

Stakeholders' Role in Fostering Digital Citizenship Competencies (DCC) in Blended Learning Modality: Lessons Learned from the Philippines, Singapore, and Vietnam

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ABSTRACT

The pandemic shows us that education is a shared responsibility. However, with the sustained use of technology in the education sector, there are still issues in fostering Digital Citizenship Competencies (DCC) that all stakeholders must address. In this digital age, the learning of children can be continuously improved through the help of networking and partnerships within the community. Through the case studies conducted in the Philippines, Singapore, and Vietnam, the study offers insights into the context of each country's efforts in fostering DCC. By examining these diverse contexts, valuable lessons and best practices can be shared, enabling stakeholders to learn from one another and adapt strategies that align with their respective educational systems. Through the school country representatives, the context of each country on fostering DCC was ascertained. The study reveals that (1) fostering digital citizenship is a concerted effort of teachers, school heads, parents, school partners, and other stakeholders; (2) maximizing parental involvement serves as an important mechanism; and (3) sustaining the different programs and partnerships with different institutions and organizations supports upskilling and re-skilling of teachers in the use of technology.

Keywords: Information and Communications Technology (ICT), Digital Citizenship, Digital Citizenship Competencies (DCC), Blended learning

INTRODUCTION

The field of Information and Communications Technology (ICT) has revolutionized the way we teach and learn, becoming an integral part of modern society (UNESCO, 2002). However, as societies across different levels of development embrace ICT, they are confronted with a range of social, ethical, safety, security, and health challenges. These issues highlight the importance of stakeholders in shaping and building the digital future.

In the digital landscape, online safety and security have emerged as major concerns. From identity theft and scams to phishing attacks, hacking, online predators, and cyberbullying, the risks are ever-present (UNESCO Bangkok, 2014). Moreover, ethical considerations come to the forefront, including the misuse of information, plagiarism, access to inappropriate content, intellectual property infringement, and misrepresentation (Livingstone, 2017; UNESCO Bangkok, 2014; UNICEF, 2011, 2017). Additionally, the impact on health and mental well-being cannot be

overlooked, as ICT usage has been linked to sleep issues, insulin resistance, obesity, diabetes, vision problems, physical ailments, and addiction to games and the internet (Beurkens, 2017; UNESCO Bangkok, 2014).

Stakeholders encompass a wide range of individuals, organizations, and communities with vested interests in the responsible and sustainable development of ICT. Their active participation and collaboration are vital in ensuring that the digital future is shaped in a way that prioritizes safety, security, ethical considerations, and the well-being of individuals and communities.

In line with these concerns, it is necessary that learners develop a positive attitude and acquire significant knowledge and skills to help protect themselves from risks brought about by ICT and the digital age. Risks related to living in a more digitally connected world must be minimized. EU Kids Online (2011), as cited by UNESCO Bangkok (2014), recognized the need to strike a balance between increasing learner opportunities to utilize ICT and minimizing the risks that go with it.

Further, UNESCO Bangkok (2013) agreed that the blended learning model is more effective if supported by an ICT-rich blended learning model, multimedia resources, video production software, and integrating ICT into content to enhance teaching and learning. These project-based learning methods make ICT integration more relevant for the students. However, concerns about access and the digital divide still exist among students and teachers.

To address the research gaps in efforts made to promote Digital Citizenship Competencies (DCC) and gain contextualized insights on these undertakings in a blended learning modality, the Southeast Asia Ministers of Education Regional Center for Educational Innovation and Technology (SEAMEO INNOTECH) conducted case studies of relevant school-based interventions (programs, projects, or activities) that promote digital citizenship competencies among learners in selected SEAMEO member countries. The research study generally aimed to understand the role of stakeholders in how selected Southeast Asian schools develop/foster digital citizenship competencies among learners in a blended learning modality by 1) providing SEAMEO member countries with evidence-informed school-based interventions to guide other SEA school-level practices and 2) providing relevant and concrete information among Southeast Asian Ministries of Education (MOEs) on how they could further support the development of digital citizenship through responsive policies and programs and optimization of stakeholder engagement. Specifically, this study aimed to: 1) identify the key stakeholders involved in the development and implementation of ICT policies and initiatives; 2) explore the role of stakeholders in addressing the identified challenges and promoting responsible and sustainable ICT practices; and 3) propose recommendations for stakeholders to enhance their involvement in building the digital future, including policy development, awareness campaigns, capacity-building initiatives, and collaboration among various stakeholders.

