthermore, ITU estimates that despite the presence of an ICT-skilled citizenry in AP countries, Internet use remains low especially for those countries with low IDIs. This can be attributed to the reality that most of the AP countries are new entrants to the world of ICT and the Internet, in contrast to those in the developed side of the world (i.e. Europe and Northern America) that are highly networked and have the resources to invest in necessary infrastructure. It has also been observed that digital gaps persist within the region – across geography, generations, socio-economic status, and gender.

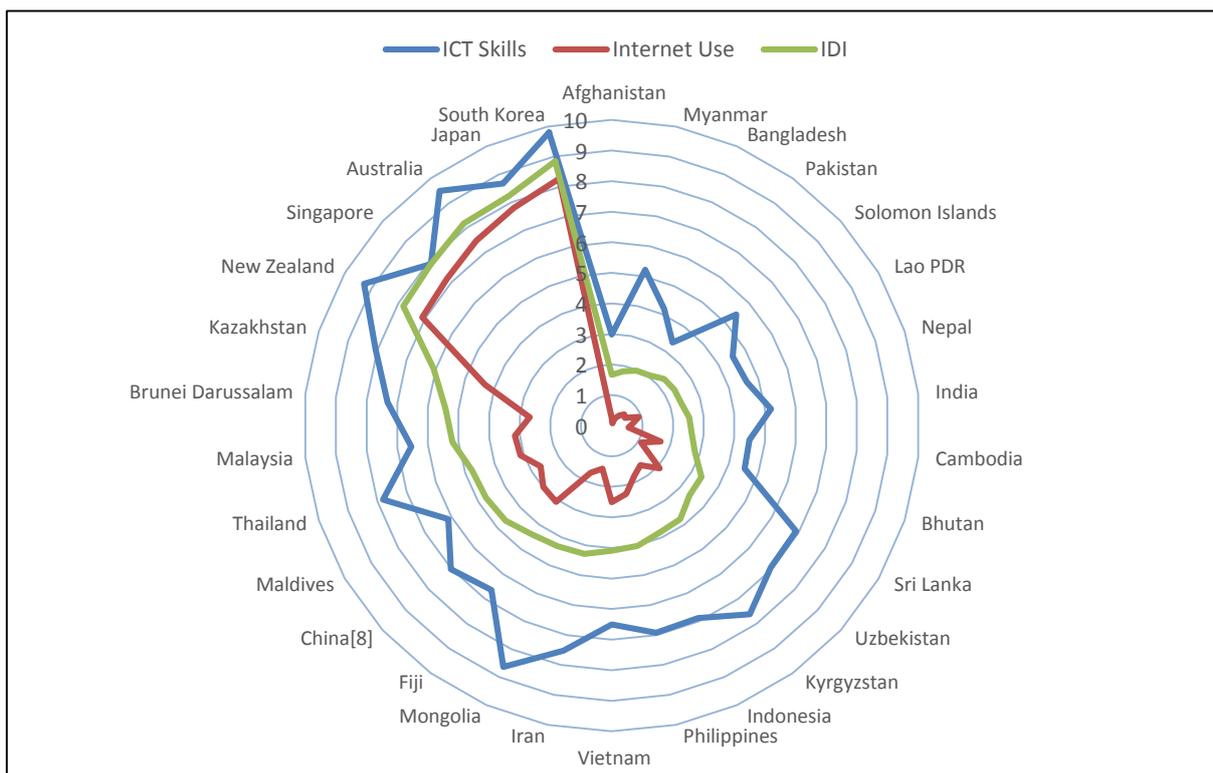


Figure 9 ICT Skills vs. Internet Use in Asia-Pacific, IDI 2013

Source: ITU

Note on the IDI sub-indexes used:

- “ICT skills” indicates the combination of adult literacy rate, gross secondary enrolment ratio, and gross tertiary enrolment ratio, in the absence of more targeted indicators like ICT literacy
- “internet use” measures the uptake of ICTs and the intensity of usage (3 indicators used: % of Internet users, % of fixed broadband subscriptions, and % of wireless-broadband subscriptions)

¹³ ITU. (2014). *Measuring the Information Society: 2014*. Retrieved from http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2014/MIS2014_without_Annex_4.pdf

The graph on Figure 9 shows that apart from the provision of ICT infrastructure and connectivity, Asia-Pacific countries need to prioritize opportunities for its citizenry to improve their ICT skills and increase Internet use in order to take full advantage of ICT affordances for sustained growth and development (IDI).

In response to these disparities in ICT development, 37 member states of the Asia-Pacific region endorsed the Leaders' Vision for "Asia-Pacific 2020 – Smartly DIGITAL (Digital Inclusive Green Innovative Transformative Affordable Living)" during the "Connect Asia-Pacific 2013", conducted by ITU in November 2013. The vision emphasized the critical role of ICT in providing citizens equal opportunities to "access, use, create, and share information and knowledge to empower individuals, communities, industries, and countries to achieve inclusive and sustainable development."¹⁴ The vision enumerates the various benefits in using ICT in the areas of governance, industry, education, inclusion, empowerment, disaster management, and sustainable development. To bring about these potential benefits, the vision recognizes the need for widespread digital literacy that builds relevant human and institutional capacity in maximizing the opportunities that ICT offers. Further, innovative multi-stakeholder partnerships are being encouraged to invest in accelerating the growth of the ICT sector in the region "to extend the benefits of ICTs to ALL". By endorsing this Leaders' Vision, member states have expressed their intent to pursue ICT developments and related initiatives, including provision of access through infrastructure deployment, raising awareness and building capability among its citizens in the effective use of these technologies, and developing creative applications and localized content.

Use of ICT among AP Youth

The use of ICT has expanded tremendously at home and in school and children are increasingly introduced to ICT at a very young age. In fact, ITU has observed that "young people all over the world are the most active users of ICTs". It is estimated that youths aged 15-24 years old account for 18% of the AP population (732 M) but form 30% of the total internet users in the region. This means that 53% of AP youth use the Internet (385 M), of which 55% (203M) are "digital natives" according to ITU. Based on the sustained increase in Internet use among youth, this figure is expected to more than double in the next five years.

ITU further estimates that the intensity of Internet uptake is twice as much among youth compared to the general population. Furthermore, these digital natives are seen as the early adopters of ICT, particularly in the use of the Internet. In view of these observations, ITU emphasizes the need to consider them as "key drivers... to ICT uptake, use, and impact" in their respective countries. Proponents of ICT therefore underscore "the need for further research to analyse how digital natives think, work and do things differently and whether this should have an impact on the way digital natives are taught or employed"¹⁵.

In a related study by the Center for Strategic and International Studies (CSIS) and the International Youth Foundation (IYF), the importance of ICT in youth well-being was included as one of the domains measured in the [Global Youth Wellbeing Index](#). Five of the 40 indicators used were

¹⁴ ITU. (2013). *Leaders' Vision, Connect Asia-Pacific 2013*. Retrieved from http://www.itu.int/en/ITU-D/Conferences/connect/Asia-Pacific/Documents/CAPS_Leaders_Vision_FINAL.pdf

¹⁵ ITU. (2013). *Measuring the Information Society: 2013*. http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2013/MIS2013_without_Annex_4.pdf

ICT-related, including “access to electricity, households with radios, ICT for development score, digital natives, and youths’ dependence on the internet.”¹⁶

Nine countries from the AP region were included in the 30-country study. Comprising 80% of the region’s youth population, the reported youth well-being ICT sub-index scores in these nine countries ranged from 0.25 to 0.90, out of a highest possible score of 1 (Figure 10), with most of them scoring 0.50 or less. In this regard, the report surmises that in relation to ICT provision and access, the majority of the region’s youth “are not generally experiencing high quality of life or conditions that will enable them to thrive and prosper”.

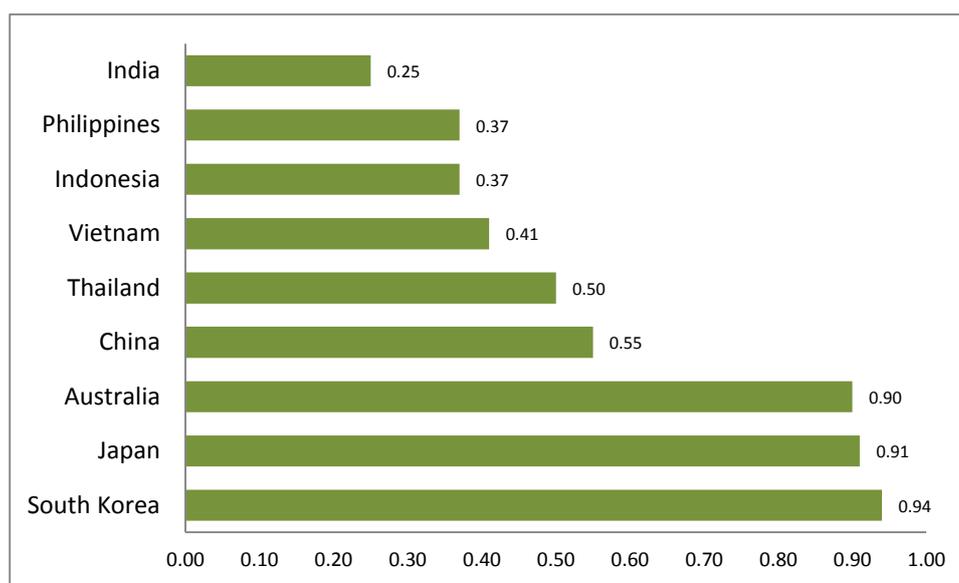


Figure 10 Youth Wellbeing Index (ICT), 2014

Source: CSIS-IYF.

Note: only 9 countries from AP region surveyed

DIGITAL CITIZENSHIP: COUNTRY RESPONSES

As discussed in the previous sections, there is growing concern among countries regarding cybersafety, rights, and wellness. In response, various government initiatives have been set up to tackle these issues through a combination of strict regulations on ICT use¹⁷ (i.e. access restrictions like censorship and filters) and more proactive means that promote self-regulation (i.e. awareness campaigns and education programmes).

Notable national programs that foster digital citizenship from the Asia-Pacific region include Australia’s Cybersmart program, Singapore’s Cyberwellness Programme, Malaysia’s CyberSafe Programme and Click Wisely campaign, and the Republic of Korea’s various content regulation schemes and educational initiatives. These programmes have taken a comprehensive approach in informing and educating children, parents, teachers, and the general public about digital citizenship through various resources, activities, school curriculum, and support mechanisms.

¹⁶ Centre for Strategic and International Studies and International Youth Forum (CSIS-IYF). (2014). *Global Youth Wellbeing Index*. Retrieved from <http://techchange.org/2014/06/18/ict-global-youth-wellbeing-index-csis-iyf/> Full report at <http://www.youthindex.org/reports/globalyouthwellbeingindex.pdf>

¹⁷ Rininsland, A (2012). Internet censorship listed: how does each country compare? *The Guardian*. Retrieved from <http://www.theguardian.com/technology/datablog/2012/apr/16/internet-censorship-country-list>

This report analyses ICT-related policy responses from twelve countries across Asia and the Pacific region. The key elements found from the twelve countries are summarized in Table 1. Annex A presents a summary of the mapped country initiatives, listing their focus areas, target groups, and types of intervention (i.e. regulation, research, education, advocacy).

Table 1 Key Elements of Digital Citizenship among national policy responses

	Benefits of ICT use/ online participation	Responsible, ethical behaviour	Safety/ protection against risks	Values reinforcement (respect, empathy, etc.)
Australia	*	*	*	
Brunei Darussalam	*			*
PR China			*	
India			*	
Indonesia			*	*
Rep of Korea		*	*	
Malaysia		*	*	*
Myanmar		*		
New Zealand	*		*	
Philippines		*	*	
Singapore		*	*	*
Thailand		*	*	*

A few patterns emerge across the countries. First of all, current levels of country responses focus more on safety and protection against possible risks. This implies that it is a primary concern for most countries and would therefore need to be addressed. Second, as the other side of the same coin, it also calls for a balanced view to empower users to be self-regulated and resilient users of ICTs to maximize the benefits that ICT offers. Countries need to take proactive initiatives and progressive approach in scoping the key elements of digital citizenship and go beyond the basic concept of online safety, including how they can prepare young people to live, earn, and participate in the technology-rich society. The detailed description of each country is as follows.

Australia

Considering the great extent of integration of technology in today’s society and how children’s lives are influenced by it, the Australian Government has put in place a number of programmes to equip its citizens, especially children and youths, in managing such an environment and promoting online safety. This commitment has been shared by a diverse set of stakeholders including the Australian Federal Police (AFP), the Department of Communications, the Online Safety Consultative Working Group, advisory groups among the youth (YAG) as well as teachers and parents (TAP), researchers, industry, and community groups. In addition, the Australian Government has also introduced various measures to improve online safety, online security and fraud awareness¹⁸.

¹⁸ Australian Government, Department of Communications. (2014). *Online Safety*. Retrieved from http://www.communications.gov.au/funding_and_programs/cyber_safety

One major programme by the Australian Government is the Cybersmart Programme (<http://www.cybersmart.gov.au>) managed by the Australian Communications and Media Authority (ACMA). The programme aims to support and encourage children and youths to productively engage in the digital economy while taking responsibility in protecting oneself and others by demonstrating positive, ethical, and balanced online behaviour, guided by the maxim “Engage positively. Know your online world. Choose Consciously.” Targeting children, young people, parents, teachers and library staff as its main audience, the programme addresses concerns about privacy, safety, security, digital reputation, balance, responsibility, media literacy, and legal contents in four key concepts: 1) digital footprint, 2) digital reputation, 3) digital citizenship, and 4) digital media literacy. In order to provide relevant information and support to its target audience, the programme has come up with a variety of activities and resources including:



Figure 11 Icon for Australia's CyberSmart Programme

- interactive games, activities, and resources for parents, schools, and children;
- lesson plans, advocacy and educational videos, and co-developed Open Educational Resources (OERs);
- pre-service and in-service teacher training programmes;
- outreach programmes (e.g. school visits, talks, professional development workshops for educators);
- a forum to engage parents on the topic (i.e. Chatterbox);
- collaboration with Peer Support Australia to emphasize the role of peers in providing support and appropriate intervention.

The programme relies heavily on research to make sure that the interventions and materials are evidence-based, user-tested, appropriate, current, high quality, and engaging. “Evaluation and research are important because we need to make sure we are addressing the right problem with the right people in the right way.”¹⁹ ACMA also links with research centres and other cross-government/cross-sector programmes to collaborate on organizing activities, documenting best practices, and enhancing its offerings.

Complementary to ACMA’s efforts, the Department of Communications runs two exemplary programmes that were designed and set up in close coordination with the public advisory groups. The CyberSafety Help Button (<http://www.cybersafetyhelp.gov.au/>), shown as Figure 12, offers a 24-hour easy access, one-stop-shop to practical advice, support, and information on cybersafety. It provides users a safe venue to either talk (via helplines), report, and learn (via free downloadable resources). On the other hand, Easy Guide to Socialising Online (http://www.cybersafetyhelp.gov.au/easyguide/social_networking) guides users on how to improve one’s online safety and security by customizing the settings and features of social networking sites, search engines, and online games.



Figure 12 CyberSafety Help Button, Australia

On its seventh year of implementation, the Stay Smart Online Week brought together various stakeholders in June 2014, including all levels of Government and 1,700 organisations across the private sector, education sector, and the community sector. It advocates the importance of

¹⁹ Quoted by Ms. Rosalie O’Neale during the Experts’ Meeting on March 2014.



understanding the value of online safety and security among the Australian citizens and being informed of ways to address related concerns²⁰.

To underscore its commitment to cybersafety issues, the Australian Government has allocated AUD 10M in the 2014-2015 budget²¹ that will cover funding over four years in 1) assisting schools to access accredited online safety programmes, 2) establishing and operating the Office of the Children's e-Safety Commissioner, and 3) supporting Australian-based research and information campaigns.

Brunei Darussalam

In 2010, the MOE of Brunei Darussalam launched the e-Hijrah Strategy, a coordinated and holistic national effort for ICT in education towards establishing a forward-looking and high-performing education system. Echoing the call of His Majesty the Sultan and Yang Di Pertuan for the appropriate use of the Internet, the Minister of Education stated that the strategy should also preserve the country's Melayu Islam Beraja (MIB) traditions, values, and beliefs, aptly termed "Our Digital Values".

In response to this, the recently established Digital Media and In-Service Centre (MiSC) of MOE has been tasked to take a more proactive stance by developing, and monitoring the use of curriculum-based digital learning media that are safe and aligned with the country's culture, values, and accepted norms. Rich, interactive e-content for various subject areas are designed and developed using Bruneian stories and characters. These are then disseminated through ICT devices deployed by the MOE to schools.

The MOE also provides a standardized filtering package to schools and is also developing Bring-Your-Own-Device (BYOD) policies to maintain a safe and secure online environment in schools.

PR China

Despite close monitoring and restrictive censorship enforced by its government, China has had its share of woes related to online gaming addiction among the youth as early as 2002²². The Chinese government enforced various policies to curb the problem, including banning teens from internet cafés, limiting the number of cafés, and shutting down thousands of illegal establishments. In a bid to curb gaming addiction in 2007, the government required gaming companies to develop anti-addiction safeguards like limiting playtime to 3 hours. With an estimated 20 million Internet addicts, China became the first country to declare Internet addiction as a clinical disorder (IAD) in 2008, and registered this as a condition with the World Health Organisation. The country also came up with a diagnostic manual, listing five categories of IAD as follows: 1) addiction to online, 2) pornography, 3) social networking, 4) Internet information, and 5) Internet shopping²³.

Considering Internet addiction as one of the top health threats to the youth, various organisations have set up education and treatment centres to veer the youth away from Internet

²⁰ Awareness Week Stay Smart Online website. Retrieved from http://www.staysmartonline.gov.au/awareness_week

²¹ Department of Communications (blog). (2014). *Australian Government Keeping Our Children Safe Online*. Retrieved from http://www.minister.communications.gov.au/paul_fletcher/news/australian_government_keeping_our_children_safe_online#.U8X-I_mSw4U

²² Stewart, C. (2010). Obsessed With the Internet: A Tale From China. *Wired Magazine*. Retrieved from http://www.wired.com/2010/01/ff_internetaddiction/all/1

²³ Dubois, M. (2013). Log In, Sign Out. *The World of Chinese*. Retrieved from <http://www.theworldofchinese.com/2013/03/log-in-sign-out/>

addiction through disciplined lifestyles, medication, and psychological therapies, running from three to four months. In mid-2014, it has been reported that around 250 military-style rehabilitation boot camps have been set up across the country to assist these youths in restoring their normal lives.

