From Policy to Curriculum: Analyzing Digital Literacy Initiatives in the Asia-Pacific Region

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The Asian Conference on Media, Communication & Film 2019
Official Conference Proceedings

Abstract
Digital media is the inextricable part of our future, a future which literally defined by the way the next generation is being educated. On the one hand, children and young people are commonly assumed as the "digital natives" –the generation who master the technology. Yet, when it comes to risks, they are considered as the vulnerable generation that is prone to the harmful activities afforded by digital media. Responding to this dilemma, most national governments all over the world are embracing digital literacy in its present and future policy development. With a qualitative approach, this research examines the policies concerning digital literacy, particularly for children and young people in Asia-Pacific region, through study cases of Indonesia, Singapore, Australia and New Zealand. The rationalities and strategies of promoting digital literacy in each country are being evaluated with a combination of document and stakeholder analysis, in which the analytical framework was mainly drawn from the research of Frau-Meigs, Velez & Flores Michel (2017) and UNESCO Media Information Literacy Policy and Strategy Guideline (2013). This research finds that neoliberalism still dominating the rationalities of most policymakers in developing digital media related curriculum. Interestingly, strong emphasis on the social-emotional dimension of digital literacy was found in Singapore and Indonesia. In a positive light, inter-ministerial coordination emerged and there are extra supports for the digitally (and socially) excluded groups.

Keyword: digital, media, literacy, policy, children, youth, Asia-Pacific

Introduction

Lately, the discourse of digital literacy is getting more prominent, since it has become "everyone's favorite solution" to the complexity of regulating the digital environment (Livingstone, 2018). Most national government all over the world are seemingly embracing digital and media literacy in its present and future policy development. With the fact that digital technology will be the inextricable part of our future –a future which literally defined by the way the next generation is being educated, children and young people then commonly become the main target group of these policies. Yet, there is a paradoxical situation while addressing the position of this group within the digital media environment. On the one hand, children and young people are commonly assumed as the "digital natives" –the generation who master the technology (Prensky, 2001). This assumption might be true to some extent, but this is risking their actual needs and problems will be overlooked. On the other hand, when it comes to risks, they are considered as the vulnerable generation that is prone to the harmful activities afforded by digital media.

Despite the importance of this issue, most of the previous studies on this topic were mostly done in the US and Europe context. One of the factors might be because the policies in another area, particularly in the Asia-Pacific region, are not yet as developed. However, this is actually a good opportunity for countries in this region to catch up. It is also particularly significant to explore this topic considering that this region is "one of the fastest growing areas for internet and mobile take-up, with almost half the world's internet users from that region alone" ("Infographic: Asia- Pacific", 2017).

Therefore, with this concern in mind, this paper is trying to answer these two research questions (RQ):

> RQ1: What are the rationalities behind the digital literacy policies for children and young people in countries in Asia-Pacific region?
> RQ2: What kind of strategies used by different countries in promoting digital literacy for children and young people?

The first sub-question will explore the role of economics and politics seen in the digital literacy policies. How do the policymakers portray the opportunities and risks driven by digital media for children and young people? How does the role of parents and teachers seen in digital literacy policies? Are they more focus on technical capabilities or critical thinking? Meanwhile, the second sub-question will analyze the tools or means used by the policymakers to fulfill their goals. Does it more through online activities or offline? With a formal or informal approach? What are the roles of the non-public sector (e.g., private companies and NGO) on promoting digital literacy?.

However, as Asia-Pacific region consists of many countries and individually analyzing all of them in a short period is impossible, this research have chosen several countries based on a purposive sampling. As explained by Ritchie et al. (2014), purposive sampling –or also known as "judgement sampling" or "criterion based" is a way to choose the sample units based on their particular features or characteristics which will "enable detailed exploration and understanding of the central themes and questions which the researcher wishes to study" (pg.113). The chosen sample should cover all the key characteristics, but with sufficient diversity so that the research can still explore the impact of the different characteristics (ibid). Indonesia, Singapore, Australia and New Zealand were chosen considering that these

countries have specific national digital literacy policy initiative for children and young people. Indonesia has "Siberkreasi", Singapore has "Better Internet", Australia has "eSafety", and New Zealand has "Netsafe". Also, considering the practicality and capacity of the researcher, the decision to choose the three countries (except Indonesia as the origin country of the researcher) is because they all are English-speaking countries, therefore the policy documents and other related information will be available in English language. Another reason is due to the fact that two countries (Indonesia and Singapore) are belong to the Asia part, particularly South East Asia (SEA). Meanwhile, the other two countries (Australia and New Zealand) are part of Oceania, particularly Australasia. With these similarities and differences on each country's characteristics, it will be interesting to find out what kind of similarities and differences that they also have regarding policies of digital literacy for children and young people.

