Revisiting Flexible Learning Options (FLOs) in Basic Education in the Philippines: Implications for Senior High School (SHS)

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I. Introduction: COVID-19, basic education, and education in emergencies

The novel coronavirus disease, or more popularly known as COVID-19, has affected education at all levels in the Philippines. Since the confirmation of local transmission of COVID-19 in March 2020, the government has issued policy measures in response to the pandemic that have impacted on the basic education sector. On March 9, 2020, President Rodrigo Roa Duterte signed Proclamation No. 922, declaring a state of public health emergency throughout the Philippines and, as an effect, suspended classes at all levels in Metro Manila. Since then, and upon the recommendation of the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID) led by the Department of Health (DOH), President Duterte has placed Metro Manila and the rest of the country under community quarantine that has been tightened or loosened depending on the increase or decrease of the rate of COVID-19 infection. On March 16, 2020, President Duterte signed Proclamation No. 929 that declared a state of calamity throughout the Philippines for six months and putting Luzon island on enhanced community quarantine (ECQ) which lasted over a month. The ECQ suspended public transport, shut businesses down (except those that provide essential services), and placed people under strict home quarantine (except for frontline workers and those requiring access to basic needs).

The President also extended class suspensions at all levels until April 2020, effectively closing all schools. For basic education, COVID-19 affected the administration of final examinations for school year (SY) 2019–2020 and delayed the opening of SY 2020–2021. Traditionally, schools open in June, and the Department of Education (DepEd) initially announced August 24 as the start of SY 2020–2021. However, this was later moved to October 5 upon the instruction of the President based on his mandate under Republic Act (RA) No. 11480, a law passed in July 2020 allowing the President to move the opening of the school year during a state of calamity or emergency (Gita-Carlos 2020). This second extension resulted in elementary and high school students in public schools being away for six months. Experts argue that this impacts not only academic learning, but more importantly, socio-emotional development (Moroni, Nicoletti, and Tominey 2020).

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Vulnerable children who were marginalized to begin with are more likely to feel the adverse effects of a very long period of education disruption. The United Nations Educational, Scientific, and Cultural Organization (UNESCO), the United Nations Children's Fund (UNICEF), the World Bank, the World Food Programme, and the United Nations High Commissioner for Refugees (UNHCR) (2020) agree that the longer marginalized children are out of school, the greater the chance for them not to come back. According to them, "[b]eing out of school also increases the risk of teenage pregnancy, sexual exploitation, child marriage, violence, and other threats. Further, prolonged closures disrupt essential school-based services such as immunization, school feeding and mental health and psychosocial support, and can cause stress and anxiety due to the loss of peer interaction and disrupted routines (UNESCO, UNICEF, World Bank, WFP, and UNHCR 2020, 2). This, in turn, will also set back gains for the Sustainable Development Goals (SDGs) 2030 (UN 2020).

The World Bank (2020) similarly warns of COVID-19 making education outcomes even worse. According to the World Bank, school closures at all levels and the economic crisis brought about by the COVID-19 pandemic are shocks to education that will result in increasing learning inequality, falling attachment to schooling, worsening student nutrition, declining student mental health, increasing student vulnerability, increasing drop-out rates especially for the disadvantaged, increasing child labor, child marriage, and transactional sex, declining education investment by parents, falling government spending on education, declining quality of education, declining teaching quality, and closing of private schools. In the long run, this will lead to increasing learning poverty, declining human capital, increasing overall poverty, increasing inequality, increasing social unrest, and enforcing the intergenerational cycle of poverty. Government response in education should be to stop the damage and build back better. While at the moment, governments are in emergency-response mode, through planning and policies, governments can utilize the COVID-19 crisis to make the education system more efficient, inclusive, and resilient post-COVID-19 (World Bank 2020).

According to the Inter-agency Network for Education in Emergencies (INEE), education responses during the pandemic need to be innovative and flexible in order to reach as many children as possible. The response should also have a strong thrust towards protecting children recognizing that COVID-19 might exacerbate children's existing vulnerabilities to violence and psychosocial distress as well as affect the needs of women and girls, learners with disabilities, and those who already experience socio-economic exclusion. With educational institutions adopting distance learning as a prevalent delivery strategy during the pandemic, the INEE reiterates the importance of providing learners with no-tech (e.g., printed worksheet distributed to learners), low-tech (e.g., text-based instructions), and high-tech (e.g., video conferencing) options (INEE 2020).

To determine the students' preferred learning modality, the DepEd conducted an online survey in June and July 2020. It was found that 8.8 million learners preferred printed modules, 3.9 million preferred blended learning, 3.8 million preferred online

learning, 1.4 million preferred educational TV, 900,000 preferred radio-based instruction, and 500,000 preferred other modalities (Magsambol 2020). This information informed aspects of the DepEd Basic Education Learning Continuity Plan (BE-LCP) which was crafted for SY 2020–2021. This plan reduced the number of learning competencies (LCs) from the original 14,171 in the K to 12 Basic Education Curriculum down to 5,689 Most Essential Learning Competencies (MELCs). The MELCs, in turn, became bases for self-learning modules (SLMs) that will be made available to learners and their families in print and online and offline formats. The DepEd has also repeatedly made pronouncements that it would utilize information and communication technologies (ICTs) including online platforms, television and radio to implement alternative delivery modes (ADMs) or other flexible learning options (FLOs) as part of its learning continuity plan in the light of the COVID-19 public health emergency.

The COVID-19 outbreak is not the first time for the DepEd to confront a crisis. However, within the public school system, ensuring the delivery of education in emergencies has largely been carried out within the framework of disaster risk reduction and management (DRRM). In 2006, the United Nations Children's Fund (UNICEF) established its Education in Emergencies and Post-Crisis Transition (EEPCT) programme with funds accessed to assist in emergency response in the six hardest hit provinces during Super Typhoon Reming (international name: Durian), including Albay, Camarines Norte, Camarines Sur, Marinduque, Mindoro Oriental, and Sorsogon, and the Building Safe Learning Environment (BSLE) program was launched that funded both structural and non-structural measures. The structural measures focused on the reconstruction of school buildings and day-care centers, while the non-structural measures included delivery of supplies and educational packages to learners and teachers, development and production of the DepEd disaster risk reduction resource manual (DRRRM), and training on DRRM (Venton and Venton 2012).

The EEPCT also supported the creation of the Education Cluster both at the national and sub-national levels. The Education Cluster was a coordination mechanism for education in emergencies (EiE) policies, programs, projects, and activities (PPAs) composed of various government and non-government organizations including the Department of Social Welfare and Development, the Council for the Welfare of Children, the Office of Civil Defense–National Coordinating Committee, the Philippine Institute of Volcanology and Seismology, the Philippine Atmospheric, Geophysical, and Astronomical Services Administration, the Philippine National Red Cross, Plan International–Philippines, Children International, Childfund Philippines, World Vision, Care Philippines, ABS-CBN Foundation Inc., Family Health International, Center for Disaster Preparedness, and Citizens' Disaster Response Center.

The institutionalization of EiE and DRR in basic education was further strengthened through DepEd Order No. 55, s. 2007, which sought to integrate DRRM in the school system through various PPAs such as the mainstreaming of DRR concepts in the

elementary and secondary school curricula, preparation of multi-media disaster preparedness modules, and the construction of hazards-resilient school buildings, among others. DRR concepts have also been incorporated in the Citizenship Advancement Training (CAT) (now referred to as Citizenship Training Program). In 2010, Republic Act No. 10121 or the Philippine Disaster Risk Reduction and Management Act was passed which led to the creation of the DRRM Office (which later became the DRRM Service) in the DepEd. It is tasked to plan, implement, coordinate, and monitor PPAs related to DRRM, EiE, and climate change adaptation (CCA) (DepEd 2011).