India

Cyber safety in India is gradually gaining traction as legislations are being reviewed and amended such as that of the Indian Information Technology (Amendment) Act 2008 to strengthen provisions against familiar cybercrimes involving businesses and children. Furthermore, with the surge in offenses related to online activity, several cybercrime cells and cyber forensic labs have been established in major cities such as Chennai, Delhi, Mumbai and Bangalore²⁴. Several initiatives have been launched and organisations formed to tackle the issues that the use of ICT present, however, most do not have far-reaching effects. With regards to education, internet safety is currently not being taught in schools despite the increasing use of ICT among students.

The National Cyber Safety and Security Standards (<http://www.ncdrc.res.in/>) has been established under the National Cyber Defence Research Centre, as a self-governing body that aims to safeguard the nation from the current threats in cyber space such as external cyberattacks and information thefts²⁵. As part of its efforts in the area of cybersecurity, the organisation holds an annual Summit and publishes the “Cyber Defense Monthly Magazine” to increase awareness of cybersecurity Issues among citizens. In addition, as a national initiative to address present issues on cybercrime, the organisation is set to launch the “National Cyber Crime Reference Handbook” (NCCRHB), the only reference book in India on cybercrime issues. It seeks to promote cybersecurity awareness to government sectors, public sector enterprises (government-owned corporations), and industrial organisations, in hopes that they will be able to prevent and control cyber frauds. The handbook will include detailed perspectives of typical cybercrimes that pose a threat to India’s national security as well as provide advanced cyber protection methodologies and tools to cope with the issues.

The Cyber Safe India Alliance (CSIA, <http://cybersafeindia.org/>) has been established as a joint coalition and alliance of government, private, academia, and non-profit organisations to promote a safe cyber space²⁶. CSIA seeks to educate internet users, especially children, youth, and the elderly on the dangers that lurk in cyberspace by facilitating nationwide awareness programmes, with the support of the government in India, International Cyber Security Protection Alliance (ICSPA), National Cyber Security Alliance, and the Computer Society of India. The organisation also actively posts advice on social media platforms such as Facebook and Twitter on how to respond to the latest trends in cybercrimes.

Indonesia

With Indonesia being the country with the highest Muslim population²⁷, the primary focus on issues related to ICT use is the filtering or blocking of content, predominantly those of pornographic variety. In 2012, an unprecedented scale of internet censorship was imposed leading up to Ramadan, with the blocking of access to 1 million pornographic websites, all of which are based outside the country. As the government gradually acknowledges other significant risks that ICT use poses, the government supported the conduct of the “Digital Citizenship and Safety among

²⁴ Global Resource and Information Directory. (2014). India Country Profile. Retrieved from <http://www.fosigrid.org/asia/india>

²⁵ National Cyber Safety and Security Standards. Retrieved from <http://ncdrc.res.in/about-us/>

²⁶ Cyber Safe India. Retrieved from <http://cybersafeindia.org/>

²⁷ Global Resource and Information Directory. (2014). Indonesia Country Profile. Retrieved from <http://www.fosigrid.org/asia/indonesia>

Children and Adolescents in Indonesia” study (see section under Research on UNICEF’s work) that gathered information on how Indonesian youth access the internet and on corresponding potential safety risks they face. Based on the study findings, the Ministries of Communication and Information Technology and of Women Empowerment and Child Protection have agreed to collaborate with UNICEF and other Ministries on designing National Plan of Action on Safe Media, including strengthening policies and conducting public awareness campaigns²⁸.

Republic of Korea

Due to the influx of Internet-related concerns among the youth, a number of government agencies have implemented initiatives related to online safety and cyber ethics. Regulatory policies back these initiatives, including but not limited to the Communications Commission Act, Internet Information Protection Act, Communication Network Act, Cinderella Law, Child Protection Act, Personal Information Protection Act 2011, and Act on Promotion of Information and Communication Network Utilisation and Information Protection.

The Korea Communication Standards Commission (KCSC) has implemented Internet content regulation through the Green i-NET 2.0 programme that promotes the use of a content rating system (SafeNet), users’ age monitoring software, filtering software, and an Internet time management system (i.e. to impose pre-set online time and curfews). The agency also works with other organisations like the MOE and local community groups to implement educational and awareness campaign activities that advocate self-regulation among youth, parents, and teachers²⁹.

The Korea Internet and Security Agency (KISA), a sub-agency of Korea Communications Commission (KCC), spearheads the “Korea Internet Dream Star” that promotes healthy digital culture and modelling among the youth. The agency likewise holds internet literacy and ethics classes, in conjunction with its “Create Beautiful Internet World” Campaign³⁰.

The Ministry of Gender Equality and Family, through the Commission on Youth and various other programmes, focuses on the removal of harmful online content as well as the conduct of preventive education and treatment of internet addiction. In line with its Internet addiction prevention campaign, the agency provides counselling services for at-risk groups, along with relevant trainings for counsellors and therapists. It also oversees the Youth Patrol activities that involve teachers and students from primary to secondary school in developing discernment and self-control skills among children towards building a sound and healthy Internet culture³¹.

The National Information Society Agency (NIA) has been tasked to research IT-related matters, monitor Internet usage, and investigate cybercrime incidents. It has also produced and distributed educational contents focusing on information ethics.

²⁸ UNICEF Indonesia. (2014). *Indonesia launches study on Digital Safety*. Retrieved from <http://unicefindonesia.blogspot.com/2014/02/indonesia-launches-study-on-digital.html>; summary of results (Study: Most children in Indonesia are online now, but many are not aware of potential risks): http://www.unicef.org/indonesia/media_22167.html

²⁹ Jung, JH. (2011). *A New Vision for Child Online Protection: Green-i-Net and Green-i Campaign*. Presentation during the ITU Seminar on Integrated aspects of children protection over the Internet. Retrieved from <http://www.itu.int/ITU-D/cyb/events/2011/Odessa/docs/day3/jae-ha%20jung.ppt>

³⁰ Korea Communications Commission (KCC) Annual Report 2011. Retrieved from http://2013mirimstudent12.files.wordpress.com/2013/02/annual_report_2011.pdf

³¹ Ministry of Gender Equality and Family Press and Public Affairs. (2011). *Teachers Take the Initiative in Making Sound Internet Culture for Youth*. Retrieved from http://english.mogef.go.kr/sub03/sub03_11.jsp?menuID=euc0100&id=euc0100&cate=&key=&search=&order=&desc=asc&year=&smoonth=&sdate=&eyear=&emonth=&edate=&deptcode=&menuID=euc0100&pg=1&mode=view&idx=6835

The Ministry of Education has incorporated educational activities related to responsible and safe use of the Internet in schools, stressing the importance of healthy practices, good manners, and online accountability. The Korea Education and Research Information Service (KERIS) has developed various educational materials for ICT ethics education and manages the Education Cyber Safety Centre. Furthermore, the ministry requires schools to self-regulate contents through the use of filtering software³². The Ministry has also initiated the “Stop Bullying” Campaign due to high incidences of bullying (in its various forms) among students. A screenshot of a sample resource for this campaign is shown as Figure 13.



Figure 13 Sample resource against Bullying, South Korea MOE

With an estimated 2.4 million people under 18 who are at risk of Internet addiction (including 160,000 children from 5 to 9 already addicted, based on an NIA survey³³), the country operates over 200 free Internet addiction treatment centres, including Internet Rescue Camps, to curb children’s dependence on technology and introduce them to alternative physical activities (e.g. outdoor play, music, crafts, group activities)³⁴. Counsellors and researchers use the K-Scale Checklist which has specifically been developed to diagnose Internet addiction, determining its severity among Koreans.

Malaysia

The Malaysian government has two major programmes dealing with cyber safety issues: CyberSAFE and Click Wisely.

The CyberSAFE or the CyberSecurity Awareness For Everyone programme (<http://www.cybersafe.my/>) was set up by CyberSecurity Malaysia (under the purview of the Ministry of Science, Technology and Innovation (MOSTI) back in 2009 to provide the general public with practical information and resources on how to effectively deal with cybersecurity issues on their own. Webzines, guidebooks, multimedia content (posters, videos, games, quizzes, cyber tools), and other resources on cyber security and safety have been developed to discuss issues and advocate good practices. The programme also holds various activities like awareness talks, training workshops, online contests, public speaking competitions, and the annual Safer Internet Day celebration. It also provides a hotline service for computer security incidents via the Cyber999 Help Centre³⁵.

³² Global Resource and Information Directory. (2014). Korean Country Profile. Retrieved from <http://www.fosigrid.org/asia/south-korea>

³³ Lee, Y. (2013). South Korea: 160,000 Kids Between Age 5 And 9 Are Internet-Addicted. *Screen Sense, Huffington Post*. Retrieved from http://www.huffingtonpost.com/2012/11/28/south-korea-internet-addicted_n_2202371.html

³⁴ Global Resource and Information Directory. (2014). Korean Country Profile. Retrieved from <http://www.fosigrid.org/asia/south-korea>

³⁵ Malaysian Computer Emergency Response team (MCERT). (2014). *Cyber999 Help Centre*. Retrieved from http://www.mycert.org.my/en/services/report_incidents/cyber999/main/detail/443/index.html

As an offshoot, the CyberSAFE In Schools programme was launched in 2010 by CyberSecurity Malaysia and the Ministry of Education to implement projects focusing on the education sector. In 2011, a number of other organisations joined the collaboration, including Childline Malaysia, SKMM (Malaysian Communications and Multimedia Commission), and telecommunications provider DiGi. Currently known as DigiCyberSAFE in Schools

(<http://www.digi.com.my/digicybersafe/>), the programme advocates a secure, family-friendly Internet experience through a series of educational workshops and outreach campaigns in schools and community internet centres. Through its CyberSAFE Ambassador Training Workshops, teachers handling ICT, and Digital Library and Media subjects are trained and equipped with

teaching toolkits to teach, counsel, and advise students on the benefits and risks in using the Internet, good social networking habits, and tips to stay safe in the digital environments. In 2013, the DigiCyberSAFE in Schools programme administered the “Safety Net – Growing Awareness among Malaysian School Children on Staying Safe Online” Survey among 9,651 students across the country on their levels of awareness and understanding of cybersafety issues, appropriate online behaviour, ability to safeguard themselves against risks, and the impact of the awareness workshops. The survey results provided key players with information on knowledge and skills gaps that would need to be addressed or further enhanced by the programme³⁶. Guidebooks have also been developed to support parents and caregivers in establishing safer internet environments for children. In addition, children can contact a 24-hour telephone helpline (15999 Childline) when faced with an unpleasant online experience³⁷. The programme is currently taking steps to widen its reach by developing more localized, digital multimedia content as well as enhancing strategic cooperation with industry and community partners.

The Click Wisely Programme (Klik Dengan Bijak (KDB) was launched in 2012 by the Malaysian Communications and Multimedia Commission (MCMC). The MCMC that serves as the regulator for the country’s converging communications and multimedia industry. In line with the *Rukunegara* (Malaysia’s National Principles), this public awareness campaign on internet safety aims to nurture positive daily Internet use and self-regulation among Malaysians by actively promoting online safety, security, and responsibility among children, youth, parents, and guardians (Figure 15). The campaign has produced a number of educational brochures, posters, and magazine articles for the public (<http://www.skmm.gov.my/Resources/eForm/Klik-Dengan-Bijak.aspx>). It has also conducted a number of training programmes, talks, workshops, and competitions in collaboration with various



Figure 14 Campaign material for CyberSAFE in Schools, Malaysia

³⁶ CyberSAFE in Schools. (2013). *A National Survey Report 2013- Safety Net: Growing Awareness among Malaysian School Children on Staying Safe Online* (Full Report). Retrieved from <https://docs.google.com/file/d/0B1G5xKzjU0KpbmlQQ2RLS2duMVE/edit?usp=sharing>

³⁷ Blog Pembestarian Sekolah, Ministry of Education. (2013). *CyberSAFE in Schools Report 2013*. Retrieved from <http://pembestarian.wordpress.com/tag/ministry-of-education/>

organisations including the Defence Ministry, scouts association, schools and universities, and the Ministry of Women, Family and Community Development, among others³⁸.

Myanmar

In August 2014, the Myanmar government announced the introduction of a Code of Conduct with regards to the use of the Internet in order “to prevent the spread of hate speech over social media” and assist in the country’s peace and stability. This move is in response to the recent violent riots brought about by the false accusations circulated online. Minister of Information, Ye Htut, emphasised the need for citizens to understand the responsibilities that go with freedom of expression. At this point, the government is not looking at legislation yet but encourages civil society to initiate voluntary media literacy and awareness campaigns to educate citizens about self-regulation and responsible use of the Internet³⁹.



Figure 15 Primary Messages of the Click Wisely Programme, Malaysia

New Zealand

The New Zealand government recognizes both the opportunities and risks that the use of ICT can bring and have been actively supporting campaigns and initiatives involving the promotion of cyber safety and awareness. One major initiative that is strongly backed by the Ministry of Education is NetSafe (www.netsafe.org.nz/). Founded in 1998, NetSafe is an independent non-profit multi-stakeholder organisation, representing a range of perspectives (government, education, law, industry, community, parents and caregivers, and children and young people), that promotes confident, safe, and responsible use of online technologies through a range of programmes.



Figure 16 NetSafe in New Zealand

In an effort to help schools develop a safe online environment for students and teachers, NetSafe, with the support of the Ministry of Education, produced its first Kit for Schools which was first known as “The Internet Safety Kit” (<http://www.netsafe.org.nz/the-kit/>). The kit helps schools to address student cybersafety and support digital citizenship. As a result of the rapidly changing online environment and ICT landscape, the kit undergoes regular reviews and has now been re-

³⁸ Malaysian Communications and Multimedia Commission (MCMC). *Think First Before ‘Clicking’: MCMC*. Retrieved from <http://www.skmm.gov.my/Mobile/Tools/ViewMobile.aspx?datapath=/Media/Press-Clippings/Think-first-before-clicking-MCMC&classname=SKMM.CustomArticles>

³⁹ Wong, M. (2014). Myanmar to introduce code of conduct for internet. *Channel News Asia*. Retrieved from <http://www.channelnewsasia.com/news/asiapacific/myanmar-to-introduce-code/1326964.html>

developed four times since its inception. Through expert consultation, the current version of the kit has developed a seven step framework to ensure a cybersafe learning environment with digital citizenship at its core.

NetSafe also developed a new model of cybersafety “Learn, Guide, Protect (LGP)”⁴⁰ (Figure 17) in response to the changing requirements of schools. LGP is divided into three components: 1) the skills students need to learn to keep themselves safe; 2) the guidance they require to learn how to manage challenges; and 3) the protective mechanisms schools can use to improve their immediate safety. This model serves as a guide to create a student-centred learning pathway from a protected environment through to a self-managing state. It leverages on growing teacher expertise and acts as a central hub of information and knowledge on effective cyber safety practices contributed by teachers.



Figure 17 NetSafe’s cybersafety model for students

NetSafe also has a number of resources targeting early childhood education that include 1) NetSafe Kit for early childhood education services, a DVD on cybersafety and 2) Hector’s World which is a unique cybersafety initiative for teachers and parents to help children (targeted age group of 2-9 years old) learn about safe online practices and digital citizenship. Hector’s World is being used extensively in many New Zealand primary schools and early childhood centres to teach digital citizenship. An interesting tool offered by Hector’s World is the Hector’s World Safety Button⁴¹ which is a child-activated safety tool that children can use if they come across upsetting or worrying content while surfing the internet. Upon activating the button, the screen will be covered with a beautiful underwater scene with a positive written message on the screen for the child. It also encourages them to seek help from an adult.

The Ministry of Education also commissioned a literature review that looked into the rationale of ensuring cybersafety for early childhood education, along with current practices and interim recommendations. The key findings can be found on: <http://www.educate.ece.govt.nz/Programmes/Cybersafety/Literaturereview.aspx>

As the leading organisation in the promotion of cybersafety, NetSafe is running and working on several other projects such as: 1) the creation of a National Cyber Bullying Task Force; 2) the “Whatsit?” project that provides cybersafety advice to businesses; 3) the “Scam Machine” project which aims to educate citizens on how to protect themselves against online scammers; 4) the “In My Day” project that provides a guide for parents on cybersafety; 5) “The Orb” platform where citizens can go to report online incidents; 6) the “Cyberbullying” website where young people, parents and caregivers, teachers and principals can go to should they need help to understand and deal with bullying that takes place in cyberspace; and 7) “Web Rangers NZ” which is a programme to empower teenagers to campaign for the safe use of the Internet in a creative way.

In 2012, the National Cyber Policy Office (NCPO; www.dpmc.govt.nz/ncpo) was established to lead the provision of cybersecurity policy advice for government. It is responsible for overseeing and coordinating the development, implementation and review of national cyber policy and strategies. This includes New Zealand’s Cyber Security Strategy (www.dpmc.govt.nz/dpmc/publications/nzcscs), launched in 2011 as the government’s response to growing threats on cyberspace.

⁴⁰ NetSafe: myLGP (learn guide protect). Retrieved from <http://www.mylgp.org.nz/index.php>

⁴¹ Hector’s World. Hector’s World Safety Button. Retrieved from <http://hectorsworld.netsafe.org.nz/teachers/hectors-world-safety-button/>

Connect Smart (www.connectsmart.govt.nz/) is another government-led initiative, supported by the private and NGO sectors, that seeks to raise awareness of cyber security issues and promote ways to protect individuals and businesses online.