SEAMEO INNOTECH aims to contribute to exploring and actively developing the Southeast Asian digital citizenship landscape by identifying school-level interventions that promote learners' safe and responsible use of ICT in the region. This includes developing a set of evidence-based policy recommendations to guide the Ministry of Education (MOEs) in crafting rights-based and child-centered policies that promote DCC, especially in the context of new normal or post-pandemic education.

METHODOLOGY

This research study used the case study method by Yin (2009) in analyzing how ASEAN schools promote digital citizenship competencies among secondary school learners. The study's unit of analysis is the school.

The Philippines, Singapore, and Vietnam were the three selected Southeast Asian countries where the study was conducted. Each MOE nominated one (1) school representative to participate in the study. Participants in the interviews (KII) were three (3) school heads and, in the focus group discussions (FGDs), there were four (4) teachers, four (4) students, and one (1) Parent Teacher Association (PTA) representative identified from the nominated secondary schools. A Ministry representative also participated in another interview. In the case of the Philippines, another Ministry representative from the Schools Division Office participated in a separate interview.

The interview schedule for school heads (KII), teachers (FGD), and PTA representatives (KII) is composed of 1) interview protocol, 2) consent form and confidentiality agreement, 3) school head, teacher, and PTA representative profile, 4) school profile, and 5) interview questions. For the Ministry of Education representative KII, the interview schedule comprises 1) interview protocol, 2) consent form and confidentiality agreement, 3) Ministry representative profile, and 4) interview questions.

The interview questions revolved around discussions on DCC among learners, school programs and policies towards technology integration, and stakeholder participation in fostering DCC. The interview guides and classroom observation tools were pilot-tested in another school by the school head, teachers, PTA representative, and students. A DCC expert also validated the interview guide. An onsite data gathering was conducted by the research team in the Philippines and Vietnam representative schools. Due to COVID-19 restrictions, data gathering in Singapore was conducted online.

Initial codes and themes were generated for each specific case. After the initial thematic analysis, expert validation was conducted to strengthen the analysis and the themes that were developed. Final generated themes vary depending on the data and findings in each case. A DCC content expert from each MOE validated the country's case studies. This was followed by the validation of the country case studies by the three MOEs.

RESULTS

1. Country Case Study: Philippines

1.1 Upskilling and Reskilling Initiatives to Enhance the Competencies of Teachers and School Heads

The shift to online learning transformed the way teacher training is delivered. Since most training programs are now delivered online, many teachers can easily access various training anytime and anywhere.

According to the teachers, it is necessary that the school identifies the background and experiences of the teachers in using ICT. The teachers mentioned that they attended some ICT workshops such as “Be Internet Awesome” and “Comptech Fusion Bootcamp.” They also attended several training sessions on Interactive Whiteboard Solution Master Training, Robotics Olympiad and Robotics, and other specialized training seminars and workshops provided by the Department of Science and Technology (DOST). They felt compelled to enhance their ICT skills because they are teaching in a science high school, and the expectation for teachers to know more about different technologies is very high. In 2007, the teachers also attended a three-month training on Nuclear Science provided by the Philippine Nuclear Research Institute (PNRI), which is centered on the integration of Physics and technology, such as data gathering analysis using sensors, among others. Teachers are also encouraged to enroll in free courses offered by the Department of Education (DepEd) or Technical Education and Skills Development Authority (TESDA), especially during the summer break, where teachers can focus on improving their skills and competencies.

The school head conducts teachers’ performance monitoring, coaching, and mentoring by doing classroom observations, asking teachers to execute demo teachings even during In-Service Training (INSET), and, more importantly, giving feedback and processing all assessments and evaluations with each teacher as part of the teacher’s professional development.

The school’s division office developed INSET based on teachers’ training needs assessment as a result of the online self-assessment tool. They intend to integrate global citizenship education into lessons by providing teachers with professional development on the awareness of global citizenship education. This initiative started with 19 schools across the country and was sponsored by UNESCO.