In 2015, a comprehensive DRRM framework for basic education was also crafted (DepEd 2015). This framework was aligned with the national DRRM framework and its four thematic areas of prevention and mitigation, preparedness, response, and recovery and rehabilitation. It is also geared towards attainment of the DepEd's three outcomes (i.e., access, quality, and governance) and adheres to the principles of the Comprehensive School Safety (CSS) Framework and its three pillars namely: Safe Learning Facilities, School Disaster Management, and Risk Reduction and Resilience Education (ibid.).

With a comprehensive DRRM framework in place, the DepEd issued a new School Disaster Risk Reduction and Management Manual to guide schools in implementing the framework through their school DRRM plans that are integrated into their school improvement plan (SIP). The school DRRM manual guides users through four steps, namely: (1) assess (know your risks); (2) plan (reduce your risk, prepare to respond, and ensure education continuity); (3) implement plan and be flexible; and (4) monitor, evaluate, and report interventions before, during and after a disaster. The manual partly incorporates principles set out in the INEE minimum standards that aim to "provide guidance on how to prepare for and respond to acute emergencies in ways that reduce risk, improve future preparedness and lay a solid foundation for quality education" (INEE 2010, 5). For instance, the school DRRM manual suggests involving as many community actors as possible based on the idea that "emergency-affected community members must actively participate in assessing, planning, implementing, monitoring, and evaluating Education in Emergencies programs" (DepEd n.d.c, 18). The DepEd also developed a manual to build the capacity of teachers to be able to provide mental health and psychosocial support services (MHPSS) to secondary learners in the aftermath of Typhoon Yolanda (international name: Haiyan). The manual shifted the DepEd's MHPSS framework from critical incident stress debriefing (CISD), which uses a story-telling process to normalize survivors' reactions to critical incidents and facilitate their recovery, to psychological first aid (PFA), which promotes recovery from adversity and traumatic stress by promoting a sense of safety, calm, connectedness, and self- and community efficacy (Ramos, Hechanova, Caligner, and Bersamin 2015).

In spite of these developments in institutionalizing EiE and DRR in basic education, certain gaps remain. As Venton and Venton (2012) observe, the Philippine Disaster Risk Reduction and Management Act mandates integration of DRR education in the

secondary and tertiary level, but not in the elementary or pre-school level. However, according to the school DRRM manual released by the DepEd, DRR and CCA are integrated in different learning areas such as Health, Social Studies, and Science from Kinder to Grade 12 in the new K to 12 Basic Education Program. Furthermore, according to the UNICEF Evaluation Office (2011, 48), greater promotion of the INEE minimum standards is "needed to improve understanding of their applicability and integration into DepEd standards, particularly as they relate to DRR." There is also an impression that education is not viewed as part of the immediate response during emergencies among stakeholders and instead is seen as part of the recovery phase. This can be a focus for advocacy (UNICEF Evaluation Office 2011; Venton and Venton 2012). The UNICEF also observed that EiE or DRR interventions in basic education are "reactive" and mostly directed to responding to emergencies rather than prevention and preparedness. Additionally, they rest on a model that is hazards-focused, instead of focusing on vulnerabilities. There is also little to no attention given to interventions during disease outbreaks, epidemics, or pandemics. In the school DRRM manual, schools are encouraged to make use of alternative delivery modes (ADMs) of learning as an option for when schooling resumes in an emergency situation; however, these do not include specific strategies such as distance or blended learning that includes the use of ICTs to ensure education continuity.

With the DepEd announcing the utilization and scaling up of alternative learning strategies for SY 2020–2021 as part of its learning continuity plan in response to COVID-19 (Mateo 2020), questions on how teaching, learning, and assessment will take place have been raised particularly for the Senior High School (SHS) level, whose tracks with specialized subjects may not lend easily to distance learning or ADMs. Thus, this paper seeks to answer the question: Through what FLOs can the senior high school (SHS) program be delivered? To do this, the paper takes stock of what the DepEd has done in the past to enact FLOs and revisits its experience in integrating ICT. Based on these, the paper offers recommendations that may inform policy decisions to help the DepEd navigate the "new normal" in basic education and articulate a long-term vision particularly in the delivery of the K to 12 SHS program both in the time of the COVID-19 pandemic and beyond.

II. Using information and communication technologies (ICTs) in basic education

In implementing FLOs, it is important to combine educational technologies and explore varied learning resources (UP CEd 2020) to ensure that learners are able to access and process information, produce evidence of their learning, and receive feedback from their teachers.

(1) Information and communication technologies (ICTs)
  (a) One-way: devices that input information to learners (print and broadcast media) (e.g., radio programs, TV programs)

    (b) Interactive/collaborative: technologies that allow communication between learner and teacher (e.g., mobile phones, digital devices with internet connection)

    (c) Auto-feedback: digital programs that allow immediate feedback to learners

(2) Instructional resources

    (a) Learning resources that allows teaching and discussion of a lesson (e.g., self-learning modules)

    (b) Resources to provide information and supplement lessons, but are dependent on teacher instructions (e.g., short video/audio clips)

    (c) Tools, equipment, and resources that are used as part of the lesson (e.g., spices used in cookery, software for programming classes)

The use of ICTs in delivering education services to children in contexts constrained by crises or limited resources is not new. The DepEd has had a long history of integrating ICTs in education within the formal education system and the alternative learning system. While the DepEd may have limited experience in using ICTs in emergency contexts, its experience in ICT integration discussed below may provide useful insights in its future interventions for EiE, including for the COVID-19 pandemic.

Use of television

In 1962, an educational TV project was started in the Philippines called the National Program of Instruction by Television in Secondary Schools to respond to the need for quality instructional materials and a shortage of experienced and expert teachers. The project, through Ateneo de Manila University's Center for Educational Television, developed taped or recorded TV lessons called kinescopes in physics, Filipino, and social studies that were broadcast on television channels at different hours of the day to over 30,000 students in over 100 private and public schools in the Greater Manila area during unsold slots of commercial TV time (Larkin 1966). The studio or TV teachers had weekly meetings with the classroom teachers utilizing the series to discuss lessons more thoroughly. The project also provided a workshop on instructional television to administrators, classroom teachers, and television coordinators focused on how to effectively utilize the TV lessons (Rosario 1964). According to Rosario (2020), the project lasted for a decade but was not enough for Congress to prioritize legislation on alternative learning. Rosario (2020) also argues that TV education should not be a stand-alone program. Additionally, according to Middleton (1991), lack of broadcasting infrastructure led to the abandonment of the effort.

In 1994, the Foundation for Upgrading Standards in Education (FUSE) was formed and entered into a joint project with the Department of Education, Culture, and Sports (DECS), the Department of Science and Technology (DOST), the University of the Philippines National Institute for Science and Mathematics Education Development (UP NISMED), and the People's Television Network, Inc. (PTV4) to create video

materials to be shown on television to help Science teachers upgrade their competencies called Continuing Studies in Education via Television (CONSTEL). The CONSTEL telecourses aired on PTV4 starting in 1995 up until 2001 and included shows such as *Physics in Everyday Life*, *Chemistry in Action*, and *Science Made Easy*, tapes of which were also distributed to elementary and secondary schools (DECS 1997a; DECS 1999). Later, CONSTEL also had telecourses in English and Mathematics (Marinas 2000).

In recent years, commercial-oriented television stations have been the ones airing educational programs on TV (Doronila and Cortes 2000). Some of these programs have targeted a specific audience, including *Negosiyete* (entrepreneurship), *Agrisyete* (agribusiness), *More Than Export,* and *Ating Alamin;* while others have specifically targeted children such as *Batibot* (Channel 9), *Five and Up* (Channel 5), *Hiraya Manawari* (Channel 2), and *Bayani* (Channel 2) (ibid.). In 1999, the Knowledge Channel began broadcasting 18 hours of educational programs on cable television based on the DepEd curriculum. Knowledge Channel has had several partnerships with the DepEd through which participating schools receive a cable TV connection, training for teachers in effectively using TV lessons, and technical support (Vergel de Dios 2016). With the anticipated shift to distance learning due to COVID-19, the Knowledge Channel has offered more than a thousand of its video lessons that are all anchored on the K to 12 curriculum. The said video lessons already cover 50% of the MELCs and the Knowledge Channel has offered to develop the remaining 50% for the DepEd to use (Hallare 2020).