Philippines

The Philippines has a strong policy-enabling environment on tackling cybersafety and protection issues in schools. Founded on the core messages of the UN Convention on the Rights of the Child, the Philippines Anti-Bullying Act of 2013, the Special Protection of Children Against Abuse, Exploitation and Discrimination Act, the overarching Child Protection Policy⁴² in 2012 and the Implementing Rules and Regulations for the Anti-Bullying Act were formulated by the Department of Education (DepEd) to ensure that schoolchildren are free from violence, exploitation, bullying, abuse, and discrimination, in both offline and online environments. The agency has instituted complementary ICT-related policy directives that include “Guidelines in Managing the Proper Use of Internet Services”, “Guidelines on the Proper Use of Computer and Network Facilities”, and “Computer Usage Code-of-Conduct Contract”⁴³. More recently, the Philippines’ Cybercrime Prevention Act of 2012 provides additional grounds for DepEd to further strengthen its educational programmes on cybersafety and wellness.

DepEd is currently looking into the operationalization of these policies as well as sustainability of implementation and impact of planned initiatives. As a start, it has existing partnerships with various expert groups, private sector, and NGOs (e.g. Plan International, Save the Children, Stairway Foundation) that conduct awareness workshops for teachers, parents, caregivers, and students on online and offline issues faced by children.

Singapore

Formed in 2009, the Inter-Ministry Cyber Wellness Steering Committee (ICSC) has been coordinating the Government’s efforts and collaborating with various organisations in implementing the national strategy for Cyber Wellness public education in Singapore. It is an inter-ministry committee composed of representatives from the Ministry of Communications and Information (MCI), Ministry of Education (MOE), Ministry of Social and Family Development (MSF), Ministry of Defence (MINDEF), Ministry of Home Affairs (MHA), Infocomm Development Authority of Singapore (IDA), Media Development Authority (MDA), Health Promotion Board (HPB), and National Library Board (NLB). Co-chaired by MCI and MOE, ICSC had funding over five years (2009 to 2013) worth SGD 10 million to support cyber wellness projects proposed and implemented by different sectors in society⁴⁴.

Similar to Australia’s Cybersmart Programme, Singapore’s Cyber Wellness Programme (MDA website: <http://www.cyberwellness.org.sg/>; MOE portal: <http://ict.moe.edu.sg/cyberwellness/>) aims to help Internet users understand and practise appropriate online behaviour as well as take responsibility for and self-manage one’s well-being and protection in cyberspace.

⁴² Department of Education, Philippines. (2012). *DepEd Child Protection Policy*. Retrieved from http://www.pap.org.ph/includes/view/default/uploads/dep_ed.pdf

⁴³ Mendoza, L. (2010). Guidelines in computer, internet usage in public schools. *Sun Star Davao*. Retrieved from <http://www.sunstar.com.ph/davao/mendoza-guidelines-computer-internet-usage-public-schools>

⁴⁴ Ministry of Education, Singapore. *About the Inter-Ministry Cyber Wellness Steering Committee (ICSC)*. Retrieved from <http://www.moe.gov.sg/events/2013/cyber-wellness-call-for-proposals/about-us/>

The MOE uses the Sense-Think-Act framework, guided by the two principles “respect for self and others” and “safe and responsible use”, as shown in Figure 18. This framework guides the Cyber Wellness curriculum implemented in schools and is aligned with the three “big Ideas” of Character and Citizenship Education (CCE) surrounding identity, relationships, and choices. Complementary themes and topics (Figure 19) encourage students to assume three roles in the cyber community, as follows: (a) Master over technology, (b) Relationship-builder and (c) Protector.

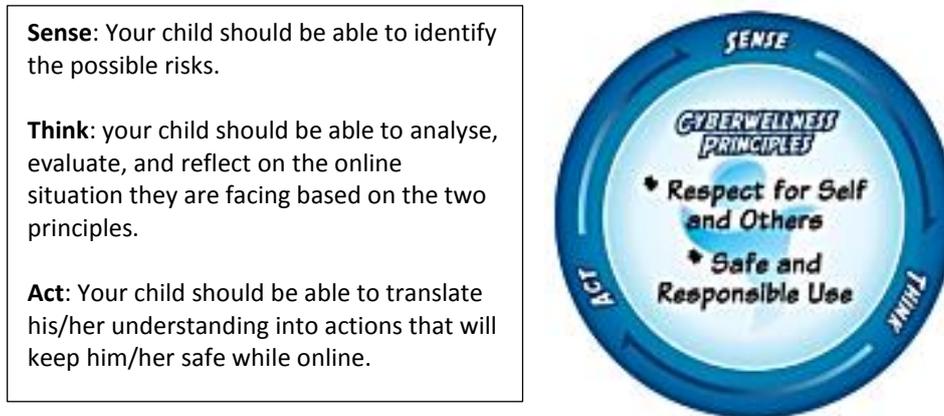


Figure 18 Sense-Think-Act Framework, Singapore MOE

2 Principles - 3 Big Ideas - 4 Themes			
2 Principles	3 Big Ideas	4 Themes	8 Topics
 CW Framework • Respect for self and others • Safe and responsible use	Identity	• Cyber Identity: Healthy self-identity • Cyber Use: Balanced life and balanced use	• Online Identity and Expression • Balanced Use of ICT
	Relationships	• Cyber Relationships: Safe and meaningful	• Netiquette • Cyber Bullying • Online Relationships
	Choices	• Cyber Citizenship: Positive presence	• About the Cyber World • Handling Online Content and Behaviour • Cyber Contacts

Figure 19 Cyber Wellness Curriculum, Singapore

This framework guides schools in planning, customizing, and implementing their respective Cyber Wellness programmes and activities, based on their student profile and school environment. Lessons are delivered mainly through the Form Teacher Guidance Period in Primary schools and in the Character and Citizenship Education (CCE) curriculum in Secondary Schools, with other subject areas (i.e. English, Mother Tongue Language, Civics and Moral Education) incorporating key Cyber Wellness topics into regular lessons. The MOE provides schools with the necessary resources and relevant programme support such as an online resource portal for teachers, students and parents, professional development programmes for teacher coordinators, and incentives.

To complement MOE’s curricular efforts, the Cyber Wellness Student Ambassador Programme (CWSAP) was launched in 2009 as a multi-stakeholder collaboration among the MOE, IDA, and Microsoft SG under the BackpackLIVE! Programme. By early 2014, it has trained more than 1,400 students from primary, secondary school, and junior college to take a more active role in

advocating safe and responsible use of ICT among students through peer advocacy. Annual conferences are held to share experiences and confer recognition awards (STAR) to innovative student-led initiatives. The second phase of CWSAP will run from 2014 to 2016, under the guidance of MOE, MDA, and ICSC⁴⁵.

To emphasize the huge influence that parents, teachers, and caregivers can have on children and youth, various programmes encourage them to promote good values by serving as good role models and using life incidents as teachable moments. They are also encouraged to establish a strong trusting relationship with children and youth, to monitor their computer use, and to impose a healthy balance of controls and mediation. MDA, the governmental organisation that serves as the regulatory body for media providers, has required Internet Service Providers (ISPs) to actively promote Internet filters at the point of sale or renewal of residential broadband subscriptions. The industry is also requested to develop socially responsible apps and contribute to the Cyber Wellness efforts through their respective outreach programmes.

Furthermore, MDA conducts talks and public workshops as well as contribute magazine articles on the topic to reach out to parents and caregivers. The agency also came up with a Parents' Portal and Handbook to guide parents in safeguarding children's online experience and selecting age-appropriate content⁴⁶. The MOE has set up a separate portal to provide parents with tips and resources on this area⁴⁷.

In 2012, the Media Literacy Council (MLC) (<http://www.medialiteracycouncil.sg>) was established to further strengthen the Government's efforts on cyber wellness by overseeing and spearheading public education and initiatives towards developing "discerning Singaporeans who are able to evaluate media content effectively, and able to use, create and share content safely and responsibly"⁴⁸. Its primary strategy is to focus on developing six core values among the citizens, as follows: empathy, responsibility, respect, integrity, inspiring others positively, and astuteness and discernment. The council is also tasked to advise the government on appropriate policy responses and inform the public on existing legislations in this area.

MLC leverages on relevant activities and platforms of the industry, civil society/community, and other government agencies to promote their advocacies, through the following activities:

1. National public education through campaigns and media opportunities via the MLC website, media appearances, participating in the annual international celebration of Safer internet Day (SID; <http://www.saferinternetday.org/>) every February, and other advocacy platforms
2. Community outreach events, talks, conferences, dialogues, seminars, and workshops that are customized for specific target audiences (e.g. co-curricular activities for children and youth such as the Media Smart Club and Media Literacy Badge Programme)
3. Research to generate new insights and conversations⁴⁹

⁴⁵ Ministry of Education (MOE), Singapore. 2014. *Students take the lead in promoting Cyber Wellness to their Peers* (Press Release). Retrieved from <http://www.moe.gov.sg/media/press/2014/02/students-take-the-lead-in-promoting-cyber-wellness-to-their-peers.php>

⁴⁶ Media Development Authority (MDA), Singapore. (2011). *MDA Parents' Handbook*. Retrieved from <http://www.cyberwellness.org.sg/SitePages/PublicResourceDetailsReadmorePage.aspx?ResourceId=27>

⁴⁷ MOE Singapore. (2012). Cyberwellness. *Parents in Education*. Retrieved from <http://parents-in-education.moe.gov.sg/resources-and-references/how-can-i-support-my-child-s-growth-and-development/cyber-wellness>

⁴⁸ Media Literacy Council (MLC), Singapore. (2013). *Vision-Mission*. <http://www.medialiteracycouncil.sg/about-us/Pages/vision-and-mission.aspx>

⁴⁹ A recent study by MLC (2014) aimed to look at the impact of mobile access on users' information gathering, behaviour, and interaction with others. Presentation during the UNESCO Experts' Meeting on Fostering Digital Citizenship through Safe and Responsible Use of ICT, March 2014.

- Resource development including mobile applications (e.g. DigiSmart to measure a person’s media and digital IQ; <http://www.medialiteracycouncil.sg/digismart/>), parenting handbook, modules⁵⁰, video resources, and online articles

Thailand

Thailand also has existing laws to protect children against abuses, discrimination, and exploitation, most prominent of which are the Child Protection Act, the Computer Crime Act, and the Prostitution Prevention and Suppression Act. The country has advocated the filtering, banning, and blocking of inappropriate contents, such as pornography and gambling sites, at the server level. Furthermore, in 2003, Thailand was the first country to impose a curfew on online games to minimize online gaming addiction among the youth⁵¹.

There is also a Thai Hotline site (<http://report.thaihotline.org/en>) maintained by a group of Internet Service Providers (ISPs) where users can report illegal and harmful content so as to maintain a safer Internet for everyone. Figure 20 shows the hotline response flow to guide citizens. The site also provides tips and resources on online safety and netiquette. Affiliated with the European Commission’s INHOPE, the group partners with various stakeholders in achieving its objectives, including the Ministry of Information and Communication Technology, law-enforcement agencies, Internet service providers, web hosting services, and child protection organisations.

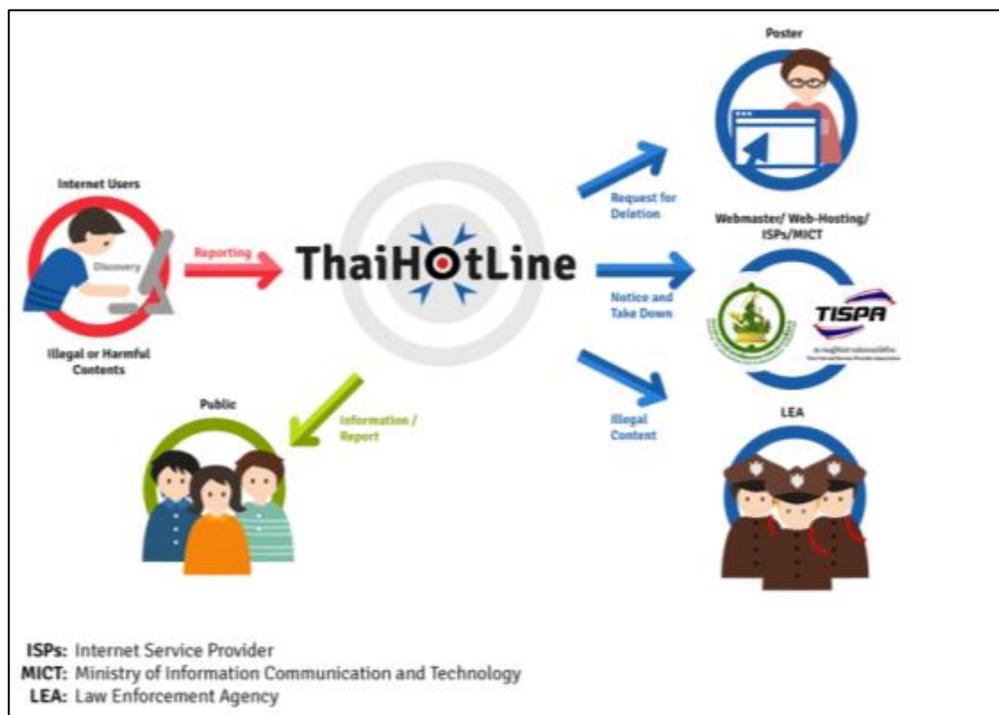


Figure 20 ThaiHOTLine response flow

As with other indicators of development, countries vary in their prioritisation of programmes to tackle cyber safety issues, depending on their ICT profiles, exposure to such issues, and alignment to their traditions and values. Some countries, especially the least developed countries that are at the “emerging stage of ICT”, do not have initiatives related to cyber safety as of yet since they have

⁵⁰ In 2013, MLC entered into a three-year partnership with the Institute of Technical Education (ITE) to develop and implement media literacy and discernment education for post-secondary institutions. Retrieved from <http://therealsingapore.com/content/ite-mlc-introduce-new-media-literacy-discernment-module>

⁵¹ Global Resource & Information Directory (GRID), Family Online Safety Institute (FOSI). (2014). *Country Profile of Thailand*. Retrieved from <http://www.fosigrid.org/asia/thailand>

other more pressing issues to consider, such as lack of power supply and basic infrastructure. Nonetheless, despite surmounting challenges, these countries have committed to provide their citizens with access to ICT as a primary tool for growth and development. It is hoped that as they mature in their ICT status and use, these countries would consider the existing national cyber safety programmes as models to learn from. It would be helpful to refer to the Global Resource & Information Directory (GRID) of country profiles on online safety programmes, by the Family Online Safety Institute (FOSI; <http://www.fosigrid.org/>) for more information.

RELATED RESEARCH

People have been reaping the benefits that ICT has to offer in the areas of work, business, education, and leisure. The expansive use of ICT inevitably has had huge implications – physically, psychologically, intellectually, socially and financially – for society. In response to this, research groups have been examining the purported benefits and downsides of ICT use on society to better appreciate the dynamics and recommend plausible actions. The importance of empirical evidence had been emphasized several times throughout the Experts' Meeting as it is seen as the key to effective policy and programme development at all levels – local, national, and international.

Major Themes from Recent Research

Common themes from recent research include 1) profile of ICT use, 2) Internet and gaming addiction, 3) the role of parental mediation, and 4) the significance of early childhood and care education.

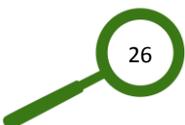
Profile of ICT Use

One of the well-known large-scale research is **EU Kids Online** (www.eukidsonline.net), funded by the European Commission's Better Internet for Kids Programme. It is one of most extensive research programmes in the world in the field of digital and media literacy. The multi-modal in-depth study investigates children's online uses, activities, risks, and safety across the European continent, providing country profiles and cross-country comparisons. Findings from each phase of the study give a clear picture of children's actual online experiences as well as differing perceptions among children and parents of what constitute "risks" as opposed to "harm". More importantly, these findings provide evidence for policy recommendations and programme designs intended to encourage active dialogue among policymakers, programme implementers, and other key stakeholders on priority action areas towards the promotion of a safer online environment for children within the region.

Running from 2006 to 2014, the study was conducted by a network of research teams from different countries. The focus areas of the three phases were⁵²:

- Phase I (2006-2009; 21 countries) identified and analysed relevant research to establish 1) a Best Practice Guide for researchers; 2) a publicly accessible research database on European children's online use; and 3) policy recommendations for practical actions to promote safer use of the internet for children. The final report is available here: <http://eprints.lse.ac.uk/24372/>
- Phase II (2009-2011; 25 countries) surveyed 25,142 Internet-using children aged 9-16 years old and their parents to produce robust and comparable findings on risks, vulnerability factors,

⁵² The London School of Economics and Political Science Media and Communications (LSE-MC). (2014). *About the Project: EU Kids Online*. Retrieved from <http://www.lse.ac.uk/media@lse/research/EUKidsOnline/About-the-project.aspx>



coping mechanisms, and parental intervention strategies. The final report is available here: <http://eprints.lse.ac.uk/39351/>

- Phase III (2011-2014; 33 European countries and affiliates in Australia and Brazil⁵³) looks into new media uses and the associated risks. It also seeks to extend the existing research database and update the research gaps. The report is still being finalized.

An interactive synthesis report (EU Kids Online: findings, methods, recommendations; 2014) is available here: <http://lisedesignunit.com/EUKidsOnline/index.html?r=64>. The framework, methodology, and instruments⁵⁴ used for the EU Kids Online study are likewise available online, along with user guides, tips, and various thematic reports⁵⁵.

EU Kids Online emphasizes the necessity to know how children use ICT and what the possible effects are so that appropriate interventions and prioritisation may be specified in terms of policy, curriculum, advocacy, and guidance. To this end, the study has established that European children use the Internet in varying degrees, aptly represented by the “ladder of opportunities”. From Figure 21, it can be seen that children’s Internet use becomes more complex and active as their ICT skills mature – that is, children mainly go online for schoolwork, games, and other forms of entertainment (86-100%); limited interaction and content downloads comes next (56-75%); while active interaction and content creation is still quite limited (23%). Furthermore, the study presented a working, non-exhaustive framework (Table 3) of potential opportunities and risks, based on the different roles that children assume online – i.e. child as recipient (Content), child as participant (Contact), and child as actor (Conduct) – to emphasize the complex nature of ICT use.