The Schools Division Office (SDO) provides training on using any available Learning Management System (LMS). According to the representative of the DepEd Central Office, the schools are being provided with training in using LMS since many higher education institutions (HEIs) have LMS, such as Moodle. With the support of the HEIs, the teachers are being taught how to utilize the LMS efficiently and effectively. In terms of continuing education and in-service training, the school emphasized the need for empowerment and personal development of its teachers. The DepEd representative also believes that it is crucial to have bottom-up training on topics such as Open Educational Resources (OER). The United Nations Educational and Scientific Organization (UNESCO) 2012 OER declaration stipulated that schools are encouraged to use open educational resources. According to the DepEd representative, the OERs are being handled by the Information and Communications Technology Service (ICTS) of the Department. The same office also oversees the conduct and implementation of teacher training for capacity-building. Unfortunately, these initiatives only started in 2019, and no updates and status on its delivery are available.

According to the DepEd representative, PLDT-Smart has a “Gabay Guro” program for both public and private schools, which started in 2018. “Gabay Guro's” mission is to provide programs anchored on seven core pillars, such as digital innovations to equip teachers and school staff with an innovative mindset and connectivity and computerization to extend support to teachers with the donation of computers. These programs are designed to hone and improve the welfare of our Filipino teachers nationwide.

DepEd also has programs for school heads in terms of technology leadership. They conduct an annual DepEd Cyber Expo Conference as a venue for promoting awareness of the latest technology

tools among school officials and SDO officers. The DepEd Regional Office provides awareness through training on how to manage ICT projects and technical assistance and support on ICT. Further, training programs for teachers on operating systems other than Windows are also being provided through partnerships and collaborations between DepEd, the Local Government Units (LGU), and/or private companies within the locality.

Another program initiative is the Digital Thumbprint Program (DTP) from Globe Telecom. In order to help educate the youth on digital citizenship and the responsible use of technology, Globe Telecom joined forces with Optus and Singtel in launching the DTP in 2016. The program was eventually integrated by DepEd into the K-12 curriculum to bolster DepEd's existing modules around digital literacy. According to the DepEd representative, digital devices were used as a tool for educational resources and research. DepEd wants a national program like DTP, which will be in tandem with the curricular offering and value system.

1.2 Supporting Technological Needs and Accessibility of Students

The availability of technology is one crucial factor that influences how students learn at home and in school. According to the school head, when parents expose their children to televisions, tablets, and mobile phones, some form of technology is already embedded in the students' initial way of learning. Consequently, students' learning styles or learning preferences are related to technology. The schools, being cognizant of these, need to make the necessary adjustments and turn them to their advantage. For teachers, mobile phones can be a good start because mobile devices are a way to attract or keep up with the thinking of Gen Z students.

The school head highlighted the importance of accessibility of technology everywhere, which enables the facilitation of learning and communication. In line with this, the parent representative agreed that the availability of information worldwide, such as social media and Google, should be considered an advantage for the students because the internet helps provide ideas or information quickly.

Students need skills in using the Internet and computers in school subjects such as programming languages and computer hardware and software. According to the Robotics teacher, they need to use the internet and computers for programming and for getting some additional details regarding the use of hardware and software for Robotics technology. The PTA representative and the DepEd representative both agreed that teachers need to widen the learners' horizons by developing the skills of the students in using the internet and multimedia. The DepEd representative added that considering the interest of students, there is a big chance for the students to develop these multimedia skills. For instance, with the use of mobile devices, they can easily do Photoshop or some other similar free applications. The only problem is that for most software applications, students and teachers cannot have full access to the paid software, so they resort to free and trial versions.

1.3 Building Relationships between School and Stakeholders

To maintain parents and school partnerships, the school conducts quarterly meetings with the general PTA. The school listens to and considers parents' feedback on their children's activities. According to the school head, she encourages parents to help teachers monitor their children's online activities, especially at home. In dealing with high school students, she believes that the values formation lectures and discussions in the classroom should be strengthened at home. As for the

parents, the role of the PTA is an important factor in enhancing students' experience in technology engagement, not only at school but also at home. The initiative of the school to invite and involve parents in school activities that would require their expertise and networks is also vital for the school to acquire all its human and technological resources and, at the same time, support its future projects and programs.