Use of radio

In 1975, the World Bank supported a study on utilizing communication technology for education that encompassed formal and non-formal education and focused on improving rural education. An inter-agency planning committee was formed to establish the National Educational Communication Program to support primary education and rural development by developing a teaching approach that integrated multimedia communication primarily radio (Middleton 1991).

The pilot project design planned to use radio to upgrade in-service primary teachers and provide direct classroom instruction in language arts in rural primary schools. Printed materials would be used along with radio instruction. The project also had an evaluation component to assess the materials developed by the project and the costs and effects of the in-service education and direct language arts instruction. The project had two main components for interactive radio instruction (IRI):

(a) *Continuing education for teachers (CET).* Based on the project plan, more than 12,000 teachers would participate in the program and receive semester-length radio courses in Filipino (the national language), English, Social Studies, science, mathematics and teaching skills. The courses would be delivered through radio, print materials, and periodic meetings using radio lessons broadcast through regional stations. Regional colleges and universities could

grant credit for successful course completion. The courses would be staggered with Filipino and teaching skills in the first year and other courses added later on.

(b) *Radio-assisted teaching in elementary schools (RATES).* RATES was the project's direct instruction component designed to improve Filipino abilities of primary learners. It consisted of 30-minute daily lessons with a teacher's guide and worksheets. EDPITAF was tasked to develop the materials to be broadcast regionally. Each year, 140 lessons were developed following the official curriculum. Based on the plan, the first year of RATES would target Grade 4 learners, the second year Grade 5 and the third, Grade 6. Pilot sites for RATES were Pangasinan and Leyte, where a significant part of the population did not speak Filipino.

Currently radio-based instruction (RBI) is implemented by the DepEd through the alternative learning system (ALS). According to the DepEd, RBI "is an alternative learning delivery mode using radio broadcast to deliver the ALS programs. As a form of distance learning, it is able to expand access to education by bringing it to where the learners are. It aims to provide learning opportunities to listeners and enable them to acquire equivalency in basic education through the broadcast of lessons" (DepEd n.d.a). In 2005, a pilot project on radio-based instruction was implemented in five regions in support of the Accreditation and Equivalency (A&E) program and aired on the Southern Broadcasting Network (SBN) (DepEd 2005).

The National Education for All Committee (2010) provides an account of RBI in Cotabato in 2006. Called School-on-the-Air Program, it was a replication of a project implemented in Sultan Kudarat by the Sultan Kudarat State Polytechnic College (SKSPC) in 2005. The DepEd Cotabato Division through the Basic Education Assistance for Mindanao (BEAM) in partnership with the local government and the University of Southern Mindanao (USM) developed radio scripts based on the ALS A&E modules that were aired on the radio for elementary and secondary learners and out-of-school youth (OSY) in 2006.

ALS facilitators and instructional managers underwent training on writing radio scripts based on the A&E modules. During the radio broadcast, students are asked to send questions through text or SMS to the radio station which become the basis for additional explanations to be aired later on. ALS coordinators and mobile teachers take charge of the live broadcast. There is a pre-test and post-test for each broadcast. During the broadcast, ALS learners are at the community learning center (CLC) listening to the program with a mobile teacher guiding them. Those who cannot be at the CLC can take the pre- & post-test at home. The district ALS coordinator and mobile teachers do a follow-up with these learners once a week. After 10 months, learners are expected to take the A&E test (National Education for All Committee 2010). Since 2006, the School-on-the-Air Program has seen increased enrolment not only among OSY but as well as adults including mothers (Delfin 2012). In contexts where the ALS program is unable to secure partnerships with local radio stations, ALS mobile

teachers find alternative ways to broadcast the radio lessons through various creative means including the use of a public address system among others (ibid.).

Use of mobile phones

In 2003, a project called Text2Teach was initiated by a consortium involving Globe Telecom, DepEd, Nokia, Ayala Foundation Inc. (AFI), Toshiba, and Pearson Foundation. Text2Teach aimed to supply hard-to-reach schools with video materials and integrated teacher training to improve learning in Grade 5 and 6 Mathematics, Science, English, and Values Education in areas such as Roxas, Palawan, Albay, Bicol, and Sulu. Text2Teach started with a catalogue of 400 videos developed by Pearson based on the DepEd curriculum that were four to six minutes long each designed to supplement lessons focused on difficult concepts and overlooked skills. The project also developed teachers' guides with lesson plans and activities for learners written by DepEd specialists and teachers (Groupe Speciale Mobile Association 2014).

Each participating school received an ICT package including a dual-band mobile phone from Nokia, pre-paid phone cards from Globe, television monitor from Toshiba and access to the Nokia Education Delivery (NED) server. Teachers would use the mobile phones to download the videos they needed to the mobile phone. The mobile phone could be connected to a TV or projector to play the videos in class. The AFI sent surveys to the schools' mobile phones which collected data on learners' performance including grades and information on drop outs (ibid.). According to Carlson and JBS International (2013, 15), Text2Teach ultimately developed 900 videos and was implemented in over 440 schools reaching over one million learners.

Use of computers and the internet

In 2013, Republic Act No. 10533 or the Enhanced Basic Education Act of 2013 was passed instituting the K to 12 Basic Education Program. The goal of K to 12 is to produce holistically developed Filipinos with 21st-century skills including life and career skills, communication skills, learning and innovation skills, and information, media, and technology skills. According to the DepEd, information, media and technology skills include "visual and information literacies, media literacy, basic, scientific, economic and technological literacies, multicultural literacy and global awareness" (DepEd 2019, 6). These skills are embedded in learning areas or subjects across the curriculum and developed throughout the K to 12 Basic Education Program. Furthermore, the DepEd also identifies the ICT environment as part of the system supporting K to 12 education and ICTs as a tool and medium to deliver curriculum content.

Getting ICT integrated in the provision and governance of basic education has been one of the long-time reforms in the DepEd. For decades, the DepEd has continuously aimed to modernize Philippine education by crafting plans and policies on ICT integration in basic education (DepEd 2005), providing equipment, computers, projection devices, and internet access to schools and school laboratories (DepEd 2010;

see also Vergel de Dios 2016; Tinio 2002), developing curriculum integration with ICT (Tinio 2002), developing multimedia materials, digital learning modules (Doronila and Cortes 2000; Tinio 2002), conducting teacher training (Tinio 2002), and developing information systems, including the Enhanced Basic Education Information System to allow submission of education data online and the Learning Resource Management and Development System (LRMDS), an online portal that teachers and learners could use to access digital teaching and learning materials (Vergel de Dios 2016).

Part of the modernization program was the creation in 1994 of a Center for Education and Technology (CET) at the DECS central office which evaluated 930 multimedia materials from different companies and developed 890 lessons with multimedia integration for the elementary and secondary level. The CET also had a showroom and a model school of the future (Doronila and Cortes 2000). In 2005, the National Framework Plan for ICTs in Basic Education was crafted which set out three parameters for ICT integration in basic education namely, appropriateness, effectiveness and sustainability. Appropriateness referred to sustainability in context keeping in mind that the most appropriate technology is not necessarily the latest and greatest. Effectiveness referred to the extent to which goals and objectives are realized and to which ICTs broadened access to education services. Sustainability referred to the extent to which the implementation of ICT-based projects could continue even after initial funding has ended. The framework's main goals were to: (a) use ICTs to broaden access to basic education; (b) use ICTs to improve the quality of learning; (c) use ICTs to enhance the quality of teaching; and (d) use ICTs to improve educational planning and management and recommended the creation of a Bureau of Education Technologies within the DepEd (DepEd 2005).