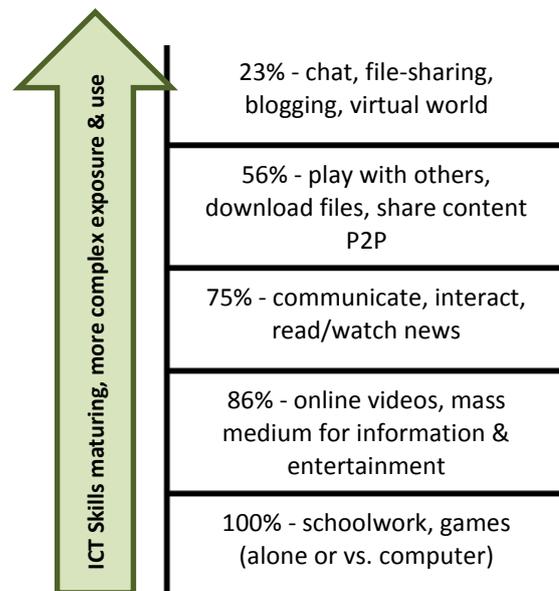


Figure 21 Ladder of Opportunities
Source: EU Kids Online Phase 1 (2009)

⁵³ LSE-MC. (2014). *Participating countries, EU Kids Online*. Retrieved from <http://www.lse.ac.uk/media@lse/research/EUKidsOnline/ParticipatingCountries/Home.aspx>

⁵⁴ LSE-MC. (2014). *Questionnaires and Methods, EU Kids Online*. Retrieved from [http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20II%20\(2009-11\)/Survey/Survey%20documents.aspx](http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20II%20(2009-11)/Survey/Survey%20documents.aspx)

⁵⁵ LSE-MC. (2014). *Reports and Findings, EU Kids Online*. Retrieved from <http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20Online%20reports.aspx>

Table 2 A Classification of Online Opportunities and Risks for Children
 Source: EU Kids Online (framework for literature review done in Phase 1)

		Content: Child as recipient	Contact: Child as participant	Conduct: Child as actor
OPPORTUNITIES	Education learning and digital literacy	Educational resources	Contact with others who share one’s interests	Self-initiated or collaborative learning
	Participation and civic engagement	Global information	Exchange among interest groups	Concrete forms of civic engagement
	Creativity and self-expression	Diversity of resources	Being invited/ inspired to create or participate	User-generated content creation
	Identity and social connection	Advice (personal/ health/ sexual, etc.)	Social networking, shared experiences with others	Expression of identity
RISKS	Commercial	Advertising, spam, sponsorship	Tracking/ harvesting personal information	Gambling, illegal downloads, hacking
	Aggressive	Violent/ gruesome / hateful content	Being bullied, harassed or stalked	Bullying or harassing another
	Sexual	Pornographic / harmful sexual content	Meeting strangers, being groomed	Creating / uploading pornographic material
	Values	Racist, biased info/ advice (e.g. drugs)	Self-harm, unwelcome persuasion	Providing advice, e.g. suicide/ pro-anorexia

Key findings from the three-phased EU Kids Online study include:

- there has been an increase in Internet use among younger children as well as parents; children’s digital skills, levels of use, and combination of activities vary but have become increasingly individualized, privatized, and mobile
- risk exposure differs across socio-economic status, gender, age, access, regulation, awareness, and cultural values
- there is a positive correlation between opportunities and risks – i.e. the more children use the Internet, the more risks they may face (note: across Europe, teenagers’ ranking of risks experienced were found to be fairly similar); these risks are, in order of most common occurrence: 1) giving out personal information, 2) encountering pornography online, 3) seeing violent or hateful content, 4) being bullied online, 5) receiving unwanted sexual comments, and 6) meeting an online contact offline (least common but most dangerous)
- the provision of support and mediation from parents, teachers, and peers is helpful for children in coping with online risks; for this purpose, parents and teachers are encouraged to gain confidence by going online as well, thereby increasing their own digital literacy and safety skills

One primary message from the EU Kids Online study series is that “...efforts to increase opportunities may also increase risks, while efforts to reduce risks may restrict children’s opportunities... It is important to support children’s capacity to cope themselves, thereby building resilience for digital citizens.” Children should be empowered to have higher self-efficacy, coping, and the right attitude to maximize the benefits, manage the risks, and reduce potential harm that may be brought about by fast-evolving technology⁵⁶. The study series also provides a number of evidence-based policy implications and recommendations that regions beyond Europe may refer to.

⁵⁶ Livingstone, S., Haddon, L., & Olafsson, K. (2011). *Risks and safety on the internet: The perspective of European children. Full Findings*. LSE. London: EU Kids Online.

Another popular research study is UNICEF's **Voices of Youth Citizens Programme** (formerly known as Digital Citizenship and Safety) that explores digital landscapes of countries and digital habits of children and young people to provide evidence to back up country-appropriate advocacy and public awareness initiatives. Employing a rights-based approach, UNICEF highlights the need to empower children and youth to take advantage of opportunities while effectively managing risks and minimizing potential harm. Its country offices work with national governments and other local stakeholders in the conduct of the exploratory research (respondents being a minimum of 400 children and adolescents in urban and rural areas nationwide). Based on the findings, national groups design and implement customized awareness-raising campaigns and policy advocacy activities on digital citizenship, including development of local content as well as conduct of workshops, seminars, and conferences. Working with local partners, UNICEF has conducted the study in a number of countries including Indonesia, Russia, South Africa, Turkey, Ukraine, Vietnam, Zambia, Kenya, and Malaysia.

Although findings from UNICEF's Voices of Youth Citizens are country-specific, general patterns across countries include:

- digital divides continue to persist even within a country
- prevalence of risks varies, depending on level of ICT development, cultural nuances, demographic vulnerabilities, available content
- prevention and protection measures are not systematically included in countries that are at the early stages of ICT development; adults' heightened anxiety about online risks has resulted in overly restrictive policies that limit opportunities for children
- varying definitions of what constitutes specific risks such as bullying and child pornography – this is consistent with another research that involved 1,400 young people from five countries and found that majority of students do not realise what cyberbullying is, "acting not as much out of real desire to hurt their victim but in a jolly spirit"⁵⁷
- there is little involvement of parents, caregivers, and teachers in children's acquisition of digital skills (i.e. typically acquired from friends or siblings), guidance, and protection – a global survey conducted by Microsoft in 25 countries among 7,600 children aged 8 to 17 found that despite children wanting to talk to parents about risks, "only 29 percent of kids say their parents have talked to them about protecting themselves online, ...only 17 percent having communicated a clear set of rules for negative online behaviours, [and only] five percent of parents engage with their children's school about online bullying."⁵⁸

In a similar fashion, Microsoft has conducted a number of extensive research related to issues around online safety as well as online behaviour and risks/harms among children worldwide. Some of the most recent studies include the following:

- the Microsoft Computing Safety Index (MSCI; www.microsoft.com/security/resources/mcsi.aspx) that investigated, based on self-reports, how much users keep themselves safe online, based on established foundational, technical, and behavioural protective steps
- the Online Safety Research that examined users' knowledge, behaviour, and attitude on a diverse range of topics including mobile phone manners and safety habits, online privacy,

⁵⁷ Mura, G. (2011) *Cyberbullying Beyond Frontiers: Deviant Behaviours and Intercultural Factors in Digital Communication* (PhD Thesis). Retrieved from <https://www.yumpu.com/en/document/view/17182941/cyberbullying-behind-frontiers-boa-bicocca-open->

⁵⁸ Microsoft News Centre. (2012). *Online Bullying Is a Top Concern Among Youth*. Retrieved from <http://news.microsoft.com/2012/06/26/online-bullying-is-a-top-concern-among-youth/>

cyberbullying, online scams, online reputation management, online gaming, and social networking⁵⁹

The EU Kids Online and UNICEF's Voices of Youth Citizens serve as outstanding examples of research studies that look into different aspects of children's online behaviour in this increasingly wired society. Their research frameworks could be used as models for the AP region or individual countries to replicate so as to contribute to the pool of empirical evidence available for various stakeholders in developing appropriate educational products, programmes, and policies in relation to children's ICT use.

Internet and Gaming Addiction

Besides research on children's ICT usage and access, there is also pathological research being done on causes and effects of online-technology-related symptoms. For example, in digitally developed countries in Asia like China, Japan, South Korea, and Singapore, advanced issues of Internet and gaming addiction that bring about dysfunction to multiple areas of life are being dealt with⁶⁰.

Through a grant from the Singaporean Ministry of Education and the Media Development Authority, an international research team conducted the "Pathological Video Game Use Among Youths: A Two-Year Longitudinal Study" to measure the pervasiveness and extent of pathological video gaming or Internet use among 3,034 elementary and secondary school children (average age = 11.2) in the country, of whom 83% play games. In addition, the study sought to determine whether pathological gaming is a primary or secondary problem and identified contributory risk and protective factors. It also aimed to determine effects on individuals who either become or have stopped being pathological gamers⁶¹.

The research team emphasized that even if the definition of ICT-related addiction is still being debated, most researchers adapt the definitions either from Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) or Brown's components model of addiction⁶². The recent edition, DSM-V, discusses non-substance addictions, including Internet Gaming Disorder, in the official list of mental disorders. The research team also shared that despite the ongoing debate, it is commonly agreed that observed dysfunction to multiple aspects of life (i.e. family, social, occupational, school, and psychological/ emotional functioning) is a critical factor in considering one's behaviour as a type of "addiction". In an effort to establish an international consensus, an international team of researchers from nine countries is publishing a paper proposing nine core issues to assess internet gaming addiction, including pre-occupation, withdrawal, tolerance, unsuccessful attempts to reduce/stop, loss of interest in other activities, continuance despite problems, deception/cover up, escape/relief from adverse moods, and risk/lose relationships or opportunities⁶³.

⁵⁹ Microsoft. (2010 - 2013). Online Safety Research. Safety & Security. Retrieved from <http://www.microsoft.com/security/resources/research.aspx>

⁶⁰ Family Online Safety Institute. (2011). *State of Online Safety Report 2011 Edition*. Family Online Safety Institute.

⁶¹ Choo, H., Gentile, D. A., Liau, A., Sim, T., Li, D., Fung, D., et al. (2011, February). Pathological video game use among youths: a two-year longitudinal study. *Pediatrics*, 127(2), 319-329.

⁶² King, D., Delfabbro, P., Griffiths, M. (2010). Recent innovations in video game addiction research and theory. *Global Media Journal – Australian Edition*, 4(1)

⁶³ Petry, N., Rehbein, F., Gentile, D., Lemmens, J, et al. (2014). An international consensus for assessing internet gaming disorder using the new DSM-5 approach. *Addiction*. Retrieved from <http://www.niira.org.au/sites/default/files/an-international-consensus.pdf>



Based on a robust set of indicators, the Singaporean-funded study showed that among the 83% gamers in the sample, 8.7% were classified as pathological youth gamers. This number falls within the globally prevalent range of 7-10 percent of gamers, as previously established in various studies: “8.5% (Gentile, 2009) and 8.1% (Morahan-Martin & Schumacher, 2000) in the US, 11.9% in Germany (Grüsser, Thalemann, & Griffiths, 2007), 10.3% (Peng & Li, 2009) and 10.8% (Lam et al., 2009) in China, 8.0% in Australia (Porter, Starcevic, Berle, & Fenech, 2010), and 7.5% in Taiwan (Ko et al., 2007).”⁶⁴

The researchers also reported that the risk factors for becoming pathological gamers are likely to be high amounts of gaming, low social competence, and great impulsivity. Furthermore, they contended that pathological gaming directly affects one’s level of depression, anxiety, social phobias, and school performance. Through their analyses, the researchers concluded that video game addiction is a serious behavioural problem that is independent of other afflictions (such as gambling or porn addiction) and should be treated differently.

Pathological research like this is important because it gives a clearer indication of the risks and consequences of such addiction, whether some types of children are at greater risk, how long the problem lasts, or whether pathological gaming was a separate problem or simply a symptom of some other problem. This will help families and education, private, and government sectors in developing appropriate preventive and corrective interventions to cope with this matter, for instance, encouraging parental monitoring, promotion of media literacy curricula in schools, and establishment of addiction clinics among others⁶⁵.

Parental Mediation

Children and young people are surrounded by digital media delivered through different devices such as TV, computers, smartphones, and tablets. However, more often than not, their usage of these devices at schools or homes are not closely supervised or monitored by adults, thereby exposing themselves to contents and contacts that pose risks and adverse effects on their attitudes, behaviour, and safety.

Various literature have identified parents as the major source of social influence on children’s media consumption⁶⁶. For Southeast Asian countries, special attention should also be paid to the role of extended family as well as nannies or caregivers who help parents take care of children. These adults are enjoined to engage in mediation practices and activities to help children maximize the educational and social benefits of media use and minimize risks associated with it.

Parental mediation refers to strategies that parents use to supervise children’s media use or to help children interpret media content⁶⁷. The two main types of parental mediation in the Internet era are: 1) active mediation, in which parents educate, explain, and discuss with children about the positive and negative facets of online contents as well as how to protect themselves from undesired,

⁶⁴ Gentile, D. (2014, March). *Video Game ‘Addiction Research in Singapore*. Presentation at the UNESCO Experts’ Meeting for Fostering Digital Citizenship through Safe and Responsible Use of ICT, Singapore. Retrieved from http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/responsible_use_2014/Session_1C_Douglas_Gentile_VG_Addiction.pdf

⁶⁵ Family Online Safety Institute. (2011). *State of Online Safety Report 2011 Edition*. Family Online Safety Institute.

⁶⁶ Lwin, M. (2014, March). *The Role of Parental Mediation in Online Behavior of Children and Adolescents*. Presentation at the UNESCO Experts’ Meeting for Fostering Digital Citizenship through Safe and Responsible Use of ICT, Singapore. Retrieved from http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/responsible_use_2014/Session_1C_May_Oo_Lwin_-_parental_mediation_short.pdf

⁶⁷ Warren, 2001 as cited in Liu, C., Ang, R. P., & Lwin, M. O. (2013). Cognitive, personality, and social factors associated with adolescents’ online personal information disclosure. *Journal of Adolescence*, 36(4), 629-638.

risky situations; and 2) restrictive mediation, in which parents set up rules to regulate, for example, the amount of time the child can use the Internet and type of content or websites that they are allowed to access⁶⁸.

Prior research have shown that parents practice a combination of these two types of mediation at varying degrees, resulting in four styles of mediation based on the type (active vs. restrictive), and the level (high vs. low) of mediation, as shown in Figure 22⁶⁹, as follows:

- Selective (SL) mediation would have an abundance of both active and restrictive mediation strategies; parents provide a healthy balance of guidance/education and regulation
- Promotive (PM) mediation entails that parents provide more guidance than rules
- Restrictive (RS) mediation sees parents setting more rules than providing guidance
- Laissez Faire (LF) mediation would score low in both active and restrictive mediation strategies; parents do not provide much guidance or rules

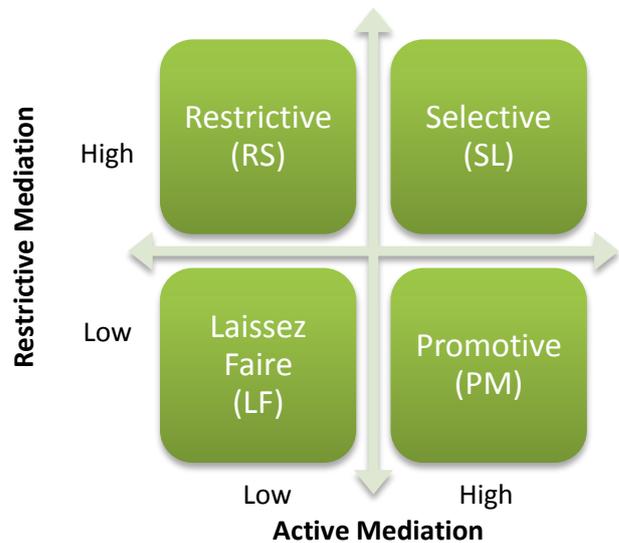


Figure 22 Active-Restrictive Parental Mediation Matrix

A study by Nanyang Technological University (NTU) in Singapore looked into the influence and effectiveness of different parental mediation strategies and pre-programmed website safeguards on Singaporean children’s and adolescents’ protection online, with particular interest in their habits of disclosing sensitive information (i.e. personal identifiable information). Website safeguards were categorized into “Barrier” (consent required), “Warning” (restricted access for those under 13), and “No Safeguard Condition”.

Key findings from the research show that website safeguard effectiveness depends on the mediation strategy parents use on their children. The main observations were as follows:

- for sensitive information: active mediation, either alone or in combination with restrictive mediation, is most effective in protecting children (i.e. low disclosure); those who received promotive and selective styles of mediation respond well to “Barrier” safeguards
- for less sensitive information: the presence or absence of safeguards has no significant effect on the those who receive promotive or the selective styles of mediation, possibly indicating that active mediation educates children to differentiate the types of information available
- children who receive low mediation of both types (laissez-faire) consistently reported highest disclosure levels, significantly more so when there are no or limited safeguards

Moreover, the nature of these interactions differed among children of different age groups. Children are more likely to accept parental mediation than adolescents. Younger teens are receptive

⁶⁸ Miyazaki, A., Stanaland, A. J. S., & Lwin, M O. (2009). *Self-Regulatory Safeguards and the Online Privacy of Preteen Children: Implications for the Advertising Industry*. *Journal of Advertising*, 38(4), 79-91.

⁶⁹ St. Peters et al. 1991; Truglio et al. 1996; Wright, St. Peters, and Huston 1990 as cited in Liu, C., Ang, R. P., & Lwin, M. O. (2013). Cognitive, personality, and social factors associated with adolescents' online personal information disclosure. *Journal of Adolescence*, 36(4), 629-638.

towards any type of parental mediation and website safeguards. The impact of safeguards, however, is decreased as parental mediation strategies become more effective. In contrast, for older teens, only active mediation appears to have a significant effect on reducing information disclosure; website safeguards have also been found to be ineffective. The presence of these safeguards actually increased the disclosure among older teens, especially for those who do not receive active mediation⁷⁰.

From these researches, it is apparent that parental mediation strategies, especially active mediation, are inevitably vital in cultivating adolescents' awareness and understanding of risks and consequences of disclosing personal information. These also provide children with the knowledge and strategies on how to protect and securely disclose personal information online. Therefore, parents and caregivers should be educated on the mediation strategies that are most suitable for each child's age level, ability, preference, and personality. Furthermore, government and/or service providers should look into the implementation of more active "Barrier" safeguards that provide a basic level of protection for children and adolescents⁷¹.