The school identifies parents who are working in nearby corporations for possible partnerships and networks. To do this, the school, through the ICT coordinators, plans to provide parents with official school email addresses from their internet domain for easier communication. The school conducts an annual PTA conference at the start of every school year. In opportunities like this, the school head also shares her vision for the PTA to generate support for school projects, such as Makerspace, which will further develop students' creativity.

The school has partnerships with different public, private, and nonprofit organizations. Google, for instance, is a long-time partner of the school when it comes to ICT development and training of teachers for Google educator certification and teachers' INSET. They also partner with higher education institutions (HEIs) to provide pedagogical training for teachers. As stated by the school head, there is an ongoing partnership with the National Institute for Science and Mathematics Education Development (UP NISMED) for teacher development. UP NISMED initiated the "Intel Teach to the Future (ITTF)," which focuses not purely on technology but also the pedagogy component. LGU is a vital partner, especially in hardware resources of the school, such as computers and tablets. For software, on the other hand, nongovernment organizations (NGOs) are beneficial in providing software for students having difficulty with English comprehension. To continuously engage more partners, the school highlights its performance to stakeholders to generate more support, promising to produce industry leaders.

The SDO conducts training projects and certifications on Microsoft and Google education courses. According to the SDO representative, they encourage the schools to send more teachers to Microsoft training to become Microsoft ambassadors. Computing Technology Industry Association (CompTIA), a non-profit organization, provided professional certifications for the information technology skills of the teachers. Through education, training, certification, philanthropy, and market research, Google, Microsoft, and CompTIA promote industry development, cultivate a highly skilled workforce, and are committed to creating an environment where innovation can occur and the opportunities and benefits that technology brings are made available to all.

Further, DepEd supports school-community partnerships and promotes stakeholder management. They conducted training on partnership management to teach the schools how they are going to link with other partners in support of educational technology because most of the time, the partner institutions go directly to schools and ask about the needs of the school. According to the DepEd representative, they want them to respond accordingly based on their actual needs.

In the Philippines, the support provided by teachers and school heads to students in the representative school is reflected by maximizing the use of a blended learning approach and learning management system, enhancing the competencies of teachers and school heads through training, protecting privacy in using social media, building a strong relationship with stakeholders, and promoting creativity and innovation in the school. These school initiatives focusing on students, teachers, and school head clearly promote the integration of ICT at the classroom and school level.

2. Country Case Study: Singapore

2.1 Adapting and Learning with Technology to Promote School Initiatives

Due to the students' advanced programming skills, ability to code, and ability to design games, the parents reported seeing the school's initiative of integrating technology into the school activities of the students.

As learning support, many students are reportedly joining the after-school club for robotics and media club that involves technological skills, and computer and mobile applications as a co-curricular activity (CCA). According to the schools' website, CCAs impart strong moral values to students while providing a platform to develop personal character and promote interpersonal skills. Singaporean students excel in a variety of mixed and sometimes eclectic areas where they can synthesize and display their talents in innovative ways.

The school partners with S-Queue Technologies to create artificial networks for students. S-Queue Technologies believes that the world of technology can be fast-paced and scary. Its mission is to provide an IT solution tailored to the company's needs. They also offer mobile application development, website development, marketing, social media, eCommerce store, and tech support. Through this partnership, the school was able to teach students some practical hacking that they can use at home to increase their home security features.

2.2 Striking a Balance Between Availability of Online Applications and Use of Online Learning Resources

During the COVID-19 pandemic, it became imperative that schools be able to supplement the students with online resources. As shared by the students, teachers encourage them to participate in online forums, especially on technology support and troubleshooting. According to Markel (2001), these online discussion forums allow students to collaborate on projects in small groups, participate in ongoing discussions on course content, and showcase group projects to other members of the class.

Students shared that they are using the internet to access additional lessons and content that are subject-specific, such as Chemistry and Mathematics. One student mentioned that he is using YouTube to help him solve difficult Mathematics problems.

Since the beginning of the COVID-19 pandemic, the use of multiple video conferencing tools in schools has become widespread. Fortunately, it was shared that teachers are using video conferencing tools to simplify online learning. In these challenging times of digital learning, video conferencing tools are essential for teachers to succeed in digital classrooms. These tools help keep students motivated and promote mental health by staying in touch with their classmates and friends. Video conference tools also allow teachers to maintain a personal connection with their students and facilitate learning from a distance. Lastly, it can also be used to support education and improve student learning. Because of a school policy on digital use and learning devices, teachers remind students to use only Google Classroom on their laptops and not on their mobile phones.