In 2008, a five-year information and communication technology for education (ICT4E) strategic plan was drafted by the DepEd (DepEd 2008). The ICT4E strategic plan was hinged on a vision of 21st-century education for all Filipinos anytime, anywhere or "ICT-enabled education that transforms students into dynamic life-long learners and values-centered, productive and responsible citizens" (ibid., 1). To this end, the DepEd ICT4E strategic plan endeavored to create an enterprise architecture that would develop various systems to make the DepEd efficient and effective in operations including:

- School-based Information Management System
- Enterprise Learning Management System
- Human Resource Information System
- Resources Management System
- Performance Management System
- Globalized Service Support
- Executive Information System

The Undersecretary for Programs and Projects (now the Undersecretary for Curriculum and Instruction) was tasked to oversee the implementation of the strategic plans with support from a full-staffed Information and Communication Technology

Unit–Technical Service (ICTU–TS). Though the draft document was put on hold (Vergel de Dios 2016), this was used as basis for the ICT plans of the new government in 2010. The DepEd also had various programs in line with the push for ICT integration in basic education in collaboration with other government agencies and the private sector. In 2001, DepEd partnered with Intel Philippines for its *Teach to the Future* program, which aimed at providing teacher capacity building on how to use the internet as a resource in research, design a webpage and use multimedia software (*Philippine Star* 2001). From 2001 to 2009, the Department of Trade and Industry (DTI) implemented the *Personal Computers for Public Schools* (PCPS) program to develop IT skills among high school students by providing computer laboratory packages to public high schools (Vergel de Dios 2016). DepEd also had a partnership with Microsoft from 2003 to 2012 called *Partners in Learning* that set up regional training centers called Microsoft IT Academies in colleges/universities to provide teachers training in basic computer literacy, Microsoft office and software development (Manaligod 2012). In 2005, DepEd entered into another partnership with SMART Communications, Inc. and the Philippine Business for Social Progress (PBSP) under the Adopt-A-School Program through which SMART constructed or upgraded computer laboratories into SMART Teachers Learning Resource Centers and provided free internet connection, access to educational content and teacher training in selected public high schools called SMART Schools in Luzon, Visayas, and Mindanao (*Davao Today* 2007). In the same year a consortium composed of numerous IT and telecommunication companies, media companies, and other foundations and organizations came together for *Gearing Up Internet Literacy and Access for Students* (GILAS) project, which aimed to connect all public secondary schools in the Philippines. From 2005 to 2011, 3,306 public secondary schools were provided internet access, some were provided with computer laboratories, and 13,538 teachers and 542 principals were given training (Vergel de Dios 2016).

Also from 2006 to 2011, the Commission on Information and Communication Technology (CICT) partnered with the DepEd's then Bureau of Alternative Learning System (BALS) to set up computer units with internet connectivity, multimedia learning resources and other peripherals in CLCs in 95 sites (10 sites shy of the 105 target sites) nationwide. The eSkwela project sought to address the digital divide and provide ALS learners with opportunities for ICT-enabled learning and had three tracks: (a) Accreditation and Equivalency Program, which provided ICT-based A&E Program to prepare learners to take the A&E exam; (b) Review/catch-up provided to those who wanted to return to formal schools; and (c) Livelihood providing technical and vocational education and training (TVET) e-learning modules for skills development, livelihood, entrepreneurship, and cottage industries or ICT skills such as Digital Media Arts Program for out-of-school adults, housewives and other community members seeking to upgrade their skills in partnership with the community's Public Employment Service Office (PESO) (CICT 2009).

For formal education, CICT implemented the iSchool Project focused on improving ICT literacy for teachers and students in public high schools. From 2006 to 2010,

iSchools provided computer units with internet connectivity to public high schools with hardware and software assistance and training for school stakeholders to sustain the project, which also involved creating digital libraries of instructional media and educational content for schools throughout the country (Hanna and Knight 2012).

In 2008, the DepEd launched Project: Reaching All Children (REACH) to bring to school millions of children and youth who were not in school. Project REACH had two components, Child Find and Innovative Interventions. Child Find would involve collaboration among community stakeholders to find and identify school-aged children in each family and provide them with the proper educational intervention while Innovative Interventions focused on intervention programs to find and keep children in school initiated by the DepEd and its partners (PIA 2008). DepEd partner interventions included Adopt-A-School, school-based feeding and other programs while DepEd interventions included provision of alternative delivery modes (ADMs), one of which was the internet-based distance education program (iDEP) (PIDS 2009).

The iDEP is described as a creative and innovative program for secondary students that aims to increase participation rate and decrease dropout rate by offering formal secondary education to qualifying students using internet-based technologies. The iDEP allows accredited secondary schools to manage classes completely online. The accredited schools were called internet-based distance education centers (iDECs). The iDEP was a program managed by the then Bureau of Secondary Education (BSE) which set up a server at the DepEd central office from where online learners could download information.

The program made use of digitalized modules from another project called Effective Alternative Secondary Education/Effective and Affordable Secondary Education (EASE) and the Open High School Program (OHSP). DepEd teachers who were Master of Information and Technology Education (MITE) scholars served as ICT coordinators of iDEP pilot schools and were mobilized to quality assure digitalized modules and lessons. The iDEP was meant for disadvantaged learners especially those who are working or those who cannot attend school physically for other reasons. Students who applied to iDEP but were not accepted were referred to the OHSP or the ALS (DepEd n.d.b), which are considered flexible learning options (FLOs) that are discussed in the next section.

III. Flexible learning options (FLOs)

With the new K to 12 curriculum fully implemented in 2016, the DepEd issued DepEd Order No. 21, s. 2019 or the "Policy Guidelines on the K to 12 Basic Education Program" which affirmed flexible learning options (FLOs) as an important part of K to 12 education. FLOs are provided to learners in difficult circumstances that prevent them from attending school in order for them to complete basic education. These include those who are at risk of dropping out, out of school children and youth, adults who failed to finish basic education, those with special needs or with extreme

difficulty to access schools or attending overpopulated schools and those in emergency situations.

According to the DepEd, FLOs are "learning interventions and pathways that are responsive to the needs, context, circumstances, and diversity of learners (DepEd 2019, 96). FLOs offer variation in terms of time, pace, and place of teaching-learning processes and approaches, taking into account available technologies, resources, and possible learning partners. They are categorized into alternative delivery modes (ADMs) and alternative learning system (ALS). ADMs do not follow the set-up of a regular classroom but follow the formal K to 12 curriculum and allow learning through *face-to-face learning* where teachers and learners meet in person, *distance learning* where learners have access to learning resources but do self-directed study away from the school, or *blended learning* which combines face-to-face and distance learning. The ALS, on the other hand, makes use of the non-formal curriculum aligned with K to 12.

The following are the ADMs available to secondary learners:

- *Home School*. Formerly known as Home Education Program, this ADM allows parents, guardians, or tutors to teach children in an out-of-school environment. They can decide on the schedule, learning delivery approach, assessments, as well as learning resources to be used. Home school may be accessed by learners who have an illness, who travel frequently, or who have special educational needs, and those in other similar contexts. Home schooled learners have to enrol in an accredited public or private school authorized to provide the program (DepEd 2019).

- *Night High School*. This ADM offers flexibility in terms of schedule. Classes are conducted in the evening, and may include Saturday classes to accommodate working students. It also allows completion of Technology and Livelihood Education (TLE) competencies at the learner's workplace. It is offered to secondary learners who cannot attend school in the day because of work or other reasons (ibid.).

- *Open High School Program (OHSP)*. The ADM is for secondary learners capable of independent learning. It is open to learners who are unable to attend regular classes because of time, distance, physical disability, financial difficulties, and social and family constraints including working students, street children, young mothers, and those who are in difficult or abusive circumstances (SEAMEO Regional Center for Educational Innovation and Technology 2017). While the OHSP has been available for junior high school (JHS) for years, according to the SEAMEO Regional Center for Educational Innovation and Technology (2017, 6), "a number of high schools have modelled the Senior High School program and are implementing the OHSP even for its Grade 11 students."