Early Childhood Care and Education

The importance of educational programmes, research, and policies on safe and responsible use of ICT for young children, particularly those under 8 years old, was raised several times during the Experts' Meeting, mainly due to the fact that resources and studies for this age group are quite limited and remain divided. In fact, most research target young teens and older because these groups are seen to be actively engaged in online activities. Hence, little has been done to investigate the real advantages and disadvantages of ICT for young children, and how this young population is actually using ICT.

Over the past few years, there has been a significant growth in Internet usage by children under 9 years old, which occurs at the same time as the introduction of tablets and other Internet-enabled touchscreen devices, according to research done by the EU Kids Online⁷². Although this particular research was conducted among European countries, the upward trend is mirrored globally, especially in developed countries such as the US, South Korea, and Australia, where a large percentage of very young children go online for an extensive amount of time. Technological advancements have made it easier for young children to use the devices on their own at home or at school to do homework, play games, watch videos, or engage in social network sites, sometimes with minimal or no instructions or supervision from adults. More and more children are now using digital devices, and the age at which they start to do so is getting younger and younger. Consequently, several concerns have been raised about possible adverse effects of ICT on very young children, including⁷³:

- physical health safety issues such as musculoskeletal and repetitive strain injuries from being in an awkward position or using the same finger to play games for too long, obesity and other

⁷⁰ Lwin, M. O., Stanaland, A. J., & Miyazaki, A. D. (2008). Protecting children's privacy online: how parental mediation strategies affect website safeguard effectiveness. *Journal of Retailing*, 84(2), 205-217.

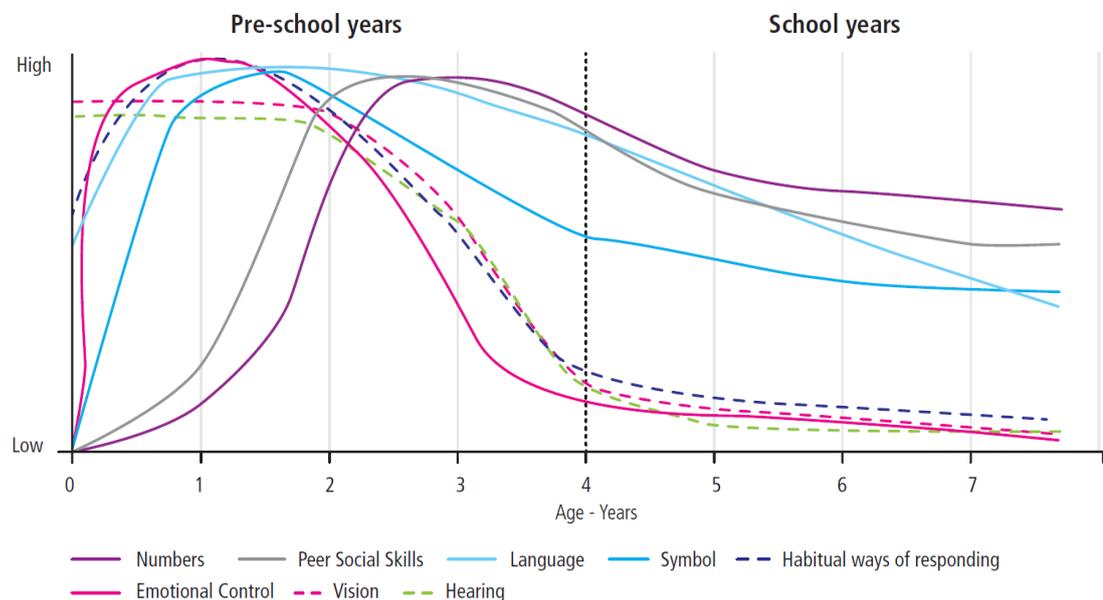
⁷¹ Liu, C., Ang, R. P., & Lwin, M. O. (2013). Cognitive, personality, and social factors associated with adolescents' online personal information disclosure. *Journal of Adolescence*, 36(4), 629-638.

⁷² Holloway, D., Green, L., & Livingstone, S. (2013). *Zero to eight: Young children and their internet use*. LSE. London: EU Kids Online.

⁷³ Umayahara, M. (2014, March). *Benefits and Risks of ICT in Early Years*. Presentation at the UNESCO Experts' Meeting for Fostering Digital Citizenship through Safe and Responsible Use of ICT, Singapore. Retrieved from http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/responsible_use_2014/Session_1C_Mami_Umayahara_ECCE.pdf

complications of a sedentary lifestyle, visual strain and myopia from staring at the screen for a long period of time, possible risks of computer radiation exposure, among others

- increased chance of being exposed to harmful contents, for example, violence, sexual contents, commercial contents, and gender and cultural stereotypes which could possibly have undesirable impact on children’s emotional, intellectual, social and behavioural development due to their underdeveloped ability in critical evaluation, self-regulation, and impulse control
- threat to children’s privacy due to unwarranted disclosure of personal information and images; these actions can lead to crimes such as identity theft, information piracy and forgery, stalking, bullying, and more
- concerns on the extensive use of ICT on children’s learning and development, especially in the first five years of their lives which is considered as the prime period for key developments (Figure 23); for example, children who spend a lot of time on computers or the Internet, playing games alone or working on closed, drill and practice software in isolation, may find it difficult to develop healthy social interaction skills



Graph developed by Council for Early Childhood Development (ref: Nash 1997, Early Years Study 1990, Shonkoff 2000)

Figure 23 Windows of Opportunities in the early years

On the one hand, some people fear that new technologies may displace other important learning and play activities, which are vital to early childhood development. On the other hand, there are exemplary ICT-supported resources and activities across the early childhood curriculum that are worth looking into, such as reading apps, skill-building activities, fine motor skill drills, numeracy games, etc. (e.g. www.getreadytoread.org/, www.seussville.com/). Proponents stress that young children can likewise benefit from using ICT as it can support the development of communication and collaboration capability, language skills, creativity, problem solving skills, and mathematical thinking skills. It also increases learning opportunities for children with special education needs. Hence, it is critical that “early childhood educators understand the importance of digital technologies as an integral learning tool which, when used judiciously, promotes the language, cognitive, and social development of young children.”⁷⁴ In line with this, the United

⁷⁴ Couse & Chen, 2010; Gimbert & Cristol, 2004; Information Society for Technology in Education [ISTE], 2007; NAEYC, 2012 as cited in Holloway, D., Green, L., & Livingstone, S. (2013). *Zero to eight: Young children and their internet use*. LSE. London: EU Kids Online.

Kingdom National Occupational Standards has released standards in the “Use [of] Information and Communication Technology to promote children’s early learning”⁷⁵.

This underscores the important role of parents and other caregivers in providing a healthy combination of developmental stimuli and appropriate tools, ICT-supported or not. This calls for higher parent engagement in guiding, supervising, and monitoring children’s ICT experience, and providing appropriate mediation, as discussed earlier. Adults should take advantage of these early years to inculcate sound values to foster children’s digital citizenship through safe and responsible use of ICT.

Moreover, research on young children’s online behaviour along with associated benefits and risks is essentially needed to provide evidence to all relevant stakeholders in developing and implementing effective educational programmes and policies with regards to digital citizenship among children.

Research Gaps

In view of the complex nature of ICT use and contributing factors to variations and vulnerabilities, it is apparent that a great deal of research still needs to be done. As recommended by various research groups, some key areas worth looking into include:

- investigation of potential opportunities and risks of ICT use on younger children (15 years old and under), including an understanding of children’s ICT access and use, media literacy skills development, activities, and risk-avoidance mechanisms, and an examination of emerging contents and services for this age group
- continuous and comparative research on the impact of newer technologies (e.g. mobile devices) on users’ behaviour
- comparable baseline data and policy and programme evaluations to enable identification of gaps between policy and practice as well as sharing of lessons learned and best practices
- analysis of available research and initiatives and/or comparative research on children’s use of digital technology in developing and emerging countries, i.e. Global South
- development of rigorous quality assurance mechanisms with regards to design, quality, success metrics, and dissemination to further continue research in priority areas
- international consensus for a common understanding on “digital citizenship”, “digital literacy”, “addiction”, “risks” vs. “harm”, among others

Along this line, UNICEF works with the Berkman Centre for Internet and Society based in Harvard University and the London School of Economics and Political Science (principal research group for the EU Kids Online study) in pursuing related research topics in this area. UNICEF encourages various key players to address the research gaps as enumerated in UNICEF’s Research Agenda⁷⁶, including studies on vulnerability factors, availability of comparable baseline data across countries, and conduct of policy and programme evaluations.

The foregoing discussion shows how complex the topic is, involving various aspects and perspectives. In view of the huge research gaps enumerated above, the need for more country-wide as well as region-wide research targeting early childhood and school-aged population in the AP region cannot be overemphasized.

⁷⁵ Retrieved from <http://workforcesolutions.sssc.uk.com/NavOnline/units/CCLD/CCLD3/SCDCCLD0323.pdf>

⁷⁶ Livingstone, S. & Bulger, M. (2013). *A Global Agenda for Children’s Rights in the Digital Age: Recommendations for Developing UNICEF’s Research Strategy*. UNICEF. Retrieved from <http://www.unicef-irc.org/publications/pdf/lse%20olol%20final3.pdf>

ORGANISATION-LED INITIATIVES

Various groups from the private sector and non-governmental organisations have contributed to the global efforts in promoting digital citizenship, with activities ranging from conducting research or leading advocacy campaigns to providing useful educational resources to children, parents, teachers, and schools. This report analyses more than 20 of such initiatives from NGOs and private sectors.

The key elements of the reviewed initiatives are summarized in Table 3. The patterns emerged from the analysis are similar to those from the national policy responses in the earlier section. Most of the initiatives focus on safety concerns and responsible behaviours while less emphasis is given to encouraging users to be competent and active participants in the technology-rich knowledge society.

Table 3 Key Elements of Digital Citizenship Initiatives among NGOs and Private Sector

	Benefits of ICT use/online participation	Responsible, ethical behaviour	Safety/ protection against risks	Values reinforcement (respect, empathy, etc.)
Non-government organisations				
Ins@fe		*	*	
UNICEF	*		*	
EU Kids Online	*	*	*	
APEC		*	*	
SEAMEO INNOTECH		*	*	*
iKeepSafe	*	*	*	
ISTE	*	*	*	
infallutionZERO		*		*
CommonSense Media		*	*	*
TOUCH		*	*	
Alannah & Madeline Fdn		*	*	*
ICT Watch	*	*	*	
Private sector				
MTV			*	*
Trend Micro		*		
Business Software Alliance	*	*	*	
Google	*	*	*	
Microsoft	*	*	*	
Intel		*	*	
Internet and Mobile Association of India	*		*	

In line with these focus areas, the different organisations have developed and implemented initiatives that look into advocacy, education, and other support services. Annex B presents a summary of these initiatives in tabular form.

Advocacy

Europe has a network of 31 national awareness centres comprising **Ins@fe** that “implements awareness and educational campaigns, runs a helpline, and works closely with youth to ensure an evidence-based, multi-stakeholder approach to creating a better internet.” One of Ins@fe’s popular advocacy campaigns is the **Safer Internet Day (SID)** that is celebrated every 2nd week of February. Organized by Insafe since 2004, SID aims “to promote safer and more responsible use of online technology and mobile phones, especially amongst children and young people across the world”

(www.saferinternetday.org). For the 2014 celebration, more than 100 countries participated⁷⁷, either with national activities or small-scale ones ranging from one-day camps and seminars to programme launches and crowd-sourced content generation.



Figure 24 Icon for Safer Internet Day (SID), Insafe

Another project seeks to develop a **Youth Manifesto** that gathers insights and views from young people aged 9 to 18 on how the future of the Internet should look like and what their online rights and opportunities should be (www.youthmanifesto.eu/). The project website comes with a toolkit of resources (lesson plans, videos, flyers) that teachers can use to inform and engage young people on this initiative. The Manifesto is targeted to be released in a high-level event in Brussels in February 2015.

Leading industry groups, like MTV and Trend Micro, have launched country-level and regional campaigns to engage the youth in advocating online safety:

- MTV’s “**A Thin Line**” campaign (www.athinline.org) aims to fight bullying, abuse, and discrimination in the digital age, based on the findings of the Digital Abuse Studies conducted by MTV and the Associated Press from 2009 to 2013 (<http://research.AThinLine.org>). The campaign encourages youth to share relevant content as well as post their stories, thoughts, and actions to stop digital abuse (sexting, textual harassment, cyberbullying etc.) and to “draw their own line” between what is innocent and inappropriate. The campaign has reached over 35 million viewers through its shows and website. It has also mobilized over 1.5 million young people to let go of fear and to take action. The campaign was originally for United States but in 2012 it was also promoted as a resource for viewers in Canada, Latin America, and Europe where MTV also have channels. With its online presence, it has reached youth from other countries as well.
- Since 2011, Trend Micro has organized its annual country-level competition, “What’s Your Story?” (<https://whatsyourstory.trendmicro.ph/>), to encourage youth to produce and upload original short videos (stop motion, animation, and live action) that advocate responsible use of the Internet among their generation. These videos may then be used by schools and other advocates in their respective campaigns or educational programmes to initiate and encourage conversations on these issues.

⁷⁷ Safer Internet Day (SID). (2011). *Safer Internet Day Near You*. Retrieved from <http://www.saferinternetday.org/web/guest/members>

Education

Ins@fe's website (www.saferinternet.org) offers a wide array of information and resources catering to children, youth, parents, educators, and other interested groups towards creating a safer and better Internet. Resources include activity kits, animated videos, and handbooks/guides gathered from all over Europe.

The **APEC Training Programme for Preventive Education on ICT Misuse** aims to contribute towards maximizing preventive education on ICT misuse through the conduct of customized experts' seminars and trainers' training workshops at country-level. Advocating a culture of healthy ICT, the programme uses a set of educational multimedia materials on 'safe use of ICT' to educate the public on the adverse effects of ICT use such as addiction to the Internet and gaming, identity theft, proliferation of malware, online pornography, etc. The materials consist of seven categories of electronic booklets with training guides, content slides, and lesson activities as well as 16 videos, translated into six different languages: Bahasa Indonesia, English, Korean, Spanish, Thai, and Vietnamese. The programme has been implemented in five ASEAN countries so far, where local experts and other key stakeholders were tapped to ensure appropriate localisation of resources and strategies to promote sustainability⁷⁸.

Phase 2 of SEAMEO INNOTECH's Mobile Technology for Teachers (MT4T) programme looks into policy research and development of a **mobile technology toolkit on CyberSafety and Emotional Intelligence (MTei)**, within the educational and cultural contexts of Southeast Asia. This multimedia and multi-technology resource kit seeks to equip educators with knowledge and skills in developing children's emotional intelligences so as to effectively address online risks and become responsible users of ICT.



Figure 25 BEaPRO - Six Key Pillars of Digital Citizenship, iKeepSafe Coalition

Based in the USA, the iKeepSafe Coalition (www.ikeepSAFE.org) is one of the prominent networks of policy leaders, educators, law enforcement members, technology experts, public health experts, private sector, and advocates in the subject of digital citizenship. Its numerous activities and resources aim "to see generations of the world's children grow up safely using technology and the Internet" by being ethical, safe, responsible, and resilient. The coalition promotes six key pillars to digital citizenship known as "BEaPRO" comprising Balance, Ethical use, Privacy, Reputation and Relationship, and Online Security, based on research findings on known online risks. The consortium provides a wide array of resources for children, youth, educators, parents, and schools including videos, books, guides, position papers, and assessment tools, among others. It also offers awareness and professional development workshops. An interesting addition is the BEaPRO Parent App that guides parents in addressing gaps in family behaviours and attitudes regarding overall technology health and safety.

⁷⁸ UNESCO Bangkok ICT in Education. (2013). *APEC Training Programme for Preventive Education on ICT Misuse*. <http://www.unescobkk.org/education/ict/online-resources/databases/ict-in-education-database/item/article/apec-training-programme-for-preventive-education-on-ict-misuse/>

To complement the inclusion of Digital Citizenship in both the ISTE Standards for Teachers and Students, ISTE has published a guide entitled “**Digital Citizenship in Schools**” that provides educators with ideas on integrating digital citizenship concepts in the classroom. One such activity is “The 21st-Century Digital Compass Activity” (Figure 26) that acknowledges that there are gradations of understanding among students (and adults) of digital citizenship. Making use of real-life scenarios, teachers stimulate critical thinking, dialogue, and self-reflection to guide students in understanding appropriate technology use⁷⁹.



Sample scenario: A student logs on to a file sharing website and downloads the newest song. *Is downloading music from a file-sharing site wrong?*

Figure 26 The 21st Century Digital Compass Activity, ISTE

Developed by infollutionZERO and with support from the Nanyang Technological University (NTU) and the National Institute of Education (NIE) of Singapore, the **iZHero Adventure** (www.izhero.org/) is a research-based and research-generating digital citizenship education programme that makes use of gaming technology and various multimedia formats to motivate its young target users (children aged 6 to 13) to build one’s self-identity and critical thinking skills as well as imbibe the following values: respect, courage, empathy, resilience, responsibility, creativity, gratitude, and discipline. “By developing these inner strengths, children can become able to confidently deal with cyber-risks prevalent in the digital world. In turn, children will have opportunities to be more creative and responsible citizens of the digital world as they find the “HERO” within themselves.”⁸⁰ The programme comes with a game-based social network website, an interactive exhibit, activities/challenges, and various supplementary materials like videos, comic books, and a quest guide. It is currently being implemented in Singapore and the Republic of Korea.



Figure 27 iZHero Adventure

CommonSense Media runs a similar online programme through **Digital Passport** (www.digitalpassport.org) where young children aged 9 to 12 can engage in a combination of peer-guided and independent learning on digital safety, respect, and community through online games, videos, and other collaborative activities. Users can earn badges towards a Digital Passport while teachers can monitor students’ progress through the system-generated reports. CommonSense Media also developed the **Digital Literacy and Citizenship Classroom Curriculum for K-12**

⁷⁹ Ribble, M and Bailey, G. (2005). Developing Ethical Direction. *Learning & Leading with Technology* Volume 32 (Number 7), pp 36-39. Retrieved from <http://www.digitalcitizenship.net/uploads/ISTECompass.pdf>

NOTE: A complementary lesson plan (with answer guides and rubric) can be found here:

<http://www.digitalcitizenship.net/uploads/FoundAct2.pdf>

⁸⁰ infollutionZERO (iZHero). (2014). *iZHero Adventure*. Retrieved from <http://www.izhero.org/about>

(www.common sense media.org/educators/scope-and-sequence), covering topics like Internet Safety, Privacy & Security, Digital Footprint & Reputation, Cyberbullying, Creative Credit & Copyright, among others. Complementary age-appropriate resources including lesson plans, activity sheets, assessment tools, and posters are also available. The programme also comes with training and awareness workshops for teachers and parents.