Teachers' concerns arise when students spend more time on forums than on educational applications. But the students are aware and cautious in dealing with educational issues on social media. According to the students, some YouTube videos raise awareness of social issues (e.g.,

bullying, suicide, LGBT issues), enable increased social contact (i.e., especially important for older people and people with mobility difficulties), and overcome stereotypes of minorities and minority perspectives. The problem arises because some YouTube videos contain potentially harmful content for students, such as causing self-harm and promoting bullying and suicide. The students are aware that spending much time watching YouTube can also cause potential harm to their health, such as eye strain.

According to the school head, the school is making every effort to provide updated software and freeware available to students. This includes the latest technology and equipment in the school. However, as shared by the school head, these advances should be relayed to the parents. Through the Cyber Wellness Program and parent engagement sessions, students could conduct digital citizenship training sessions for their parents.

2.3 Responding to the Needs and Expectations of Students and Parents at the Onset of the School Year

The school regularly conducts pre-engagement programs before the students come to school. One goal of this program is to enable parents to ensure the digital security of their students' online activities. Students present their learning outcomes and digital output in front of the parents throughout the program. This program relies on the premise that it is the parent's responsibility to control the use of their child's device.

According to the school head, when the students first enroll in the school, the first thing that they do is go through the school's acceptable use policy. In this policy, there are guidelines on the purpose of each learning device. Through this acceptable use policy, parents are aware of how students use digital devices at school. They understand what students need to do at school and why laptops are important. Students are at a disadvantage without digital devices because schools rely heavily on the applications and software installed on their digital devices. However, students agree that when it comes to helping students with digital skills, parents may not be the best resource.

2.4 Acting Proactively in Initiating School Activities as an Indicator for Instructional Leadership

One initiative from the school head is the annual Digital Citizenship Week. Due to the COVID-19 pandemic, the representative school needed to postpone activities for the past two years. Usually, the third week of October each year is known as Digital Citizenship Week, wherein teachers use this time to teach about digital citizenship and help students develop the skills they need to use their devices safely, ethically, and effectively. During the pandemic, it is more important than ever to empower students to think critically and responsibly participate in the digital world through media literacy and socio-emotional learning skills.

With the support of the teachers, Cyber Wellness sessions were conducted by students to engage more parents in harnessing digital citizenship competencies. The school head looks at parents' engagement as part of a larger picture of Cyber Wellness. Especially for new parents in the school, they are all invited to the Cyber Wellness Program or parents' engagement session. This program also helps the students improve their technological and communication skills because they are spearheading the sessions.

Apart from the involvement of parents, the school collaborates with different schools outside Singapore to promote Cyber Wellness using different technologies. According to the teachers, their school hosted a program wherein they invited primary schools from the nearby zone. These primary school kids are also the Cyber Wellness ambassadors in their respective schools. They were trained in how to improve the facilitation of the Cyber Wellness Program in their school.

2.5 Involving Parents in Various School Activities

The school considers parents an important partner in education. Parental involvement in the school helps ensure active support in the learning and development of their children. According to the teachers, they always keep in mind that they need to have a partnership between the school and the home for the benefit of the students. The teachers believe that parents need to be informed of what is happening in school. Because of the needed support of the students at home, the school head needs to engage parents to be able to explain to them what their child might be facing when it comes to the rigor and extent of technology usage.

The school also includes parents in a committee handling disciplinary actions against students who fail to adhere to the learning device agreement. In the pursuit of involving parents in explaining digital use to the students, the school head encourages parents to put controls on their child's use of learning devices using various control mechanisms such as administrative rights.

According to the PTA representative, their mandate is to bring the parents together and display more of a supportive role in the school projects and initiatives. Parents usually have issues with the use of gadgets when the students are new to the school setting, but through the years, parents can handle it or manage it with the help of the school. The PTA representative invites the parents to come and join the student panel to be able to answer whatever questions the parents have in terms of gadget use. The PTA representative also noticed that parents usually would like to listen to the students more than the parent representatives.