The OHSP was designed for independent, self-pacing and flexible study and combines modular learning with face-to-face meetings. Learners take the Independent Learning Readiness Test (ILRT) and the Informal Reading Inventory (IRI). The ILRT determines the learner's ability for self-directed learning while the IRI measures reading level. Once accepted to the OHSP, learners design their own learning program using the Student Learning Plan (SEAMEO Regional Center for Educational Innovation and Technology 2017). Face-to-face meetings with teachers in school are based on a schedule agreed on in the learning plan. Subjects that require use of laboratories and physical performance are scheduled on an individual basis. Learners and their parents are oriented on the program and the learning plan or contract as an assurance that the learner will complete the program. Prior to K to 12, the modules used in OHSP were the self-instructional EASE modules that were also digitized for iDEP. The DepEd allows learners in OHSP to finish JHS in six (6) years and SHS in three (3) years.

In 2014, RA No. 10655 or the Open High School System (OHSS) Act was passed institutionalizing the open high school program as an alternative secondary education program authorizing secondary schools to practice open learning through self-instructional materials, multi-channel learning and school community partnership.

Another FLO is the ALS program. The ALS curriculum at present is available at the elementary, junior high school (JHS) and senior high school (SHS) stage. It has six learning strands: Learning Strand 1 (Communication Skills (in English and Filipino)); Learning Strand 2 (Scientific Literacy and Critical Thinking Skills); Learning Strand 3 (Mathematical and Problem Solving Skills); Learning Strand 4 (Life and Career Skills); Learning Strand 5 (Understanding the Self and Society); and Learning Strand 6 (Digital Literacy). For secondary learners, they must complete the competencies necessary for JHS and SHS. While a World Bank report on the ALS program states that the DepEd has been offering non-formal education (NFE) since 1948 (Igarashi, Acosta, Tiongco, and Paqueo 2018), there are accounts tracing NFE or ALS as far back as the American period.

To sum up, the DepEd has sufficient institutional experience in mobilizing flexible learning options (FLOs) and a long history of offering alternative learning strategies whose main goal is to ensure and widen access to quality education to as many learners as possible especially those who are disadvantaged or in resource-poor contexts. As shown in Table 1, the DepEd has experience in providing various learning delivery options in order not only to meet the needs of various learners cognizant of their contexts and capabilities but also allow flexibilities in their education in terms of how content is taught (learning delivery), where to study (place), when to study (schedule or time), and how to measure their learning (assessment). The DepEd has not only made these available for learners but as well as for teachers

and they may provide bases for articulating a response in the time of COVID-19 and beyond.

Table 1. Summary of flexible learning options (FLOs)

Programs	Curriculum	Instruction			Assessment
		Learning Delivery	Place	Schedule	
(1) Face-to-face					
(a) Regular schooling	Formal	DepEd teachers provide instruction	School	Class hours	Teachers conduct classroom assessment (formative & summative)
(b) Night high school	Formal	DepEd teachers provide instruction	School	Evening & weekends	TLE competencies may be assessed in workplace
(2) Distance/blended					
(a) OHSP	Formal	Content delivery using instructional resources (modules and online); learners study independently with scheduled engagement with DepEd teachers	School & home (flexible)	Flexible; face-to-face instruction based on agreed schedule	Based on student learning plan; Laboratories & physical performance scheduled on an individual basis;
(b) ALS	Non-formal	Content delivery using instructional resources (TV, radio, printed and online modules); learners study independently with scheduled engagement with mobile teachers	Community learning centers & home (flexible)	Flexible; face-to-face instruction based on agreed schedule	Portfolio; accreditation & equivalency test at the end
(c) Resource-based instruction					
(i) TV	Formal (Ateneo & Text2Teach)	Teachers use TV programs and videos to help deliver lessons (Science, Math, English; hard to teach concepts)	School	During instruction	Teachers conduct classroom assessment
	Non-formal	Educational programs are broadcasted on commercial-oriented TV (Agribusiness, Entrepreneurship)	Flexible	Flexible; or during a broadcasting schedule	

		*For teachers (CONSTEL)	TV programs to help teachers improve their content in Science, English and Math			
(ii)	Radio	Formal (RATES)	Teachers use audio lessons to help deliver lessons	School	During instruction	Teachers conduct classroom assessment
		Non-formal (ALS RBI)	Educational programs are broadcasted on radio	Flexible	During a broadcasting schedule (daily)	Pre-test and post-test for each broadcast at home or in community centers
		*For teachers	Teachers receive training through radio courses (Science, Math, Filipino, teaching skills)	Flexible	During a broadcasting schedule	Grant credit for successful course completion
(iii)	Mobile phones	Formal	Teachers use videos accessed through mobile phones to help deliver lessons	School	During instruction	Teachers conduct classroom assessment
		Non-formal (ALS RBI)	Learners use mobile phones to communicate with experts about the lessons during broadcast	Flexible	Flexible	
(iv)	Modular	Formal (OHSP)	Learners access printed or online modules to study lesson;	Flexible	Flexible	Learners submit their accomplished modules to teachers during face-to-face meetings
		Non-formal	Learners access e-learning modules for TVL, entrepreneurship, cottage industries or ICT skills	Flexible	Flexible	
(v)	Online: computer and the internet	Formal	Learners are given lessons on IT skills and internet	School (computer laboratories)	Based on agreed schedule	
		Formal (iDep)	Teachers conduct online classes to learners	Flexible (with high speed internet)	Flexible; based on agreed schedule	Teachers provide assessment during online classes
		Non-formal	Mobile teachers give ICT-based A&E program to prepare learners in taking the A&E exam	Flexible	Flexible	A&E exam
		*for teachers	Teachers are given training on ICT	School (computer laboratories)	Based on agreed schedule	

		integration, ICT literacy, software development			
(vi) Digital libraries	Formal, non-formal, & for teachers	Learners and teachers access educational media and resources	Flexible	Flexible	
(3) Home school	Formal	Parents or guardians as learning facilitators; Teachers may also provide instruction and supervision	Home (flexible)	Flexible	Learning facilitators may conduct assessment; learners take Philippine Education Placement Test (PEPT)

IV. The K to 12 Senior High School (SHS) Program

As mentioned above, Republic Act (RA) No. 10533 or the Enhanced Basic Education Act of 2013 was passed instituting the K to 12 Basic Education Program (BEP) that changed basic education from a 10 to 13-year cycle to include kindergarten, six (6) years of elementary education, and six (6) years of secondary education. Under K to 12, secondary education consists of four (4) years of junior high school (JHS) and two (2) years of senior high school (SHS). K to 12 was also conceptualized as having four (4) key stages:

- Key Stage 1: Kindergarten to Grade 3 (Primary School)
- Key Stage 2: Grades 4 to 6 (Middle School)
- Key Stage 3: Grades 7 to 10 (Junior High School)
- Key Stage 4: Grades 11 to 12 (Senior High School)

SHS is envisioned as two years of specialized upper secondary education that will equip learners with skills to better prepare them for employment, entrepreneurship, skills development or further technical-vocational training, and higher education (college) (Official Gazette n.d.). Senior High School (SHS) forms part of the final key stage in basic education. Through SHS, DepEd also articulates an equivalent qualification standard for basic education graduates compared to those with technical-vocational and higher education qualifications. SHS comprises 31 subjects and 2,480 hours in two (2) years distributed in four (4) semesters with two (2) quarters per semester. The SHS curriculum is composed of the Core Curriculum, Applied Track, and Specialized Subjects. There are 15 Core Curriculum subjects encompassing eight (8) learning areas as shown in Table 2 below:

Table 2. Senior High School (SHS) Core Curriculum

Learning Areas	Subjects	Hours per Semester
Language	(1) Oral Communication	80
	(2) Reading & Writing	80
	(3) Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino	80
	(4) Pagbasa at Pagsusuri ng Iba't Ibang Teksto Tungo sa Pananaliksik	80
Humanities	(5) 21st Century Literature from the Philippines and the World	80
	(6) Contemporary Philippine Arts from the Regions	80
Communication	(7) Media & Information Literacy	80
Mathematics	(8) General Mathematics	80
	(9) Statistics & Probability	80
Science	(10) Earth & Life Science (Lecture & Laboratory)	80
	(11) Physical Science (Lecture & Laboratory)	80
Social Science	(12) Personal Development / Pansariling Kaunlaran	80
	(13) Understanding Culture, Society, & Politics	80
Philosophy	(14) Introduction to the Philosophy of the Human Person / Pambungad sa Pilosopiya ng Tao	80
PE & Health	(15) Physical Education & Health	80
	Total Number of Hours (Core)	1,200
	Total Number of Hours (Track)	1,280
	Total Number of Hours (Core + Track)	2,480

The remaining 16 subjects a learner will take will depend on the learner's enrolment in any of the following four (4) tracks, namely: (1) Academic Track, (2) Arts and Design Track, (3) Sports Track, and (4) Technical-Vocational-Livelihood (TVL) Track. Learners may enrol in a track of their choice. A track has its own corresponding Applied Track Subjects and Specialized Subjects. Each subject is allotted 80 hours in a semester totalling 1,280 hours for the Applied Track Subjects and Specialized Subjects altogether. Learners are required to take up Applied Track Subjects regardless of track as shown in Table 3.