The data gathered for this research is not limited only to the crystalized laws and regulations. But also includes press release created by the officials, minutes of meeting (MOM) or memorandum of understanding (MOU) of the government's discussion in regards to digital literacy, campaign photos or videos of their digital literacy initiatives, and content in the official websites of the digital literacy initiatives. This data then being analyzed through a close reading practice. Burke (n.d.) defines close reading as "thoughtful, critical analysis of a text that focuses on significant details or patterns in order to develop a deep, precise understanding of the text‟s form, craft, meanings, etc" (p.2). This is why close reading is more focus on concepts, rather than theoretical framework. The researcher first need to develop an analytical framework based on the relevant literature review, in which this framework will be used as the 'glasses' to 'read' the documents (Donders et al., 2017a). For this research, the analytical framework mainly used the concepts from Frau- Meigs, Velez & Flores Michel (2017) research, which then combine with the UNESCO "Media and Information Literacy: Policy and Strategy Guidelines" (2013).

Through the analysis of rationalities and strategies of digital literacy policies in the four studied countries, the findings of this research could be a benchmarking tool that aims to identify the main actors, their strategies, and the emerging patterns of digital literacy policies and initiatives in the Asia-Pacific region. By discovering the overlaps or gaps in policy making, this research hopefully will be able to contribute and enrich knowledge in this issue. Not only useful to the scholarship in the area, but also for the governments and related advocacy groups, as an input for them to identify the strategies and increased policy intelligence on improving digital literacy implementation across countries.

Defining Digital Literacy

> "The most immediately obvious facts about accounts of digital literacy are that there are many of them and that there are significantly different kinds of concepts on offer."
> (Lankshear & Knobel, 2008, p. 2)

There is indeed no straightforward way to define 'digital literacy'. It was and still is the endless debate between different scholars. Not only they are using different terms on the types of literacy, even the word 'literacy' itself is still being questioned. Whether it should be 'literacies' (plural), rather than 'literacy' (singular). Livingstone (2004) also explained how the concept of literacy is struggling between enlightenment and critical scholarship. On one hand, literacy is seen as democratizing and empowering, but some also see it as a source of inequality.

This complicated situation also happened when looking for the definition of digital literacy in policy documents. Particularly because, as Frau-Meigs, Velez & Flores-Michel (2017) have explained, "definition" is not a standard dimension of public policy. But, it is still significant to treat it on a par with the other 'traditional' dimensions of policy. It is an interesting entry point to help us better understand how its evolution and perimeter affects the policies and actors who are involved in the policy making process.

From several definitions mentioned in the policy documents, all four basic aspects of media literacy namely "access, analyze, evaluate, create" (Aufderhaide, 1993) are covered in each country. Although, the aspect "analyze" and "evaluate" is getting more emphasized compared from the other two. Especially, in Singapore with its cyber wellness. If seeing this through the framework of Ng (2012), it could be said that the studied countries are focusing more on the "cognitive" and "social-emotional" dimensions. This might be caused by two reasons, either they considered that they have way passed the issue of access, or because the adherence of youth as digital native (see Prensky, 2001) have made the policymakers believe that children and young people already have sufficient "technical" skills. In the beginning of this paper, it has explained how this assumption might be misleading, since several researches have shown that this is not completely accurate. However, from the statements of most policy makers in the studied countries, we could see that this assumption is still emerged. The following is only few examples from many:

> As the most tech savvy generation ever, it's important to be armed with the right skills to help you and your friends have the best possible experience online. (Office of the eSafety Commissioner, "About Young&eSafe", n.d.)
>
> We want to support youths as they are the savvy digital natives with great potential and ability to use their hearts for the community. (Speech by Dr Yaacob Ibrahim, Minister for Communications and Information, 2017)

The tendency to overly celebrating the skills of children and young people in utilizing digital technology, as mentioned by Livingstone & Bulger (2014) is risking to legitimate a laissez-faire approach in the policies, which also might lead to the neglection of their voice on matters that actually concern them.

However, it is interesting to see that even when the "technical" skills are involved, it is no longer the basic skills to operate digital media, but skills that needed for the sake of employment. Along with defining what digital literacy is, the actors in the policy-making process also explained why digital literacy is important. As children and young people are the future 'hopes' of a country, the main discourse is preparing them for the future through teaching them the (digital) skills that will be needed, particularly in the jobs that might not exist yet.