The school understands that not all parents are IT-savvy. That is why they also offer programs to introduce parents to the correct usage of laptops. This is something that the school provides for every first-year parent who joins the school. This is something that the school is doing for multiple sessions all throughout the school year, which also includes involving parents in the Cyber Wellness program.

2.6 Executing Leadership to Emphasize the Use of Technology

Through the initiative of the school head, the school conducts brown bag sessions to equip teaching and non-teaching staff with modern technology skills and introduce them to recent and innovative technologies. As mentioned by the school head, teachers are excited to share in 10 minutes how they are using a specific tool or technology. This is a way to extend ideas to teachers, deepen the use of technological skills, learn tricks in maneuvering certain technologies, and raise awareness on the choice or the range of available technological tools.

Engaging external stakeholders and partnering with technological organizations for students' internships are necessary. These are the initiatives of the school to gain wider access to the available resources, manpower, and trainings. According to the school head, external partners would include organizations like technological organizations that could be companies that provide internship

experiences to the students. It could even be a Higher Education Institution (HEI) or Institute of Higher Learning (IHL), such as top universities and polytechnics. Most of the time, these institutions will bring their students, undergraduate students, and even their postgraduate students to come to the school to share various learning activities and involve the students in various projects.

Partnerships with technology firms such as Google and Apple to share broader technology trends have increased the training and skills of school personnel, especially in programming. The school head sees her role as reaching out to external stakeholders to weigh on the solution where everyone benefits. Otherwise, there will always be a limit to the representative school's resources. In line with this, the PTA representative is aware that the school is regularly inviting private companies to support students through tech projects. The school invited the 3M company, which designed a project for the students. The students were grouped together and came up with a project that was in accordance with the theme given by 3M. After two to three days, 3M selected the group with the best design, and the company promoted, supported, and financed this project.

Through the effort of the school head, the school offers financial aid for lower-income parents to purchase learning devices for their children. According to the PTA representative, for the past two to three years, every parent has been able to get a learning device for their children if needed.

In Singapore, students in the representative school are generally seeking support from teachers, classmates, and parents to improve their online and technology experience through proper online communication whenever necessary. The school supports this by promoting students' advocacies through technology and maintaining a healthy and enjoyable online environment. Although this might work for the representative school, it might not be as effective in other schools if they do not establish strong school core values among students and teachers and continuous partnerships with the stakeholders. The school hopes to provide its students with future-proof technologies alongside digital citizenship competencies and reinforce teachers' pre-service and in-service training through partnership and collaboration with private companies and higher education institutions.

3. Country Case Study: Vietnam

3.1 Strengthening Digital Citizenship Curriculum

In Vietnam, Informatics is officially included in the curriculum as a compulsory subject in higher secondary education and as a voluntary subject in junior high school and elementary school. Even with the contextualized school curriculum, the nature of Informatics as an elective course, and what is taught in junior high school, 15-year-old Vietnamese students have little experience learning how to manage and operate ICT hardware and retrieve data and information.

As shared by the teachers, the school encourages students to use digital devices for learning activities and other extracurricular activities. The school also allows students to access the DQ World website for online educational games. DQ World is an award-winning, fun, and safe e-learning platform for children to be empowered with the eight core DQ Citizenship skills.

The PTA representative also shared that many parents recognize that their children are better at using ICT. They sometimes ask their children for help in dealing with some technical issues like navigating through certain applications such as social media applications, and even encoding documents in Microsoft Office applications.

According to the PTA representative, the school offers lessons regarding social media use and etiquette, which usually last for 45 minutes. This allows students to search for information using their social media accounts, including navigation of other social media applications. Moreover, parents believe that these learnings about the internet and social media increase the knowledge of the students and their digital citizenship skills.

The PTA representative also shared that in Vietnamese schools, teachers use the method of Project-Based Learning (PBL). PBL is a teaching method in which students learn by actively engaging in real-world and personally meaningful projects. The students are tasked to design several projects in school, especially for English and Mathematics. In conducting the projects, students would need to use the internet to search for information and to connect to their classmates or groupmates to work on the tasks. One specific project that the PTA representative mentioned is a project on internet security awareness for an English class.

Students use online software to find information to complete learning tasks on the Internet. They use digital devices to search for information and applications that they need. Students also use open-source software at home for homework and other online exercises and assessments.