Table 3. Senior High School (SHS) Applied Track Subjects

Subjects	Hours per Semester
(1) English for Academic & Professional Purposes	80
(2) Practical Research 1	80
(3) Practical Research 2	80
(4) Filipino sa Piling Larang (Akademik, Isports, Sining, at Tech-Voc)	80
(5) Empowerment Technologies (for the strand)	80
(6) Entrepreneurship	80
(7) Inquiries, Investigation, & Immersion	80
Total Number of Hours (Applied Track)	560

These Applied Track Subjects are expected to equip learners with competencies in language proficiency, research, information and communications technology (ICT), etc. delivered customized to the requirements of each track. For a complete listing of the subjects for each track and/or strand, see Annex I.

The need for FLOs for SHS

In April 2018, the first cohort of learners completed SHS. According to the DepEd, a total of 1.252 million learners graduated from SHS. Around 61% of these graduates planned to go to college, while 28% coming from the TVL track were hired from their work immersion. In SY 2018–2019, the DepEd welcomed 2.813 million learners into SHS (Montemayor 2018). In SY 2019–2020, around 1,766,818 SHS learners were enrolled in public schools while 1,357,882 SHS learners were enrolled in private schools (DepEd 2020). For SY 2020–2021, according to the DepEd that as of September 2, 2020, a total of 2,018,707 SHS learners have enrolled in public schools, 674,087 SHS learners have enrolled in private schools, and 22,954 SHS learners have enrolled in state universities and colleges or local universities and colleges (SUCs/LUCs) (R. Masapol, personal communication) confirming the anticipated drop in private school enrolment and increase in public school enrolment due to the COVID-19 pandemic (Domingo 2020).

A recent study found that the SHS program has had a positive impact on the participation rate of 16- to 17-year-olds (Ducanes and Ocampo 2019). According to Ducanes and Ocampo (2019), 16- to 17-year-olds showed gains in their educational participation by enrolling in SHS, with those coming from the two bottom income quintiles experiencing the highest gain. Furthermore, the study observed that the gains in educational participation were highest outside Metro Manila, and while educational participation increased for both male and female learners, the gains

appeared to be higher for girls (ibid.). The gains brought about by the SHS program have also been noted in a process evaluation of the first two years of its implementation (Brillantes, Orbeta, Francisco-Abrigo, Capones, and Jovellanos 2019). The assessment found that enrolment indeed exceeded expectations particularly in 2016, when the SHS was first fully offered in spite of program inadequacies in terms of teachers, learning resources, school building, facilities, tools and equipment. An earlier study also found that three quarters of SHS learners opted for higher education after graduation including those enrolled in the TVL track; and even if they opted to work, it was only for a short time while waiting for college to start (Orbeta, Lagarto, Ortiz, Ortiz, and Potestad 2018).

All of the above suggest that learners attach a level of importance to their SHS education. It is therefore imperative for the DepEd to ensure that SHS education in the coming school year will prepare learners to face a world affected by a public health and economic crises. Flexible learning options (FLOs) that will guarantee they do not drop out, secure their educational participation, and most importantly, recognize how the COVID-19 pandemic has exacerbated inequities, will thus be important. Health-wise, SHS learners may seem better suited for FLOs especially since experts warn that older students are more susceptible to COVID-19 infection. According to reports on schools reopening in Europe and Asia, no COVID-19 transmission or spikes among students and the community have been detected for learners under 12 years old, leading scientists to theorize that children may have fewer receptors to the virus or have higher immunity to it. However, this does not mean that younger learners have zero risk (Birnbaum 2020). Because learners who are in their teens or older are thought to be more prone to COVID-19 and more capable of spreading it, it may be safer to keep them at home or in out-of-school learning arrangements. SHS learners, who may be between ages 15 and 19 years old, may be better able to deal with the demands of self-study or independent learning required in varying degrees by various FLOs.

V.   Policy recommendations for adopting FLOs for SHS

The DepEd can draw lessons from its rich history of providing education in emergencies (EiE) or ensuring education service delivery to contexts that are affected by crises or limited resources as well as learnings from its past experiences in integrating ICTs in basic education and providing flexible learning options (FLOs) for learners and teachers to ensure teaching and learning continue particularly in the Senior High School (SHS) level in the time of the COVID-19 pandemic and beyond. Experience in other contexts may also be instructive in this regard.

A comprehensive policy document can be developed to allow for the creation of the FLO programs for SHS, the learning delivery system for these programs and the assessment of SHS competencies which are needed for their transfer to employment, higher education or further technical-vocational training. It is imperative that flexible learning options are made available so that learners in this level can complete their

education. Based on the previous discussion, the following points may be considered in envisioning ways to adapt FLOs:

(1) Schedule/time of instruction may be flexible (i.e., may be adjusted according to home schedule, or fewer students in school at the same time if face-to-face).

(2) Programs that allow flexibility in terms of place of instruction and assessment are ideal for learning continuity during a pandemic.

(3) Face-to-face instruction or engagement with teachers may be achieved through ICTs (mobile phone or online)

(4) Programs with no teacher engagement and no process for assessment (to check evidence of learning) cannot be standalone. They must be combined with alternative strategies that allow teacher engagement to ensure learning.

(5) Resource-based instruction (TV, radio, modules) relies heavily on quality resources that are developed by content experts and experts in the platform (e.g. TV or radio specialists/scriptwriters) in collaboration with instructional experts (schoolteachers); partnerships with companies and organizations may be established to reproduce and distribute these resources

(6) TV programs/videos and radio/audio resources can help teachers deliver their lessons, and can be used for lessons in Science, Math, English, Filipino, TVL (agriculture, entrepreneurship, cottage industries, etc.) and other learning areas that are difficult to understand/teach. Resources for independent learning must be easy to understand for the learners, and provide all the necessary input to develop the competencies needed.

(7) Mobile phones may be used to communicate with teachers and learners; and send instructional materials and videos (with low bandwidth) to remote areas (via Text2Teach).

(8) Tech-voc/TLE competencies may be assessed in the workplace.

(9) Laboratories & physical performance may be scheduled on an individual basis (via a communication device or in a safe area).

(10) Home school allows partnership with parents or guardians as learning facilitators. Teachers may either provide instruction and supervision, with assistance from parents; or they can provide minimal supervision and guidance if parents or guardians are specialists in a learning area and are capable of delivering content to their children.

In view of these, the following are recommendations with regard to enacting FLOs for SHS during and after COVID-19.

(1) *Create FLOs for SHS Core and Academic Track subjects.*

The SHS curriculum can be delivered through distance learning (both online and offline) and or blended learning (combination of face-to-face learning with other

modalities). Schools equipped with the necessary high-tech resources can opt to offer SHS fully online similar to the DepEd's internet-based Distance Education Program (iDEP) as some schools already do like AMA University, which offers the SHS Academic Track fully online (AMA University n.d.). Schools that will opt for a fully online mode of learning delivery will have to ensure teachers and learners are prepared for the shift in terms of learning management system or platform, equipment and connectivity, and options to learn either synchronously or through remote learning that happens in real-time or asynchronously, remote learning that does not happen in real-time where learners are given content and tasks to accomplish in a given time frame. However, schools that do not have the resources, infrastructure and equipment may need to rely on offline, low-tech to no-tech strategies using digitalized or print modules. These options can be explored for the core curriculum including the Academic Track and Strands. For core subjects requiring laboratory or demonstration of physical skill, the schools will have to find a way to make science labs and sports equipment for physical education "mobile" and bring them to learners at their homes. Health standards and protocols will have to be in place following DOH guidelines (DOH 2020).