In a similar fashion, TOUCH Cyber Wellness (TOUCH; www.touch.org.sg/touch_cyber_wellness), a non-governmental organisation in Singapore, conducts complementary programmes and activities to assist government bodies in implementing the Cyberwellness programme. In order to promote cyber wellness, healthy gaming, and online safety, TOUCH conducts fun, engaging, and interactive roadshows and workshops for children and youth. The group also “provides assessment, counselling services and intervention programmes to both individuals and families” on cyber wellness issues (especially pathological gaming) through its **CRuSH** (Cyberspace Risks and where U Seek Help) Programme⁸¹. TOUCH has likewise produced a handbook that provides a macro view of the Singaporean youth digital landscape and corresponding practical parenting tips⁸². In addition, TOUCH conducts workshops to engage parents and other adults in serving as mentors to children and youth as they harness the benefits of the Internet. The group also assists schools in developing and implementing engaging and fun activities through its various resources⁸³.

The **eSmart Schools Programme** (<https://www.esmartschools.org.au>) implemented by the Alannah and Madeline Foundation in Australia. This programme provides a framework to improve cybersafety among schools and libraries by promoting a respectful culture and positive behaviour.

In 2002, the Indonesian ICT Partnership Association (ICT Watch; <http://ictwatch.id/>), a civil society organisation, was established to inform and empower citizens with regards to their right to information. It seeks to provide information about the dynamics and potential opportunities that the internet can offer, done through campaigns, publications, and a variety of public activities. In addition, it also promotes safe and smart internet use in Indonesia by conducting presentations to schools and community groups as well as maintaining a presence at conferences. ICT Watch is also a member of the Indonesian CSOs Network for Internet Governance (ID-CONFIG) as well as Indonesia Internet Governance Forum (ID-IGF).

Internet Sehat (<http://internetsehat.id/>), directly translated as “Healthy Internet”, is one of the initiatives of ICT Watch that aims to convey its messages and advice on a variety of topics – from safe behaviour to cyber security – on various social networking sites like Facebook, Twitter, and YouTube.



Figure 28 Indonesia's Healthy Internet campaign by ICT Watch

The industry sector has done its share of designing and implementing programmes related to cybersafety and digital citizenship that includes the following:

- The Business Software Alliance (BSA) maintains the **B4USurf** website (www.b4usurf.org/) to provide educators, parents, and youth with information and educational resources on cyber

⁸¹ CRUSH by TOUCH Cyber Wellness. (2013). *Counselling*. Retrieved from <http://www.planetcrush.org/counselling/index.htm>

⁸² CRUSH by TOUCH Cyber Wellness. (2008). *Cyber Wellness Handbook for Parents*. Retrieved from <http://www.planetcrush.org/resources/cyberwellnesshandbook.htm>

⁸³ CRUSH by TOUCH Cyber Wellness. (2013). *Educate* (featuring sample techno-dramas and modules under CRuSH (Cyberspace Risks and where U Seek Help)). Retrieved from <http://www.planetcrush.org/programmes/educate.htm>

ethics, cybersafety, and more importantly, the productive use of technology. It offers a Cyberwellness curriculum framework with suggested topics, sample lesson plans, and tips appropriate for students aged 11 to 19. It also has a print-ready “Cyber-Ethics Champion Code” form (www.b4usurf.org/uploads/pdf/certificate.pdf) that schools may include in their Computer Use Contract or Digital Citizenship Agreement⁸⁴ with parents and students.

- Google has partnered with iKeepSafe to develop lessons contributing to the **Digital Literacy and Citizenship Curriculum** (www.google.co.th/goodtoknow/web/curriculum/), dealing with topics such as evaluating the credibility of online content, managing and creating a positive reputation online, avoiding online tricks and scams, and safely exploring the online world, among others. The printable resources include pre and post-assessments, guidelines/tips, and several fun activities for students.
- To complement its research work in the area, Microsoft develops and makes available online a pool of online security and privacy resources through its **Digital Literacy Curriculum** (www.microsoft.com/about/corporatecitizenship/citizenship/giving/programs/up/digitalliteracy/default.mspx). The “Computer Security and Privacy” course, in particular, discusses various threats and corresponding safety protocols as well as ethical and legal issues related to Internet usage. The “Digital Lifestyles” course, on the other hand, orients users on the opportunities and potential benefits that digital technologies offer.
- To ensure digital safety amid the security concerns and threats all over the world, Intel has embarked on collaborative programmes to promote safe and responsible use of ICT. One programme is **StaySafeOnline.org** (<http://staysafeonline.org>), headed by the National Cyber Security Alliance (NCSA), USA. The website provides the general public with rich information on ways “to keep themselves, their organisations, their systems, and their sensitive information safe and secure online and encourage a culture of cybersecurity”.

A Cyber Security Classroom Packet for students and teachers developed by Intel for the National Cyber Security Awareness Month can be found here: <https://engage.intel.com/thread/19124>. It includes discussions and activities on Password Security, Location Protection, and Personal Privacy.

Contributing to the implementation of the new National Cyber Security Policy 2013, a joint initiative was launched by Intel and the UNESCO New Delhi Office. The **Cyber Safety Hackathon Project** aims to create awareness among school children and adolescents on various cyber issues, including netiquette, cyberbullying (social, psychological, and habitual implications), Internet and online safety (physical, psychological, reputation, and identity safety), and children’s rights online. A Cyber Safety curriculum with corresponding learning materials and teaching guides are being developed. The project is currently being piloted in 11 schools in India and will be scaled up by the MOE in the coming months. Intel intends to roll out the programme to other countries, in collaboration with education stakeholders.

- The Internet and Mobile Association of India (IAMAI) is a non-profit industry body in India that seeks to address the issues, concerns and challenges of the Internet and Mobile economy, including cybersafety. In partnership with Opera Software, the group manages the

⁸⁴ Singapore American School. *Digital Citizenship Agreement*. Retrieved from http://www.sas.edu.sg/uploaded/SAS/Learning_at_SAS/MS/More_Resources/docs/SAS_Digital_Citizenship_Agreement.pdf

“**Surf Safe Campaign**”⁸⁵ where experts conduct seminars in schools and colleges to educate children and youth on how to maximize opportunities and minimize risks while surfing the web. Since 2011, the Surf Safe seminars have reached more than 38,500 students in several cities across India.

- The Australian ICT industry has developed protocols, one of which is the “**Cooperative Arrangements for Complaints Handling on Social Networking Sites**” that seeks to inform users on procedures “to deal with problems which arise on [these] sites.”⁸⁶ Facebook, Google, Yahoo, and Microsoft have been involved in this initiative.
- Some other sites that offer resources on the topic are:
 - Planet Nutshell (<http://www.planetnutshell.com/skill/netsafe/>)
 - NetSafeUtah (http://www.netsafeutah.org/parents/parent_videos.html); various languages available)
 - NetSmartz (<http://www.netsmartz.org/netsmartzkids>)
 - NSTeens (<http://www.nsteens.org/>)
 - 4NetSafety (<http://www.sprint.com/4netsafety/>)
 - Childnet International (<http://www.childnet.com/resources>)
 - TeachersFirst (<http://www.teachersfirst.com/spectopics/safety.cfm>)

Support Services

In view of the complex nature of digital citizenship, a number of support services have been put in place to reinforce and provide assistance to the initiatives enumerated above. More popular support programmes include counselling programmes, hotlines, and filtering services.

As mentioned earlier, the Ins@fe network and Touch Cyberwellness provide counselling and hotline services in Europe and Singapore, respectively. A number of groups from different countries (e.g. Australia⁸⁷, New Zealand⁸⁸, Republic of Korea⁸⁹, Philippines⁹⁰) are also providing similar services, particularly for cases of cyberbullying, gaming/Internet addiction, and online abuses.

On the other hand, Internet Service Providers (ISPs) are either being encouraged or required by law to provide filtering services, or at least provide advice to its clients regarding possible options and protocols to judiciously safeguard computer systems in homes, schools, and workplaces, without constraining access to online opportunities.

⁸⁵ Opera Software. (2014). *Students in India get trained on safe surfing habits*. Retrieved from <http://www.operasoftware.com/press/releases/general/2014-01-23>

⁸⁶ Australian Government, Department of Communications. (2014). *Online Safety*. Retrieved from http://www.communications.gov.au/funding_and_programs/cyber_safety

⁸⁷ Kids Helpline. <http://www.kidshelp.com.au>

⁸⁸ Kidsline. <http://www.kidslines.org.nz/>

⁸⁹ Korea Internet Addiction Centre, National Information Society Agency.

<https://www.iapc.or.kr/english/aboutcenter/GreetingsDirector.do>

⁹⁰ Angelnet Anti-Cybercrime Group, Philippine National Police. <http://angelnet.ph/>

SYNTHESIS

The preceding discussion described a variety of country responses as well as initiatives by non-governmental organisations and the private sector to address issues concerning cybersafety, rights, and wellness. This section provides a synthesis of the foregoing list, coupled with a set of essential messages and recommendations on key areas.

Table 4 Major Patterns from Mapping Activity⁹¹

<i>Focus Areas</i>
<p>Focus on both safety/ protection against risks is high (87%), followed by responsible, ethical behaviour (74%). It should be noted that values inculcation (32%) is given importance in the AP region. Although “benefits of ICT use” (39%) is not prominently indicated in the programmes, the region recognizes this as shown by the growth of ICT infrastructure in the region.</p> <p>Key terms include:</p> <ul style="list-style-type: none"> • Online security/safeguarding digital footprint and reputation • Code of Conduct; appropriate, positive, constructive behaviour • Healthy, supportive environments • Rights of information, self-expression, education • Frauds, tricks, and scams • Filtering content • Digital abuse (e.g. bullying, sexual content, addiction, stalking/harassment, negative user-generated content (UGCs)) • Discrimination
<i>Target Audience</i>
<p>A large number of programmes target children and youth since these programmes focused on equipping schools, teachers, and parents with curriculum guides and corresponding materials. A number of initiatives also target the general public. There were a few initiatives that explicitly target very young children, the elderly, and the business sector.</p>
<i>Modalities of Action</i>
<p>Countries and organisations engage mostly on activities that either raise awareness through advocacy activities or develop knowledge and skills through educational interventions. Policies to restrict malicious content, safeguard security, and/or fight against cybercrime are in place in a number of countries. Country-wide research activities are conducted by the more digitally advanced countries.</p>
<i>Implementation strategies</i>
<p>Besides promoting a multi-stakeholder approach through consortiums or coalitions, the mapped programmes undertook customized implementations to ensure contextualized relevance. Activities include resource sharing, trainings, advocacy campaigns, research, content filtering, outreach events/roadshows, competitions, and incentives. Some groups provide other activities including helplines, knowledge/ experience-sharing forums, network-building, peer-mentoring, and assessment & counselling services. Some contents have even been translated to different languages to cater to more users.</p>

⁹¹ Disclaimer: The table below shows the major patterns observed from the current set of mapped policy responses and initiatives (as of December 2014), based on desk research and presentations during the Experts’ Meeting. It presents a snapshot of the policy responses and initiatives at the time of the analysis. Bear in mind that the current mapping exercise is non-exhaustive and is a work-in-progress. In addition, government bodies and non-government/private organisations have not been approached to verify the information gathered.

Essential Messages and Key Recommendations

Based on their wealth of experiences, programme proponents emphasized the need to consider a number of key points in the areas of research, policy, partnerships, and capability building.

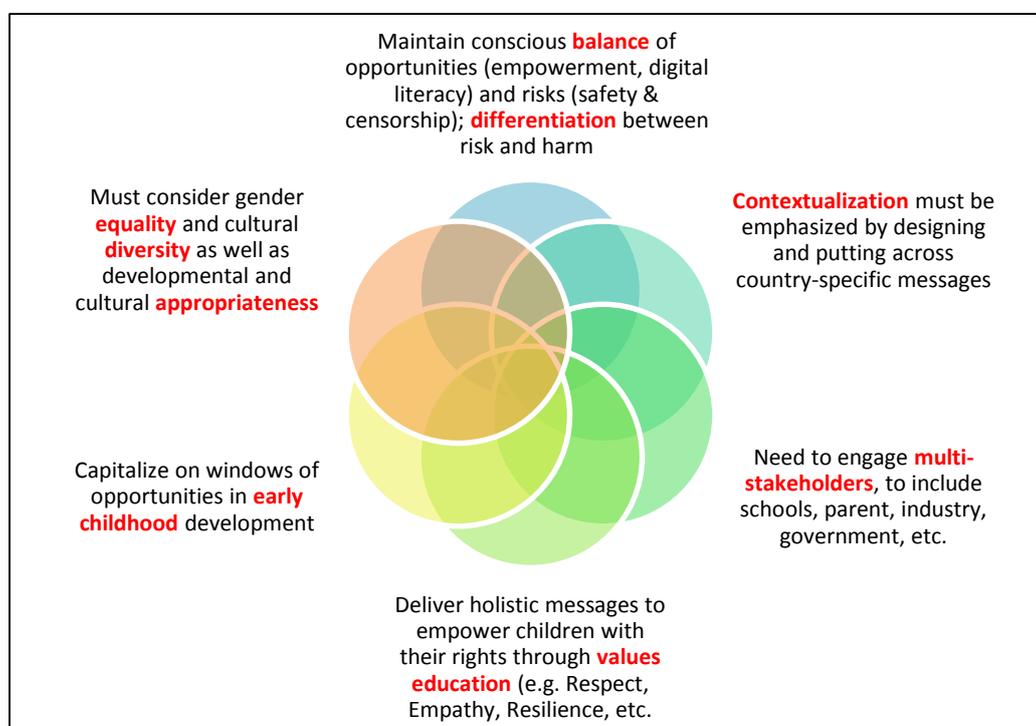


Figure 29 Primary Messages from initial mapping exercise

1. Policy

Central to the discussion on policy was the prioritisation of children's rights that include freedom of expression, access to information, education, protection, and participation as well as rights to protection against various forms of discrimination, violence, and abuse⁹². Along with this is **the need to ensure a balanced treatment of both opportunities and risks in relation to ICT use.**

Another major area where policy is needed is in the establishment of security measures to protect school data, in view of increasing occurrences of identity theft and other forms of cybercrime. Policies should include clear guidelines and intervention protocols, complete with accountability mechanisms and concrete sanctions for violations.

It is worthy to note that policy directives at national level provide a huge impetus for large-scale implementation of interventions, as compared to smaller initiatives that are not backed up by corresponding policies. Proponents have cited this as a major success factor for programme implementation at the school, community, or country level since it is visibly included in the government agenda. Buy-in of policy-makers is critical from the initial stage. To ensure sustainability and lasting impact of programmes and projects, it is therefore important to obtain

⁹² United Nations General Assembly. (1989). *Convention on the Rights of the Child*. Retrieved from <http://www.ohchr.org/en/professionalinterest/pages/crc.aspx>

the support and commitment of governing authorities, commencing at the conceptualisation stage.

The need for the institutionalisation of a sound monitoring and evaluation (M&E) mechanism was also emphasized to measure progress and effectiveness of interventions, including gathering feedback and validation of actions and resources.

2. Research

There was common agreement that there should be an evidence-based approach to policy responses and interventions in the region with regards to safe and responsible use of ICT. However, it has been established that the majority of existing research focuses on online activities, with a particular bias on the “Global North” or developed countries where internet penetration is high. There is also a lack of comparative and longitudinal research in this area that would be helpful in establishing contributory factors and long-term impacts of ICT use and related interventions. In addition, it was observed that there are varying definitions of what constitutes a specific risk (e.g. bullying, child pornography) that confounds comparative discussions on these topics. Furthermore, it has been observed that there is an apparent lack of data related to ICT use among children 15 years old and under, especially for early childhood.

Rather than assuming that the findings from the developed countries would apply to the region, it would be beneficial to conduct comparative research that would provide evidences that reflect the realities in the member states. It is then important for the research community to establish a research agenda in consideration of these gaps, the region’s unique context, inclusivity factors, and differences in use and risk exposure across various factors including age, socio-economic status, geography, gender, and other vulnerabilities. A bottom-up strategy is also recommended where target end beneficiaries are consulted so that intended solutions will be responsive to local needs. Based on these research findings, policy makers and programme implementers would be better informed to work on policies, campaigns, capacity building programmes, and other forms of interventions that are responsive and customized to the region’s context and needs while considering gender equality and cultural diversity as well as developmental and cultural appropriateness.

Researchers and other stakeholders are also encouraged to initiate and/or engage in activities that promote exchange of knowledge and good practices on this topic, for possible replication or scaling up of interventions within the region.

3. Education

The need to embed digital citizenship modules into the national curriculum was underscored in various programmes. On a related note, the need to integrate rights and values (e.g. respect, empathy, resilience, etc.) education into the curriculum had been highlighted by a number of member states and organisations in the region. Age-appropriate educational approaches were likewise stressed, considering that children get exposed to ICT at an early age. Moreover, the need for a life-wide approach was emphasized to encourage consistency of messages in school, home, and play.

This calls for a closer consideration on the role of parents, educators, and other caregivers (i.e. extended family, nannies, etc.). In view of their proximity to and influence on children, they would also need to understand the various concerns surrounding safe and responsible use of ICT. Professional development programmes for educators, parents, and

caregivers have to be put in place to influence changes in school approaches and parenting styles that would provide appropriate and timely support and mediation to children. In this regard, recent publications from UNESCO Institute for Information Technologies and in Education (IITE)⁹³ and European Union's Developmentally Appropriate Technology for Early Childhood (DATEC) Project⁹⁴ on strategies of ICT application to early childhood education and development are timely.