This industrial approach on promoting digital literacy is very common and not bad *per se*, but this might risk that other values of education, such as "respect for difference" or "role of local context and engagements with community" (Ditchburn, 2012, p.263) will be overlooked by the policy makers. Specifically for Australia (but this might also the case for other countries), the emergence of digital literacy in (formal) education is then just continuing and confirming Ditchburn's research in 2009-2010 that neoliberalism is heavily affecting the rationale of Australian national curriculum (ibid). Another risk of the economic and market based approach in education is that, according to Cribb and Gewirtz (2013), "neoliberalism has taken away the joy of learning, the creativity of teaching and the formation of strong public intellectuals" (cited from Rochester, 2017, p.22).

Participated Actors and Their Roles

From all four countries that are being studied, the actor who is always involved in digital literacy is Ministry of Education. This is due to the fact that 'literacy' has a strong correlation with 'education'. Literacy is one of the components of basic education, which means literacy should be provided by every educational institution (UNESCO, 2006). Aside from Ministry of Education, another ministries who also consistently promoting digital literacy are the one from communication and/or business department.

Australian Communications and Media Authority even established a statutory office holder for the eSafety Commissioner in 2015. The commissioner is both the coordinator and leader of online safety efforts across government, industry and non-profit community. Meanwhile, Singapore has Media Literacy Council that was created in August 2002, in which the members are voluntary basis with diverse background, as they come from various industry and community groups. On the other hand, since 1998, New Zealand has Netsafe (used to be called as Internet Safety Group), an independent non-profit organizations who promotes digital literacy, particularly on the issue of online safety. What is worth noting from the government's support for Netsafe is the involvement of Ministry of Justice, which rarely happened in other countries.

The case of Indonesia is even more peculiar, or to harshly said, lack of systematic coordination and clarity. Indonesia has a big national movement of digital literacy called Siberkreasi. However, when checking on their website, there is no information of the organizational structure, only a long list of partners. From the press release "SIARAN PERS NO. 49/HM/KOMINFO/02/2018" of Kementerian Komunikasi dan Informatika Republik Indonesia (Kominfo) (Ministry of Communication and Information Technology), other government agencies who supported this movement are Kementerian Pendidikan Nasional dan Kebudayaan (Ministry of Education and Culture), Kementerian Sekretariat Negara (Ministry of State Secretariat), Kementerian Pemberdayaan Perempuan dan Perlindungan Anak (Ministry of Women Empowerment and Child Protection), Badan Ekonomi Kreatif (Creative Economy Agency), and Komisi Penyiaran Indonesia (Indonesian Broadcasting Commission) (2018).

As explained by one of directorate generals of the Ministry of Communication and Information Technology (Dirjen Aptika Kominfo), Semuel Abrijani Pangerapan, the communities play the role as a 'lantern' on the "Strategi Hulu ke Hilir" (Strategy of Upstream to Downstream, if literally translated to English) of Indonesian digital literacy agenda. "In the upstream, we do education to increase people's literacy. While in the middle, we have to do a continuous assistance through the community. Then, in the downstream, Kemkominfo (Ministry of Communication and Information Technology) is controlling the content by enforcing the law and working together with the police, where people who still violate the regulations will be arrested." (I.R., 2017, own translation).

Even though there are several coordinations and partnerships between different ministries and organizations in all four countries, it is only Singapore who is being explicit and formally institutionalized this. In order to coordinate the government's efforts in promoting cyber wellness programs for children and young people, they have established the "Inter-ministry Cyber Wellness Steering Committee (ICSC)" in 2009. This committee co-chaired by the Ministry of Communication and Information and Ministry of Education. Other ministries who are involved in this, include Ministry of Social and Family Development, Ministry of

Defense, and Ministry of Home Affairs. With also representatives from the following government agencies: Info- communications Media Development Authority of Singapore, Health Promotion Board, National Library Board, Intellectual Property Office of Singapore, National Youth Council, People‟s Association, and Cyber Security Agency. A broad range of institutions and organizations in this committee again shows that issue of digital literacy is being a concern and should be approached through different aspects of life.

Albeit the emergence of partnership between different stakeholders in promoting digital literacy for children and young people in each country, one question remains: Do the children and young people have a say in this matter? Did their voice being heard or the policy actors (which usually consist of people from the older generation) simply decide what is best for them? With this question in mind, it is interesting to find out that Australia have tried to engage and ask for advices from youth by creating the Youth Advisory Group on Cyber Safety (YAG). It consists of young Australians aged 8 to 17 years old. They are participating in the consultation process, in which they are giving their perspectives on a range of cyber safety issues, for instance, cyberbullying, privacy, and online games. The YAG program became the responsibility of the eSafety Commissioner when it was established in 2015, while before it was under the Department of Communications. They launched the first YAG consultation in 2009, in which the total number of its participants is 304 students from 15 secondary schools across Australia. Four years later, it is getting bigger with much more participants, as 2612 students from 289 schools involved in the consultation process.