(2) *Create blended learning solutions for SHS TVL, Arts and Design, and Sports Track subjects.*

For schools offering the TVL, Sports, or Arts and Design Track, learning areas or subjects under these tracks may be offered online or offline through modules, but for competencies that require performance or demonstration of skills, special arrangements may be made to make the necessary equipment or laboratory mobile and bring these to learners at home through a "mobile" tech-voc center which has been done in emergency contexts in which mobility of learners has been compromised (UNESCO and UNEVOC International Centre for Technical and Vocational Education and Training 2012). A similar mobile center, hub, or school can also be explored for the Arts and Design and Sports Tracks.

Though the use of videos may be applicable to all learning areas, it may be more important to produce these for TVL strand subjects since these require a clear demonstration of a target skill. Technical Education and Skills Development Authority (TESDA) Circular No. 066-A-2020 states that only those ages 21 to 59 are allowed to participate in face-to-face instruction following IATF guidelines. Building on the guidelines of this circular, TVET Brief Issue No. 6 emphasizes how TESDA should adopt "flexible and dynamic learning options." It further iterates recommendations per sector which includes the use of "Flexible Learning Arrangements" through the TESDA Online Program. Because the majority of SHS students are below 21 years old, it is imperative that the DepEd collaborates closely with TESDA to ensure the effective use of the TESDA Online Program for SHS.

Aside from the mobile training centers and the use of videos, other modifications for vocational education and training have also been gathered in a recent survey conducted by the European Commission (2020a; 2020b). Existing DepEd, TESDA, and

industry networks and collaboration in regions and/or schools divisions may be tapped to explore the possibility of the following:

- Release of step-by-step instructions for target skills which may be used independently for practice or may also be used together with the videos;

- Assignment of team challenges which students may collaborate on online;

- Development of TV or Youtube channels for TVL lessons; and

- Development of a repository of TVL learning materials and possible online platforms.

Additionally, it may also be helpful to consider UNESCO's curated "distance learning solutions" which may contain feasible options or ideas for different SHS learning and teaching contexts in the Philippines. It is especially important to explore those for offline or low-bandwidth contexts since lack of/intermittent internet connection is a common concern. Loband, for example, is a free web-based service which converts any web page into text form only, thus lowering the bandwidth needed to load the page (UNESCO 2020a). Other resources listed by UNESCO include those that provide psychosocial support, digital and offline learning management systems, systems built for use on basic mobile phones, self-directed learning content, and even tools for teachers to use to create digital learning content (UNESCO 2020b). The DepEd may also study national learning platforms and tools being used now by countries across the globe and identify those which may be appropriate for SHS contexts (UNESCO 2020c).

(3) *Formulate clear guidelines on the use of FLOs in delivering SHS in the time of COVID-19.*

This can be done through a thorough understanding of the nature of various subjects and competencies to identify sensible combinations of flexibilities and make learning attainable. For example, there are learning areas or subjects that:

- involve conceptual or abstract content, and deal with data and information (e.g. HUMSS strand) or mathematical ability (e.g. ABM strand);

- require technical skills and performance (e.g. industrial arts) and demonstration (e.g. sports track);

- require tools and equipment (e.g. carpentry) and laboratories (e.g. sciences); and

- entail various ways to assess learning and progress through written work (e.g. essays, math equations, objective-type items) or performance tasks (e.g. home economics, cookery, handicrafts, hairdressing).

The use of self-learning modules (SLMs) for SY 2020–2021, for instance, is a practice adopted from the Open High School Program (OHSP), however it remains unclear whether or not other practices associated with the OHSP will be utilized such as

asking learners to take the Independent Learning Readiness Test (ILRT) and the Informal Reading Inventory (IRI) and to make a Student Learning Plan. It is important to ensure that learners have the necessary competencies for independent learning. Also, it is necessary that learners have ways to communicate with their teachers, so they can process information from the available learning resources. The DepEd needs to provide guidance on how to adapt these in the time of COVID-19. With learning approximating a more open system, will learners be allowed to take longer to finish a grade level? What FLOs will be available to curb drop out? Will flexibilities be allowed in terms of the school calendar, times of study, and assessment? How can the formal and non-formal systems of education work together to ensure learning continuity? What steps is the DepEd taking to meet its mandate under RA No. 10655 or the Open High School System Act in the time of COVID-19? In relation to educational TV- or radio-based instruction (RBI), guidelines are also needed as experience in the past shows these are not stand-alone strategies and still require the input and processing of teachers. For example, during a radio or TV broadcast, learners may send questions through text or SMS to the station or to their teachers which then become the basis for additional explanations. There are also no standards set in the development of teaching and learning resources for TV and radio especially if this will be undertaken at the level of the ROs and SDOs.

(4)   *Provide guidelines on ICT integration in learning and teaching.*

How will the use of ICTs improve the quality of learning and teaching and uplift marginalized learners? The DepEd has yet to articulate a comprehensive ICT integration policy and in doing so may need to revisit past initiatives such as the National Framework Plan for ICTs in Basic Education in 2005 or the National Strategic ICT for Education Strategic Plan in 2008. The DepEd can study reviving the Center for Education and Technology (CET) created in 1994 during the push for the IT21 or the proposal to create a Bureau of Education and Technologies that will not only help navigate the education response during but as well as post-COVID-19. However, this has to be firmly anchored on issues of equity and done to address inequalities on the basis of gender, ability, geographic location, socioeconomic status, ethnicity, and other factors, and have a strong focus on protecting learners and keeping them secure and safe from harm.

(5)   *Provide guidelines on the provision of support for learners, teachers, parents, and communities.*

What are the support mechanisms for students in learning to learn and for teachers in learning to teach during an emergency? What will be the services for learners who will need remediation or extra time from teachers? Will personal protective equipment (PPEs) be accessible to learners, teachers, and parents when necessary? Will mental health and psychosocial support (MHPSS) programs be available all year round for learners, teachers, and parents? The DepEd may need to craft guidelines on the provision of MHPSS services aligned with its mandate in Republic Act No. 11036 or the Mental Health Act of 2018.

(6)   *Provide additional guidelines on EiE aligned with DRRM framework.*

How can the school DRRM plan be aligned with responding to the COVID-19 pandemic? The DepEd may need to revisit its DRRM framework to provide attention to hazards including disease outbreaks but as well as vulnerabilities. How can the DRRM plans be activated to include prevention and mitigation of COVID-19 infections and prepare learners, schools, and communities for disease outbreaks in the future? How can the DRRM plan help strengthen the provision and management of education services on the ground during epidemics or pandemics?

(7)   *Provide for assessments and credit transfer systems for students who are using FLOs for their SHS studies.*

Students who elect to continue SHS through blended or home-based programs need to have clear assessment systems for crediting their competencies. This will be relevant bases for graduation as well as for proceeding to employment or further education, which should recognize the qualifications of learners who completed their SHS through FLOs.

Conclusion

Schools should anticipate that SHS education during the COVID-19 pandemic will be different from the past; and the school working with learners, parents, communities, the local government and private sector partners can collaborate to map out the ways and means to ensure SHS learners do not drop out, remain in the system, and continue their education. To make SHS education as flexible as possible, the education system will need to ensure it has the necessary support systems in place to allow various modalities such as face-to-face, distance, and blended learning. Ultimately, education during the COVID-19 pandemic must be sensitive to the needs and contexts of learners, their families, and communities. Now is the time for the education system to re-imagine schools including Senior High Schools into "Schools of the Future" that provide flexible learning options (FLOs) aptly combined with learner-centered education technologies designed to reach the most disadvantaged and underserved and meet targets for quality education within the framework of the SDGs.