3.2 Harnessing School Collaboration and Partnership

There is an existing agreement between the parents and the school as part of the school-community partnership and stakeholder management that focuses on joint control of digital devices and the internet usage of the students. According to the school head, constant communication between the school and the parents is crucial. With this, a teacher is assigned to message the parents at the end of the day to announce important reminders, test results, and unnecessary behavior of the students.

The school builds further connections through parents working in private and public companies, such as the Center for Education and Development (CED), Google, and Microsoft. As shared by the school head, parents were usually asked what they wanted to offer the school. Parents are also consulted when the school designs a task that would use technology. An example is the project “Hour of Code” for designing programs in partnership with Microsoft. The school head believes that a parent must know about it to be able to manage the activity of the student and prevent the student from playing games or accessing unnecessary websites. The teachers also shared that the school has a partnership with Vietnet-ICT in providing lessons on digital citizenship.

IT experts are important and play a key role in the management, monitoring, and evaluation of the representative school. These experts are from the Vietnam Institute of Educational Sciences (VNIES) or the Ministry of Education and Training (MOET), both at the provincial and district levels. As mentioned by the school head, these experts are invited to the training as resource speakers and to observe classes. Sometimes, these experts are foreign teachers if they cannot find an expert within the province.

In Vietnam, there are available training and workshops for teachers, school heads, and parents, however, there is still a discrepancy between the training needs and the actual training conducted. Because of this, students have little support from parents and teachers on how they can improve their digital citizenship competencies. It would be beneficial to prepare teachers and school heads for digital citizenship by engaging them in additional training and programs to further enhance their

knowledge and skills as the digital society advances. Increasing parental engagement in the student's digital life is also crucial, especially in minimizing the impact of social media on online learning.

DISCUSSION

The importance of stakeholders in guaranteeing quality education in the face of the pandemic and online learning has become evident due to the growing disparity in the availability, accessibility, and utilization of technology among students and teachers. To help teachers and school heads prepare for digital citizenship education, teachers attend online, and offline training provided by public and private organizations as part of their professional development. In Vietnam, the MOET organizes in-service training for teachers and school heads. In the Philippines and Singapore, ICT support is given to teachers even after the training. UNESCO (2019) recommended to continue supporting teachers' professional development and training in relation to the broad range of digital citizenship competencies. Similarly, ADB (2018) endorsed training teachers and lecturers to apply e-learning resources in their classroom practices for more successful e-learning initiatives. SEAMEO INNOTECH (2016) also endorsed the implementation of consistent in-service training programs or professional development, aiding teachers in enhancing their skills through activities like lesson studies or learning action cells. They also emphasized the importance of engaging in learning exchange programs, as well as establishing and maintaining personal and professional learning networks using mobile devices, collaborative applications, blogs, and social media.

On parental or guardian involvement in the students' digital engagement, there are differences in the active participation of parents in public and private schools as experienced by Vietnam and the Philippine schools. In all country cases, there exists a disparity in how parents impart essential ICT skills to their children due to their limited understanding of the curriculum, and the lack of a clear plan provided by the school at the start of the academic year. UNESCO Bangkok (2003) recommended extending the training facilities and programs to the community (e.g., parents, guardians, and community leaders) so that they can support both teachers and students and provide access to resources that can help improve community life.

Regarding school collaboration and partnership, the research findings indicated that all three countries have established agreements between parents and schools as a part of their school-community partnership and stakeholder management. This is because schools recognize the significance of maintaining regular communication with parents. Also, every participating school has established partnerships with both private and public companies to promote digital citizenship competencies. ADB (2009) recommended considering public-private partnerships (PPP) for covering associated costs while providing expertise.

CONCLUSION

The pandemic gave us a clear perspective that education is a shared responsibility among us. It enables the education sector to fully realize that "it takes a village to educate a child." It goes without saying that the "community" is an important resource in educating learners.

The involvement of school heads, teachers, and parents, as well as public and private companies, plays a critical role in implementing school-based interventions aimed at nurturing digital citizenship competencies.

School heads hold a pivotal position in driving the implementation of digital citizenship initiatives within the school environment. Their leadership ensures that digital citizenship becomes integral to the school's culture and educational programs. Teachers, on the other hand, play a vital role in equipping students with the necessary knowledge and skills to become responsible digital citizens. They deliver lessons and engage students in discussions on digital ethics, online safety, responsible internet use, and the appropriate use of technology.