For the older children, it is recommended that relevant sections of the Media and Information Literacy (MIL) curricula be integrated into different subject areas, towards building competencies for digital citizenship. UNESCO defines MIL "as a set of competencies that empowers citizens to access, retrieve, understand, evaluate and use, to 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"(Figure 30)⁹⁵. UNESCO maintains that MIL balances the understanding of one's "rights of freedom of opinion, expression and communication...with an increasing understanding of personal and organisational ethical responsibilities regarding media, information and communication" for global citizenship⁹⁶. Emphasis on MIL was reiterated by the Broadband Commission, including the need to carry out, with the use of UNESCO's Global Media and Information and Literacy Assessment Framework⁹⁷, "comprehensive assessments of the information and media environment, and to monitor at the regional and national level the extent to which citizens have acquired MIL competencies, particularly targeting teachers in service and training."⁹⁸

On a similar note, the Open University of UK focuses on the use of digital tools in its Digital and Information Literacy Framework where digital literacy is defined as "the ability to find and use information (otherwise known as information literacy) but goes beyond this to encompass communication, collaboration and teamwork, social awareness in the digital environment, understanding of e-safety and creation of new information. Both digital and information literacy are underpinned by critical thinking and evaluation."⁹⁹

⁹³ Recognizing the potential of ICT in early childhood education: Analytical survey. UNESCO IITE, 2010. <http://unesdoc.unesco.org/images/0019/001904/190433e.pdf>

⁹⁴ Children using ICT: the seven principles for good practice (Extract from DATEC Final Report). <http://www.datec.org.uk/guidance/DATEC7.pdf>

⁹⁵ Global Media and Information Literacy Assessment Framework: Country Readiness and Competencies. UNESCO, 2013. http://karsenti.ca/archives/UNE2013_01_MIL_FullLayout_FINAL.PDF

⁹⁶ Media and Information Literacy Policy and Strategy Guidelines. UNESCO, 2013. <http://unesdoc.unesco.org/images/0022/002256/225606e.pdf>

⁹⁷ Global Media and Information Literacy Assessment Framework: Country Readiness and Competencies. 2013. UNESCO. Retrieved from <http://unesdoc.unesco.org/images/0022/002246/224655e.pdf>

NOTE: An inventory of MIL policies in Europe is available on: <http://ppemi.ens-cachan.fr/doku.php>

⁹⁸ The State of Broadband 2014: Broadband for All, a report by the Broadband Commission (September 2014). ITU & UNESCO. Retrieved from <http://unesdoc.unesco.org/images/0022/002246/224655e.pdf>

⁹⁹ The Open University. (2014). *Digital and Information Literacy Framework*. Retrieved from http://www.open.ac.uk/libraryservices/subsites/dilframework/view_all.php

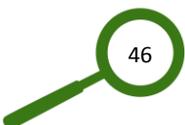




Figure 30 Media and Information Literacy: A Proposed Conceptual Model (UNESCO, 2013)

These literature present competency matrices that may serve as useful references for policy makers, curriculum developers, and educators in developing appropriate curriculum and resources for the Asia-Pacific region.

To supplement these efforts, educators should be trained and provided with relevant support to deliver this curriculum (with an emphasis on the safe and responsible use of ICT) and correspondingly, to assess learners’ competencies. A reference material for this would be UNESCO’s MIL Curriculum for Teachers (<http://www.itu.int/ITU-D/sis/newslog/2014/03/11/UNESCOReleasesMediaAndInformationLiteracyPolicyAndStrategyGuidelines.aspx>). The critical role of school heads in providing guidance and support in this area was also highlighted. Correspondingly, there is a need to develop non-English resources to cater to a wider audience within the region, together with regular review/updates of resources in view of the fast pace of technology advances.

The accompanying document “Profiles for Technology (ICT) Literate Students”¹⁰⁰ lists sample learning activities for school children from Pre-K to Grade 12, based on the standards. Examples related to the Digital Citizenship standard include:

¹⁰⁰ ISTE. (2007). *Profiles for Technology (ICT) Literate Students*. Retrieved from <https://www.iste.org/docs/pdfs/nets-s-2007-student-profiles-en.pdf?sfvrsn=4>

- Grades 3 to 5: Practice injury prevention by applying a variety of ergonomic strategies when using technology.
- Grades 9 to 12: Model legal and ethical behaviours when using information and technology by properly selecting, acquiring, and citing resources.

Furthermore, the International Society for Technology in Education (ISTE) also indicates digital citizenship as a crucial competency for teachers and students, as shown in Table 5.

Table 5 Digital Citizenship ISTE standards for Teachers and Students

ISTE Standards for Teachers (2008) ¹⁰¹	ISTE Standards for Students (2007) ¹⁰²
<p><u>Standard IV: Promote and model digital citizenship and responsibility</u></p> <ul style="list-style-type: none"> a. Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behaviour in their professional practices. b. Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources c. Address the diverse needs of all learners by using learner-centred strategies providing equitable access to appropriate digital tools and resources d. Promote and model digital etiquette and responsible social interactions related to the use of technology and information e. Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital age communication and collaboration tools 	<p><u>Standard V: Digital citizenship</u></p> <ul style="list-style-type: none"> a. Students understand human, cultural, and societal issues related to technology and practice legal and ethical behaviour. b. Advocate and practice safe, legal, and responsible use of information and technology c. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity d. Demonstrate personal responsibility for lifelong learning e. Exhibit leadership for digital citizenship

In addition, Mike Ribble, author of ISTE’s “Digital Citizenship in Schools”, enumerated nine elements of digital citizenship, and categorized them into three basic areas: Respect – Educate – Protect¹⁰³.

Respect Your Self/Respect Others

1. Access to opportunities of digital participation in society
2. Etiquette: standards of conduct or procedure, appropriate, and responsible behaviour
3. Law: observance of rules of society, responsibility for actions and deeds

¹⁰¹ ISTE. (2008). *ISTE Standards for Teachers*. Retrieved from http://www.iste.org/docs/pdfs/20-14_ISTE_Standards-T_PDF.pdf

¹⁰² International Society for Technology in Education (ISTE). (2007). *ISTE Standards for Students*. Retrieved from http://www.iste.org/docs/pdfs/20-14_ISTE_Standards-S_PDF.pdf

¹⁰³ Ribble, M. (2014). *Nine Themes of Digital Citizenship*. Retrieved from http://www.digitalcitizenship.net/Nine_Elements.html

Educate Your Self/Connect with Others

4. Communication: opportunities to communicate and collaborate with others
5. Digital Literacy: high degree of media and information literacy skills
6. Digital Commerce: learning how to be effective consumers in the digital economy

Protect Your Self/Protect Others

7. Rights & Responsibilities: respect for one's right to privacy, free speech, and other freedoms
8. Digital Health & Wellness: physical and psychological well-being in a digital technology world
9. Digital Security (self-protection): electronic precautions to guarantee personal safety

In general, regardless of how digital citizenship is scoped, the crucial aspect of it is empowering children with knowledge and skills to maximize the benefits and manage risks brought about by technologies. Consequently, they will be able to use digital technology and the Internet in a safe, responsible, and creative manner in order to live, learn, communicate, and participate in this fast-changing digital world.

Innovative approaches should also be explored, such as peer-to-peer education, mentoring, club activities, role-playing, etc. to make learning and applying these competencies more fun and authentic.

4. Partnerships

As seen from the foregoing discussions on policy responses and initiatives, it typically takes multi-stakeholder engagements to address the different areas of concern related to safe and responsible use of ICTs. This highlights the complex nature of the topic that warrants a diverse mix of interventions from cross-sector/cross-country partnerships. Involvement of government ministries/agencies, country offices of international/regional organisations, industry, experts (on various aspects including psychology, education, and law), teachers, parents, students, NGOs, and relevant associations, among others has been widely promoted to take on various key roles, provide different areas of expertise, and reach a wider audience.

Partnerships can be explored in developing and implementing programmes that leverage on the experiences and resources of existing related programmes and activities, looking at commonalities in target audience or theme (e.g. good parenting, protection of child's rights). Moreover, media outfits can be influenced to highlight opportunities (empowerment, digital literacy) and not to limit focus on risks and harm in relation to ICT use in order to promote safe and responsible use of ICT over panic and unwarranted censorship.

LOOKING FORWARD

The ongoing mapping exercise has provided a snapshot of key players and current programmes in this area. With this came the realisation that the topic is complex and involves various interrelated aspects that would need a deeper level of appreciation and understanding.

The Meeting, on the other hand, informally set in motion the targeted collaboration among these players. The proposed consortium aims to foster digital citizenship through safe and responsible use of ICT in the Asia-Pacific region.

As the prime movers of this Consortium, UNESCO Bangkok, infollutionZERO, Intel-AP, and SEAMEO INNOTECH would have to sustain the momentum among these organisations and set a common direction for the various players in the region. Project proposals would have to be prepared and sent out to grant-giving bodies and governments to secure funding and support needed to implement the planned activities within the near future. The infollutionZERO group agreed to serve as the consortium secretariat.

Customizing Action for the Asia-Pacific Region

As a relatively new entrant to the ICT space and faced with very different conditions, it was agreed that the AP region should not merely adopt policies and initiatives from the developed countries that enjoy high ICT penetration and have a wealth of experiences on policies and programmes related to digital literacy and citizenship already in place. It would be good to learn and model from those countries but policies and initiatives have to be customized for the AP region. The region should consider its unique mix of features that include: a) huge diversity (geography, population, culture, value and belief system, ICT and broadband penetration, socio-economic status, etc.); b) a higher mobile penetration than computer-based access and internet penetration; c) wide-ranging issues regarding ICT use that include safety and security issues, persistence of digital gaps, and protection issues against bullying, child trafficking, and online terrorism, among others; and d) youth as key drivers to ICT uptake and use.

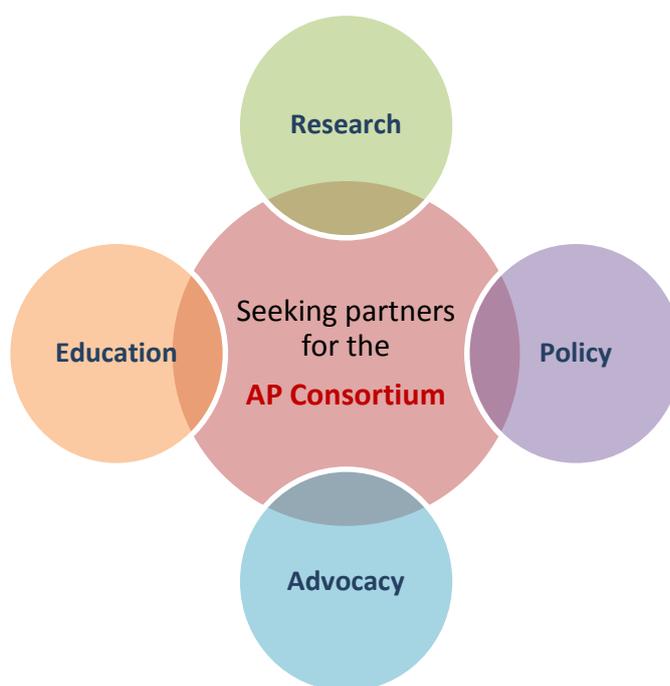


Figure 31 Focus Areas for AP Consortium's Plan of Action

It would be difficult to implement a region-wide programme due to the region's immense diversity – i.e. member states may agree on a similar programme concept region-wide but country-level implementation is expected to be different across the region. Nonetheless, it would be beneficial for the proposed regional consortium to look at the following possible action points:

1. Policy:
 - a. Draft a Policy Guidelines directed at Ministries of Education and other relevant key stakeholders in the region, backed up by research evidence
 - b. Distribute to AP member states a communication package on the rationale of the draft Policy Guidelines
 - c. Participate in various policy dialogue platforms to present and gather feedback on the draft Policy Guidelines, present country cases, or conduct capacity building workshops
2. Research:
 - a. Continue networking with international and regional players and experts for possible collaborations
 - b. Develop a new framework for research for AP countries, possibly modelling from and customizing existing ones, that may include:

- i. Review of national policies and initiatives that promote safe and responsible use of ICT in AP
 - ii. Development of a framework for competency standards related to digital citizenship and literacy that can serve as a common basis for policy and practice
 - iii. Establishment of a baseline profile of ICT competencies and use among children in the AP region (“Asia Kids Digital”) that would serve as basis in contextualizing policy guidelines and programmes that promote safe and responsible use of ICT (refer to the ones done by UNICEF, EU, Australia, and Singapore)
 - iv. Further studies on effective mediation approaches by parents, teachers, and caregivers
 - c. Develop a mechanism to form a research network at regional and country levels
 - d. Establish an online database of policies and programmes related to this area
3. Education:
- a. Include the MIL curriculum and assessment framework in the draft Policy Guidelines
 - b. Create an online portal for the exchange of promising cases and high quality resources/ toolkits as Open Educational Resources
 - c. Collect, enhance, pilot, and disseminate training guides and materials for teachers and caregivers
 - d. Tap school networks to join the consortium activities
4. Advocacy Campaign:
- a. Develop campaign materials that are based on users’ point of view rather than from a technology standpoint
 - b. Conduct a regional advocacy campaign, leveraging on existing celebrations and gathering various forms of support from government and local organisations for country-level implementations (refer to Safer Internet Day, APEC TWG CyberSecurity Awareness Day, ITU’s World Telecommunication and Information Society Day, MTV’s A Think Line competition)
 - c. Participate in various regional and/or country-level fora to promote awareness on the theme
 - d. Establish a regional hotline network similar to European Commission’s INHOPE to provide online support, standard response protocols, monitoring statistics/reports, and related expertise

Policy Review and Draft Policy Guidelines

A set of draft UNESCO Policy Guidelines was presented, discussed, and enhanced as a concrete output of the Experts’ Meeting. These Policy Guidelines seek to guide Member States in responding to the issues by developing appropriate policies and initiatives to promote children’s safe and responsible use of ICT in their particular contexts. Targeting Ministries of Education and other relevant government agencies among Asia-Pacific member states, its present form contains the preamble (foundation principles, conditions, scope and definitions, etc.) and a set of 11 general recommendations that consolidated the observations and agreements from the initial mapping exercise. Annex C shows the draft Policy Guidelines (version 7 March 2014).

UNESCO Bangkok, with support from Intel, is set to conduct a research activity that will officially review existing national legislation, regulations, national curriculum, and other educational

programmes/initiatives in Asia-Pacific, based on key focus areas and established indicators¹⁰⁴. The study will also analyse and identify gaps between policies and practices in fostering a favourable environment to encourage children's responsible and safe use of ICT as well as document and disseminate promising national practices where ethical, responsible, and safe use of ICT are successfully promoted. It is hoped that the findings will provide a sound basis towards strengthening the draft Policy Guidelines. It intends to identify the gaps for both policy and practices in promoting children's safe and responsible use of ICT in the region.

This will be done prior to the wide-scale dissemination of the Policy Guidelines for comments, revisions, and finalisation.

¹⁰⁴ For sample focus areas/ domains, please refer to the EU Kids Online publication: de Haan, J and Livingstone, S (Ed). (2009). *Policy and Research Recommendations*. Retrieved from http://eprints.lse.ac.uk/24387/1/D5_Report-Policy_and_Research_Recommendations.pdf

For sample indicators, please refer to the EU Kids Online publication: O'Neill, B with members of the EU Kids Online Network. (2014). *Policy Influences and Country Clusters: A Comparative Analysis of Internet Safety Policy Implementation*. Retrieved from <http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20III/Reports/D6.3-Policy-Influences-May-2014-Final.pdf>

ANNEX A: SUMMARY OF MAPPED COUNTRY INITIATIVES

	Concerned ministries/ organisations	Programmes	Focus areas	Target groups	Policies/ Regulations	Research	Education	Advocacy & Support services
Australia	- Australian Communications and Media Authority (ACMA)	Cybersmart Programme	- Digital footprint - Digital reputation - Digital citizenship - Digital media literacy	Children and youth Parents Teachers Library staff		- Monitoring and evaluation - Documentation of best practices	- Resources for parents, schools, children - Teacher resources - Pre-service and in-service teacher training programmes	- Outreach programme and forum - videos
	- Department of Communications	Cybersafety Help Button	- Cybersafety	General public				- Practical advice, support and information
		Easy Guide to Socialising Online	- Online safety and security	General public			- Guide on customizing privacy settings	
	- Government - Private sector - Education sector - Community sector	Stay Smart Online Week	- Online safety and security	General public				- Information dissemination
	- National government	AUD 10M budget (2014-2015)	- Online safety	Children Schools	- Establishment of the Office of the Children's e-Safety Commissioner	- Fund support	- Programme assistance to schools	- Fund support
Brunei	- Digital Media and In-Service Centre (MiSC) of the Ministry of Education	Our Digital Values	- Preservation of country's traditions, values, and beliefs	Schools	- Appropriate use of the internet - Standardized filtering package and BYOD policies		- Digital content that are safe and aligned with the country's culture, values, and accepted norms	
PR China	- Government - Various organisations		- Curbing Internet addiction	Youth	- Regulating the number of internet cafés - Anti-addiction safeguards to be set by gaming companies	- Diagnostic manual for Internet Addiction Disorder (IAD)	- Education and treatment centres / rehabilitation boot camps	
India	- Federal government		- Prevention / solution of cybercrimes	Businesses Children	- Indian Information Technology (Amendment) Act 2008			- Cybercrime and cyber forensic labs

	Concerned ministries/ organisations	Programmes	Focus areas	Target groups	Policies/ Regulations	Research	Education	Advocacy & Support services
	- National Cyber Safety and Security Standards		- Cyber protection	Various sectors			- National Cyber Crime Reference Handbook	- Annual summit - Cyber Defence Monthly Magazine
	- Cyber Safe India Alliance		- Cyber safety	Children Youth Elderly			- Tips / advice via social media platforms	- Nationwide awareness programmes
Indonesia	- National government		- Protection against malicious content	General public	- Censorship of pornographic websites			
	- Ministry of Communication and Information Technology and Ministry of Women Empowerment and Child Protection		- Cyber safety	Children Adolescents General public	- National Plan of Action on Safe Media	- Digital Citizenship and Safety among Children and Adolescents in Indonesia		- Public awareness campaigns
Republic of Korea	- National government		- Online safety - Cyber ethics		- Communications Commission Act - Internet Information Protection Act - Communication Network Act - Cinderella Law - Child Protection Act - Personal Information Protection Act - Act on Promotion of Information and Communication Utilisation and Information Protection			
	- Korea Communication	Green i-NET 2.0 Programme	- Internet content regulation	Youth Parents Teachers				- SafeNet (content rating system), users' age monitoring