Public consultation during policy-making process is indeed getting more common in many countries. Especially, as technology getting more advanced, it has made consultation process more feasible and efficient. New Zealand also has their own YAG, but unlike Australia, it is not specifically for cyber related issues, but for education in general. What they are considering as YAG also a bit different from Australia. YAG in New Zealand is only the selected representatives, which for the 2018 Ministerial Youth Advisory Group, twelve youth have been chosen by the Education Minister Chris Hipkins (Ministry of Education of New Zealand, 2017). Other young New Zealanders still could take part through the Online Youth Forum, as long as they could provide the proof of citizenship and age between 14 to 18 years old. Singapore and Indonesia in general also familiar with public consultation for several policies, but there is none which specifically address the issue of digital literacy. Consequently, the decisions in regards to children and youth's needs on developing their digital literacy will most likely based on the assumption of the 'older generation'.

Last but not least, if speaking of participating actors, it is important to also take a look at the roles of industry (private companies) in digital literacy policies. In the four studied countries, there are two most common ways of the industry's participation. Either, they are becoming one of the stakeholders that is being involved in designing the digital technologies related curriculum, or they are being a sponsor or partner in the digital literacy after school initiatives.

Industry involvement in education is indeed bringing several benefits, namely, provide information and experiences to the real-world problem and help maintaining a relevant yet up-to-date curriculum (Goldberg et al., 2014). However, it is also risking that the economic approach of industry will put children and young people to be treated only as a 'consumer' or potential 'human capital'.

Policies Implementation

In the earlier section, it has been explained that one of the main actors of digital literacy in all four countries is the Ministry of Education. This is due to the fact that three out of four countries that being studied (all except Indonesia) have integrated digital literacy in the curriculum (Indonesia is still in the initial stage). The basic underpinning is that the educational system should prepare the students to meet future needs. Australia with its Australian Curriculum-Digital Technologies (AC- DT), New Zealand with its Digital Technology and Hangarau Matihiko (DT-HM), and Singapore who is integrating Cyber Wellness (CW) in their schools' curriculum.

Teacher is one of the keys to successfully executing the curriculum. This means teachers should be appropriately prepared and trained. The good news is in both Australia and New Zealand, there are specific provisions of teacher training in order to ensure the integration of the new curriculum. But, also in both countries, it is not directly carried out by the governments. Their role is funding the training programs which then performed by universities or non-profit organization, also with the helping hands from the private companies. In Australia, for example, they have an initiative called "Digital Technologies Massive Open Online Courses (MOOCs)" which assist the teachers on the ACDT with free professional learning and free access to the latest digital technologies equipment through a National Lending Library (Department of Education and Training Australia, "Support for STEM", n.d.). It was initiated by Computer Science Education Research Group (CSER) based at the University of Adelaide, together with Google Australia (The University of Adelaide, "About Us", n.d.). Industry's role in supporting teacher professional development is indeed formally discussed through the STEM Partnerships Forum.

To further support the integration of digital technologies on the curriculum, the government in each country is also enhancing digital literacy through after-school and community based activities. In Australia, they have "Code Club Australia" and "DigIT". Extra support on the integration process given for schools with a low index of community socio-educational advantage (ICSEA) through a program called Digital Technologies in Focus (DTiF) (ACARA, n.d.). The support is targeted for the leaders and teachers in those schools, in which "Digital Technology Specialists (also known as curriculum officers" conduct learning workshops, either face to face or by webinars and online mentoring (ibid). New Zealand, on the other hand, also have specific initiative for digitally excluded young people through their "Digital Technology for All Equity Fund". The Museum of New Zealand Te Papa Tongarewa (Te Papa) and Karrikins Group have been selected to partner with the Ministry of Education to deliver this program (Beehive, 2018). The details of this program are not yet available, since they are still in the preparation stage.

In summary, after having elucidated how digital literacy being promoted to children and young people, both within school systems and outside of classroom, this section will be concluded by analyzing whether the policies are being balanced in promoting opportunities and preventing risks of digital technologies. This is crucial because from the interview of Livingstone & Bulger (2014) with John Budd (UNICEF Regional Office for Central, Eastern Europe and the Commonwealth of Independent States), "Unfortunately, too often, when the digital world hits – or anything to do with adolescence – hits a policymaker, they see it in terms of risk rather than opportunity. And they tend to proscribe rather than empower." (p.5). Is this also the case for the selected four countries that being studied in this research? In general, the findings indicate that there have been efforts from the government to be balance.