Whether within or outside the school premises, parents also play a crucial role in fostering digital citizenship competencies in their children. By engaging in open and supportive communication with their children, parents can help them navigate the digital world safely and responsibly. Lastly, public and private companies contribute to fostering digital citizenship through partnerships with schools. They provide resources, expertise, and support in the form of workshops, training programs, and educational materials.

The collective efforts of school heads, teachers, parents, and public/private companies are vital in implementing effective school-based interventions to foster digital citizenship competencies. By working together, they create an environment that empowers students to become responsible, ethical, and informed digital citizens. In this Digital Age, the learning of children can be continuously improved regardless of the learning modality, and the different networks and partnerships within the community prove to be helpful.

The study reveals that: (1) fostering digital citizenship is a concerted effort of teachers, school heads, parents, school partners, and other stakeholders; (2) maximizing parental involvement through Parents-Teachers Associations serves as an important mechanism; and (3) sustaining the different programs and partnerships with different institutions and organizations supports upskilling and re-skilling of teachers in the use of technology.

In summary, this study underscores the critical role of stakeholders in shaping the digital future. Identifying key stakeholders, exploring their roles, and proposing a set of recommendations contribute to advancing our understanding of how stakeholders can effectively collaborate and navigate the complex landscape of ICT governance. Through giving recognition and actively involving stakeholders, we can collectively work towards building a responsible, inclusive, and sustainable digital ecosystem that benefits individuals, communities, and society.

RECOMMENDATIONS AND POLICY IMPLICATIONS

This study suggests sets of recommendations for teachers, parents, and other stakeholders from the education community that can be taken into consideration to help further develop and enhance the promotion of Digital Citizenship Competencies in selected Southeast Asian Ministries of Education.

For teachers

1. Ensure the inclusion of hands-on activities in teaching ICT to introduce the latest updates and improvements in design, programming, robotics, etc.
2. Upskill and reskill teachers and ICT personnel on the current ICT development and empower them to serve as role models by applying the knowledge gained from training.
3. Foster awareness of features and layers of protective measures/strategies in using social media among students, co-teachers, and learning partners.
4. Maximize available online platforms for students' collaborative activities/group works and communication between and among students and teachers.
5. Establish open channels of communication to strengthen the student-teacher dynamics to espouse a unified way of approaching issues related to cyber safety.
6. Consider the provision of training for parents/ learning partners and teachers on appropriate approaches in responding to technology-related concerns/issues of students.
7. Continue to foster creativity and innovation among students using technology.
8. Capacitate parents/ learning partners by providing training on learning management platforms and other software being used in school.
9. Explore other pedagogical approaches to fit the available technology in the classroom.
10. Monitor the online engagement of students and implement guidelines that promote balance in the use of digital devices.

For parents/learning partners

1. Enable parents/learning partners to understand the guidelines on cyber safety and security; make parents partners in learning through ensuring cyber safety.
2. Facilitate training for parents/learning partners on cyber wellness so they can guide their children.
3. Enrich awareness of parents/learning partners on features and layers of protective measures/strategies in using social media.
4. Consider providing training opportunities for parents/learning partners on appropriate approaches in responding to technology-related concerns/issues of students.
5. Continue and strengthen parental involvement in the monitoring of the learning and progress of their children during online classes at home by orienting them on the school's implementing rules and guidelines on the use of technology.

For other stakeholders

1. For teacher education (TEIs) and higher education institutions (HEIs) to strengthen pre-service training for ICT by revisiting the curriculum in the pre-service curriculum in teacher education and training so that teachers will be prepared and equipped before entering the teaching profession.
2. Regularly review/update the technology courses (e.g., Technology for Teaching and Learning 1 and 2) in the existing curriculum for teacher education.
3. Continue school and community partnerships to support interventions toward digital citizenship.
4. Explore partnerships with IT companies to enhance the available software and hardware of the schools, to become abreast with the different technological advancements, and increase teacher's participation in training and certification.
5. Sustain partnerships with different stakeholders (e.g., IT companies) through regular feedback mechanisms to improve programs and practices.

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