	Concerned ministries/ organisations	Programmes	Focus areas	Target groups	Policies/ Regulations	Research	Education	Advocacy & Support services
	Standards Commission							software, filtering software, and an Internet time management system - Educational and awareness campaigns
	- Korea Internet and Security Agency	Korea Internet Dream Star; Create Beautiful Internet World Campaign	- Healthy digital culture				- Internet literacy and ethics classes	- Youth role models
	- Ministry of Gender Equality and Family/ Commission on Youth	- Internet addiction prevention campaign	- Safe and healthy internet culture - Internet addiction	Teachers Students	- Filtering of harmful online content		- Preventive education on internet addiction - Trainings for counsellors and therapists	- Treatment of internet addiction; counselling services - Youth Patrol
	- National Information Society Agency		- Internet safety			- IT-related matters, monitoring of internet usage, addiction	- Educational contents on information ethics	- Investigation of cybercrime incidents
	- Ministry of Education - Korea Education and Research Information Service		- Responsible and safe use of the internet	schools	- Establishment of the Education Cyber Safety Centre		- Activities that stress healthy practices, good manners, online accountability - Educational resources for ICT ethics education	- filtering software to enable schools to self-regulate content
		Stop Bullying Campaign	- Reduction of cyberbullying				- Educational resources	
	- National government		- treatment of internet addiction	General public		K-Scale Checklist		Free Internet addiction treatment centres/ rescue camps
Malaysia	- CyberSecurity Malaysia under the Ministry of Science,	CyberSecurity Awareness for Everyone	- Cybersecurity and safety	General public		-	- Webzines, guidebooks, multimedia content - Training workshops	- Awareness talks - Online contests - Public speaking competitions

	Concerned ministries/ organisations	Programmes	Focus areas	Target groups	Policies/ Regulations	Research	Education	Advocacy & Support services
	Technology and Innovation	programme (CyberSAFE)						- Safer Internet Day - Cyber999 Help Centre
	- CyberSecurity Malaysia & Ministry of Education - Childline Malaysia - SKMM (Malaysian Communications and Multimedia Commission) - DiGi	DiGiCyberSAFE in Schools	- Safe internet environment	Schools Teachers (ambassadors) Parents Caregivers children		- "Safety Net – Growing Awareness among Malaysian School Children on Staying Safe Online" Survey	- Educational workshops - CyberSAFE Ambassador Training Workshops - Teaching toolkits - Guidebooks - Localized, digital multimedia content	- Outreach campaigns in schools and community internet centres - 15999 Childline
	- Malaysian Communications and Multimedia Commission	Click Wisely Programme (Klik Dengan Bijak)	- Internet safety and security - Positive use and self-regulation	Children Youth Parents Guardians	- (in line with Rukunegara, Malaysia's National Principles)		- Educational brochures, posters, magazine articles for the public - Training programmes	- Talks - Workshops - Competitions
Myanmar	- Ministry of Information		- Positive environment	General public	- Code of conduct in the use of internet vis-à-vis freedom of expression			
New Zealand	- Ministry of Education and other organisations	NetSafe	- Cybersafety and digital citizenship	Schools Teachers Students Businesses		- Literature review on cybersafety approaches and recommendations for early childhood education	- Internet Safety Kit for Schools - Learn, Guide Protect model of cybersafety - Sharing of practices - NetSafe Kit for ECCE - Hector's World - Whatsit? (businesses) - "Scam Machine" - In My Day (parents) - Cyberbullying website	- National Cyber Bullying Task Force - The Orb - Web Rangers NZ
	- National government		- Cybersecurity policy advice	Government	- Establishment of National Cyber Policy Office - NZ's Cybersecurity Strategy			

	Concerned ministries/ organisations	Programmes	Focus areas	Target groups	Policies/ Regulations	Research	Education	Advocacy & Support services
	- National government and other sectors	Connect Smart	- Cyber security	General public Businesses				- Public campaigns
Philippines	- National government		- Protection against cybercrime	General public	- Cybercrime Prevention Act			
	- Department of Education (DepEd)		- Children's rights	Children	- Anti-Bullying Act - Special Protection of Children Against Abuse, Exploitation and Discrimination Act - Child Protection Policy - Guidelines in Managing the Proper Use of Internet Services - Guidelines on the Proper Use of Computer and Network Facilities - Computer Usage Code-of-Conduct Contract			- Awareness workshops
Singapore	- Inter-Ministry Cyber Wellness Steering Committee	Cyber Wellness Programme	- Promotion of appropriate online behaviour - Self-manage one's well-being and protection		- National strategy for Cyber Wellness public education	-	-	-
	- Ministry of Education	Cyber Wellness Programme	- Cyber wellness	Children and youth Teachers parents			- Sense-Think-Act framework - Cyber Wellness Curriculum - online resource portal for teachers, students and parents - professional development programmes for teacher coordinators	- incentives for teachers

	Concerned ministries/ organisations	Programmes	Focus areas	Target groups	Policies/ Regulations	Research	Education	Advocacy & Support services
	- Ministry of Education - Infocomm Development Authority of Singapore - Microsoft SG	Cyber Wellness Student Ambassador Programme	- Safe and responsible use of ICT	Students				- Peer advocacy - Annual conferences - Recognition awards (STAR)
	- Media Development Authority		- Parents' involvement in cybersafety concerns	Parents	- ISPs to actively promote Internet filters at point of sale or renewal of broadband subscriptions		- Parents' portal and Handbook	- Development of socially responsible apps - Talks and public workshops - Magazine articles
	- Media Literacy Council		- Cyber wellness - Policy responses	General public Government		- Various research studies like DigiSmart (media and digital IQ)	- Media Smart Club - Media Literacy Badge Programme - Parenting handbook, modules, videos, articles	Safer Internet Day - Customized community and media outreach, talks, seminars, workshops
Thailand	- National government		- Online safety and netiquette - Reduction of gaming addiction	-	- Child Protection Act, the Computer Crime Act, and the Prostitution Prevention and Suppression Act - Filtering and censorship of inappropriate content - Curfew on online games	-	- Tips and resources	- Thai hotline

ANNEX B: SUMMARY OF ORGANISATION-LED INITIATIVES

	Organisations	Focus Areas	Target groups	Geographical reach	Activities / Outputs
Advocacy	Ins@fe	- Promotion of safer and responsible use of online technology and mobile phones	Children and young people	Europe	- network of 31 national awareness centres - Safer Internet Day (SID) www.saferinternetday.org ; various events worldwide
		- Online rights and opportunities	Young people aged 9 to 18 and teachers	Europe	- Youth Manifesto (www.youthmanifesto.eu/)
	MTV	- Stop cyber bullying, abuse, and discrimination	Youth	Mainly US, Canada, Latin America, Europe but has reached youths of other countries with its online presence	- “A Thin Line” campaign (www.athinline.org) - video story competition
	Trend Micro	- Responsible use of the Internet	Youth	Selected countries across the world	- Annual country-level video competition, “What’s Your Story?” (US/Canada site – http://whatsyourstory.trendmicro.com/ ; Philippine site - http://whatsyourstory.trendmicro.ph/)
Education	Ins@fe	- Promotion of safer and responsible use of online technology and mobile phones	Children, youth, parents, educators	Europe	- Educational resources (www.saferinternet.org)
	Asia-Pacific Economic Cooperation (APEC)	- Preventive education on ICT misuse	Teachers Students	5 ASEAN countries: Philippines, Indonesia, Thailand, Malaysia, and Viet Nam	- Training Programme for Preventive Education on ICT Misuse and corresponding multimedia resources (6 languages)
	Southeast Asian Ministers of Education Organization- Innotech (SEAMEO- Innotech)	- Cybersafety and emotional intelligence	Teachers	Southeast Asia	- Mobile Technology for Teachers (MT4T) toolkit
	iKeepSafe Coalition	- Digital citizenship	Children and Parents	Based in USA but resources are available across the world	- “BeaPRO” model and corresponding resources - “BeaPRO” Parent App - awareness and professional development workshops; assessment tools, position papers
	International Society for Technology in Education (ISTE)	- Digital citizenship	Teachers	Across the world	- “Digital Citizenship in Schools” for curriculum integration

	Organisations	Focus Areas	Target groups	Geographical reach	Activities / Outputs
	infallutionZERO	- Imbibing good values for healthy cyber experiences	Children aged 6 to 13	Singapore and Republic of Korea	- iZHero Adventure (www.izhero.org/) - interactive exhibit, supplementary materials
	CommonSense Media	- Digital safety, respect, and community	Young children aged 9 to 12	Across the world	- Digital Passport (www.digitalpassport.org), games, videos, collaborative activities
		- Internet safety, privacy and security - Digital footprint and reputation - Cyberbullying - Creative credit and copyright	Students, teachers and parents	Across the world	- Digital Literacy and Citizenship Classroom Curriculum for K-12 (www.common sense media.org/educators/scope-and-sequences) and resources
	TOUCH Cyber Wellness	- Cyber wellness, healthy gaming, and online safety	Children and youth Parents Schools	Singapore	- Interactive roadshows and workshops - Handbook on Singaporean youth digital landscape and parenting tips
	Alannah and Madeline Foundation	- Respectful culture and positive behaviour	Schools Libraries	Australia	- eSmart Schools Programme – cybersafety framework
	Indonesian ICT Partnership Association (ICT Watch)	- right to information - safe and smart internet use	General public	Indonesia	- presentations to schools and community groups - Internet Sehat (http://internetsehat.id/) advice via social networking sites
	Business Software Alliance (BSA)	- Cyber ethics - Cyber safety - Productive use of technology	Educators, parents and youth	Across the world	- B4USurf website (www.b4usurf.org/) educational resources - Cyberwellness curriculum framework for students aged 11 to 19 - “Cyber-Ethics Champion Code” form
	Google and iKeepSafe	- Positive online reputation - Digital literacy - Cyber safety	Schools	Across the world	- Digital Literacy and Citizenship Curriculum (www.google.co.th/goodtoknow/web/curriculum/) and resources
	Microsoft	- Online security and privacy	Schools	Across the world	- Digital Literacy Curriculum (www.microsoft.com/about/corporatecitizenship/citizenship/giving/programs/up/digitalliteracy/default.aspx) and resources
	Intel and National Cyber Security Alliance - USA (NCSA)	- Cyber safety and security	General public	Across the world	- StaySafeOnline.org (http://staysafeonline.org)

	Organisations	Focus Areas	Target groups	Geographical reach	Activities / Outputs
	Intel	- Cyber security	Students and teachers	Across the world	- Cyber Security Classroom Packet (https://engage.intel.com/thread/19124)
	Intel and UNESCO New Delhi Office	- Awareness on cyber issues	School children and adolescents	India (piloted in 11 schools); planned to be rolled out in other countries	- Cyber Safety Hackathon Project with cyber safety curriculum and materials
	Internet and Mobile Association of India	- Potential opportunities and risks of Internet access	Children and youth	India	- Surf Safe Campaign seminars
	Facebook, Google, Yahoo, and Microsoft	- Self-management of online concerns	General public	Australia	- “Cooperative Arrangements for Complaints Handling on Social Networking Sites” – standard protocols
Support Services	Ins@fe	- Cyber wellness	Children and young people	Europe, Russia	- 30 Helplines; counselling services (http://www.saferinternet.org/helplines)
	TOUCH Cyber Wellness	- Cyber wellness	Children and youth Parents	Singapore	- “CRuSH” (Cyberspace Risks and where U Seek Help; http://www.planetcrush.org/) - assessment, counselling services, intervention programmes
	Internet Service Providers	- Cyber safety and protection against malicious content	General public	Across the world	- Filtering services/ advice on options and protocols

ANNEX C

(DRAFT) POLICY GUIDELINES ON FOSTERING DIGITAL CITIZENSHIP THROUGH SAFE AND RESPONSIBLE USE OF ICT FOR CHILDREN IN THE ASIA-PACIFIC REGION

UNESCO Asia-Pacific Regional Bureau for Education,

Guided by the relevant principles set forth in the UN Convention on the Rights of Children, including the right to protection against all forms of discrimination (Art. 2); express views and the right to be heard (Art. 12); the right to freedom of expression, including the freedom to seek, receive and impart information (Art. 13); the right to freedom of association and peaceful assembly (Art. 15); the right to privacy, family, home or correspondence and against unlawful attacks on honour and reputation (Art.16); the right to information (Art. 17); the rights to education (Art. 28), health (Art. 24) and participation in artistic and cultural activities (Art. 31); and the rights to protection from all forms of violence and abuse (Art. 19), all forms of sexual exploitation and sexual abuse (Art. 34), and from sale, trafficking or abduction (Art. 35)¹⁰⁵;

Mindful of the conditions as below:

that information and communications technology (ICT) plays a critical role in enabling inclusive and sustainable human development by providing people not only with “access” to information and services but also with opportunities to participate in (“voice”) and contribute to the knowledge economy (“networking”)¹⁰⁶;

that despite the existence of digital gaps within the Asia and Pacific region, the use of ICT has expanded tremendously at home, in school, and shared facilities, progressing at a rapid pace and changing the way people learn, travel, work and interact with one another, overcoming limitations set by distance and time;

that children are increasingly introduced to ICT at a very young age;

that in as much as these digital technologies have brought about significant benefits and opportunities, the very same technologies have posted an array of social and ethical issues to contend with;

that digital citizens need to equip themselves from early years, with the knowledge, skills, and attitude towards safe and responsible use of these technologies, so as to ably manage risks and minimize harm, without refraining them from fully participating in and contributing to a knowledge society;

¹⁰⁵ A (Private) Public Space. InterMedia and UNICEF, page 6. URL - http://www.unicef.org/infobycountry/files/A_Private_Public_Voices_of_Youth_Kenya_study.pdf Accessed: February 2014

¹⁰⁶ Access, voice, and networking were cited as the key dimensions of ICT for Development in the SDC ICT4D Strategy (pp. 5-6). Swiss Agency for Development and Cooperation (SDC), 2007. URL: www.deza.admin.ch/ressources/resource_en_161888.pdf Accessed: September 2013

Clarifying the scope and definitions of terms used in this document as below:

- that the “Asia-Pacific region” covers 48 member states and two associate members¹⁰⁷ of UNESCO in five (5) sub-regions, namely: Central Asia, South Asia, East Asia, Southeast Asia, and Pacific Islands;
- that “children” refers to persons up to 18 years old, as defined by the Convention on the Rights of the Child¹⁰⁸;
- that “information and communication technologies” or “ICT” is defined as consisting of “the hardware, software, networks, and media for the collection, storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services”¹⁰⁹;
- that “education” covers the broad classifications of formal, non-formal, and informal education;
- that “Digital Citizenship” pertain to... (*up for discussion*)
- that “positive values” include respect, empathy, and integrity that promote resilience, gender equality, and sensitivity to cultural diversity;
- that “risks” include concerns and issues that have been raised with regards to ICT use, surrounding privacy and security, the role of the child (as a recipient of content, as a participant in contact events, and as an actor)¹¹⁰, health (physical, mental, emotional), among others;

Emphasizing the need to be sensitive to the various forms of digital divide that persists in the Asia-Pacific region brought about by unique specificities of the region, including cultural, socio-economic, and geographical diversities and vulnerabilities that contribute to differences in levels of access to ICT, extent of ICT use, and degree of risks and effects encountered;

Highlighting that UNESCO, together with international experts, has developed indicators and curriculum related to Media Information Literacy that may serve as valuable reference materials;

Recognizing that the region can benefit from the work done by various international, regional, and local organisations on this theme in the areas of research, policy, and programmes;

Recognizing that multiple stakeholders share responsibility in advocating and cultivating a healthy and safe ICT environment;

¹⁰⁷ List of UNESCO member states and associate members in Asia-Pacific. URL - <http://www.unescobkk.org/asia-pacific/in-this-region/member-states/> Accessed: March 2014

¹⁰⁸ Frequently Asked Questions on the Convention on the Rights of the Child, UNICEF. URL - http://www.unicef.org/crc/index_30229.html Accessed: March 2014

¹⁰⁹ ICT Glossary Guide: 100 ICT Concepts, World Bank. URL - <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/0,,contentMDK:21035032~menuPK:282850~pagePK:210058~piPK:210062~theSitePK:282823~isCURL:Y,00.html> Accessed: March 2014

¹¹⁰ A classification of online opportunities and risks for children discussed in S. Livingstone and L. Haddon (June 2009). EU Kids Online: Final Report, page 10. URL - [http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20%20\(2006-9\)/EU%20Kids%20Online%20%20Reports/EUKidsOnlineFinalReport.pdf](http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20%20(2006-9)/EU%20Kids%20Online%20%20Reports/EUKidsOnlineFinalReport.pdf) Accessed: February 2014.

Puts forward the following recommendations to guide Ministries of Education and other relevant government agencies among member states, within their capacities and authority and through for inter-sectorial coordination, in fostering digital citizenship through safe and responsible use of ICT among children in the Asia-Pacific region:

1. Set a clear vision and evidence-based policies that foster digital citizenship in Asia-Pacific by empowering children to maximize opportunities and manage risks
2. Identify and engage key stakeholders - including all relevant government bodies, industry, civil society, schools, parents, and students - in policy development and implementation processes
3. Encourage research to support policy development, needs assessment, and programme design and evaluation
4. Develop, adapt, and integrate Digital Citizenship education into the national curriculum and translate into quality teaching and learning materials
5. Integrate Digital Citizenship education into teacher competency standards and professional development programmes
6. Encourage and empower school leadership to create a safe learning environment and promote innovative use of ICT for 21st Century learning
7. Engage parents and caregivers in fostering children's positive values and responsible behaviours in the use of ICT from early childhood
8. Establish national guidelines and protocols on the deployment of appropriate systems to secure children's data and protect them from risks
9. Establish national guidelines and protocols for schools and communities to design and implement preventive, intervention, and follow-up programmes to support children, teachers, and parents
10. Raise public awareness on the importance of safe and responsible use of ICT and children empowerment to foster digital citizenship
11. Establish quality standards and a monitoring and evaluation mechanism for digital citizenship programmes





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