The judgement regarding opportunities is by seeing if the policies include learning, communication, participation, creativity, expression and entertainment, while the online risks seen through the emergence of issues such as bullying, pornography, violent and/or hateful contents (see Livingstone & Helsper, 2010). All of these aspects indeed emerge in the policies, however, the implementation is through different means. If seeing the schools' curriculum of Australia and New Zealand, the focus is heavily on processes and production skills, the type of skills that needed for employment. They do also combine these skills by addressing the issues of risks in the curriculum, for example, one of the contents in AC-DT for F9-10, "Create interactive solutions for sharing ideas and information online, taking into account safety, social contexts and legal responsibilities"(ACARA, 2015, p.2). But, these issues are discussed and emphasized more through eSafety and Netsafe initiatives.

For the case of Singapore and Indonesia, the approach of the curriculum is more on morality and good behavior perspectives. Singapore, as a leading nation in digitalization, is indeed has several programs to improve youths' digital skills, however it is not embedded to the curriculum, but as separated or 'co- curricular' programs. This means the program is not compulsory, but only for students with an interest to further deepen their skills and knowledge. For instance, the introduction of microcontroller to create and prototype an invention through "Digital Maker" program or "Infocomm & Media Clubs" which assisted students to learn about data analytics, robotics and cybersecurity (Infocomm Media Development Authority, 2018).

Conclusion

Digital literacy has become the vehicle to compete in the global economy. The main idea is that enhancing the skills *vis a vis* increasing the economic prospect of the individual. The other central theme in the policy documents is the socio-emotional skills, this is particularly prominent in Singapore with their cyber wellness. The emphasis of this aspect is to build 'good character' and make them a 'better citizen'. The assumption of youth‟s digital nativity is still emerge and glorified by the policy makers. But, rather than makes this as an alibi to not teach digital literacy, they embrace it by teaching them several (new) skills in both formal and non-formal education. To some extent, there are efforts in balancing protection with empowerment. The protection aspect is mostly done through the after school initiatives, which focusing on the issue of online safety. While, they are also trying to empower them through schools‟ curriculum.

As literacy is closely related with education, Ministry of Education in each country play a central role. Three out of four studied countries (except Indonesia) have integrated digital literacy to formal education through new curriculum that focused on digital technologies. To ensure that the curriculum administered smoothly, teachers training then become essential. The government fully realized this, but rather than initiated it themselves, they strongly rely to the industry partners. They believed that this is the best option, since industry can provide up-to-date information about what is needed in the workforce. On the other hand, as digital literacy should not eliminate the socio-economic aspect that makes some people experienced exclusion in the first place, it is a good thing that at least they provide extra treatment for disadvantaged children and young people.

Another actor who is prominent in promoting digital literacy comes from the Ministry of Communication. In which, they are supporting the curriculum with specific initiatives in regards to online safety. Certainly, other institutions and non-governmental organizations

also involved. But, it is only Singapore who has created specific formalized coordination "Inter-Ministry Cyber Wellness Steering Committee (ICSC)". This is important to be acknowledged and appreciated, since a national coordinating committee as such can benefit the country's effort, especially with the fact that digitalization is affecting different aspects of life.

Limitation

The very first challenge that was faced during the process of this research is to realize that collecting policy documents is not easy. Even though government in most countries have provided specific link or portal of their official documents, looking for documents specifically related to this research topic could not simply done just by typing 'digital literacy' as a keyword. Especially, considering that some countries use different terms. Therefore, this also means that there might be some missing documents that have not being analyzed in this research. Either because the information seeking skills limitation of the researcher, or the documents are not publicly accessible. Therefore, the findings from this research could be a preliminary data for the future researcher to confirm it through expert interviews.

The analysis and evaluation of policies are also only based on the knowledge of the researcher with the help of existed literatures. The analysis, to some extent, contains bias as this study is comparing four countries, meanwhile the researcher only comes from one. This means the researcher does not have a deep understanding of the context in Singapore, Australia and New Zealand, which certainly also affected the depth of the analysis.

Last but not least, it is obvious that analysis of four countries could not generalize what is happening in the entire Asia Pacific region. Thus, a research in this topic should be developed by examining other countries, in which it will be interesting to see if there are same patterns emerged.

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