ANNEX I
K to 12 Basic Education Program Senior High School (SHS) Tracks and Strands

The Academic Track

The Academic Track has four strands:
- Accountancy, Business, and Management (ABM);
- Humanities and Social Sciences (HUMSS);
- Science, Technology, Engineering, and Mathematics (STEM); and
- General Academic Strand (GAS)

ABM Strand
Learners who will study business-related courses in college or plan to go into business or business-related careers may enroll in the ABM Strand. The Specialized Subjects in this strand include:
- Applied Economics
- Business Ethics and Social Responsibility
- Fundamentals of Accountancy, Business, and Management 1
- Fundamentals of Accountancy, Business, and Management 2
- Business Math
- Business Finance
- Organization and Management
- Principles of Marketing
- Work Immersion/Research/Career Advocacy/Culminating Activity (i.e., Business Enterprise Simulation)

HUMSS Strand
This strand is for learners who want to study humanities and social sciences in college. The subjects in this strand include:
- Creative Writing/Malikhaing Pagsulat
- Creative Nonfiction
- Introduction to World Religions and Belief Systems
- Community Engagement, Solidarity, and Citizenship
- Philippine Politics and Governance
- Trends, Networks, and Critical Thinking in the 21st Century
- Disciplines and Ideas in the Social Sciences
- Disciplines and Ideas in the Applied Social Sciences
- Work Immersion/Research/Career Advocacy/Culminating Activity

STEM Strand
Learners who have an aptitude for Mathematics, Science, and Engineering studies can enroll in this strand. The subjects in this strand include:
- Pre-Calculus
- Basic Calculus
- General Biology 1

- General Biology 2
- General Physics 1
- General Physics 2
- General Chemistry 1
- General Chemistry 2
- Work Immersion/Research/Career Advocacy/Culminating Activity

GAS
This strand is for learners who are undecided on their specialization. The subjects in this strand include:
- Humanities 1
- Humanities 2
- Social Science 1
- Applied Economics
- Organization and Management
- Disaster Readiness and Risk Reduction
- Elective 1
- Elective 2
- Work Immersion/Research/Career Advocacy/Culminating Activity

Pre-Baccalaureate Maritime
This strand is for learners who want to pursue maritime higher education and become seafarers in the future. The subjects in this strand include:
- Pre-Calculus
- Basic Calculus
- General Physics 1
- General Physics 2
- Introduction to Maritime Career
- Introduction to Maritime Safety
- Introduction to Maritime Transportation and Engineering
- Work Immersion/Research/Career Advocacy/Culminating Activity

Sports Track
This track is for learners who are sports-inclined or see themselves going into sports-related careers. The subjects in the track are below:
- Safety and First Aid
- Human Movement
- Fundamentals of Coaching
- Sports Officiating and Activity Management
- Fitness, Sports and Recreation Leadership
- Psychosocial Aspects of Sports and Exercise
- Fitness Testing and Exercise Programming
- Practicum (in-campus)
- Work Immersion/Research/Career Advocacy/Culminating Activity (i.e. Apprenticeship (off-campus))

Arts and Design Track

Learners who are inclined towards arts and design may enroll in this track. The subjects to be taken are below:

- Creative Industries I: Arts and Design Appreciation and Production
- Creative Industries II: Performing Arts
- Physical and Personal Development in the Arts
- Developing Filipino Identity in the Arts
- Integrating the Elements and Principles of Organization in the Arts
- Leadership and Management in Different Arts Fields
- Apprenticeship and Exploration of Different Arts Fields
- Work Immersion/Research/Career Advocacy/Culminating Activity (i.e., Exhibit for Arts Production/Performing Arts Production)

The Technical-Vocational-Livelihood (TVL) Track

The TVL Track has four strands, namely, Agri-Fishery Arts (AFA), Home Economics (HE), Information and Communication Technology (ICT), and Industrial Arts (IA) aligned with Technology and Livelihood Education (TLE) in Grades 7–10. Each TVL strand offers different specializations and schools may offer specialization from the four strands as long as the minimum number of hours per specialization is met. Below is the list of subjects for each strand with their corresponding National Certificate (NC) equivalent from the Technical Education and Skills Development Authority (TESDA):

(a) Agri-Fishery Arts
- Agricultural Crops Production (NC I)
- Agricultural Crops Production (NC II)
- Agricultural Crops Production (NC III)
- Animal Health Care Management (NC III)
- Animal Production (Poultry-Chicken) (NC II)
- Animal Production (Large Ruminants) (NC II)
- Animal Production (Swine) (NC II)
- Aquaculture (NC II)
- Artificial Insemination (Large Ruminants) (NC II)
- Artificial Insemination (Swine) (NC II)
- Fish Capture (NC II)
- Fishing Gear Repair and Maintenance (NC III)
- Fish-Products Packaging (NC II)
- Fish Wharf Operation (NC I)
- Food Processing (NC II)
- Horticulture (NC III)
- Landscape Installation and Maintenance (NC II)
- Organic Agriculture (NC II)
- Pest Management (NC II)
- Rice Machinery Operations (NC II)
- Rubber Processing (NC II)

- Rubber Production (NC II)
- Slaughtering Operations (Hog/Swine/Pig) (NC II)

(b) Home Economics
- Attractions and Theme Parks Operations with Ecotourism (NC II)
- Barbering (NC II)
- Bartending (NC II)
- Beauty/Nail Care (NC II)
- Bread and Pastry Production (NC II)
- Caregiving (NC II)
- Commercial Cooking (NC III)
- Cookery (NC II)
- Dressmaking (NC II)
- Events Management Services (NC III)
- Fashion Design (Apparel) (NC III)
- Food and Beverage Services (NC II)
- Front Office Services (NC II)
- Hairdressing (NC II)
- Hairdressing (NC III)
- Handicraft (Basketry, Macrame) (Non-NC)
- Handicraft (Fashion Accessories, Paper Craft) (Non-NC)
- Handicraft (Needlecraft) (Non-NC)
- Handicraft (Woodcraft, Leathercraft) (Non-NC)
- Housekeeping (NC II)
- Local Guiding Services (NC II)
- Tailoring (NC II)
- Tourism Promotion Services (NC II)
- Travel Services (NC II)
- Wellness Massage (NC II)

(c) Industrial Arts
- Automotive Servicing (NC I)
- Automotive Servicing (NC II)
- Carpentry (NC II)
- Carpentry (NC III)
- Construction Painting (NC II)
- Domestic Refrigeration and Air-conditioning (DOMRAC) Servicing (NC II)
- Driving (NC II)
- Electrical Installation and Maintenance (NC II)
- Electric Power Distribution Line Construction (NC II)
- Electronic Products Assembly and Servicing (NC II)
- Furniture Making (Finishing) (NC II)
- Instrumentation and Control Servicing (NC II)

- Gas Metal Arc Welding (GMAW) (NC II)
- Gas Tungsten Arc Welding (GTAW) (NC II)
- Machining (NC I)
- Machining (NC II)
- Masonry (NC II)
- Mechatronics Servicing (NC II)
- Motorcycle/Small Engine Servicing (NC II)
- Plumbing (NC I)
- Plumbing (NC II)
- Refrigeration and Air-Conditioning (Packaged Air-Conditioning Unit [PACU]/Commercial Refrigeration Equipment [CRE]) Servicing (NC III)
- Shielded Metal Arc Welding (NC I)
- Shielded Metal Arc Welding (NC II)
- Tile Setting (NC II)
- Transmission Line Installation and Maintenance (NC II)

(d) Information and Communication Technology
- Animation (NC II)
- Broadband Installation (Fixed Wireless Systems) (NC II)
- Computer Programming (.Net Technology) (NC III)
- Computer Programming (Java) (NC III)
- Computer Programming (Oracle Database) (NC III)
- Computer Systems Servicing (NC II)
- Contact Center Services (NC II)
- Illustration (NC II)
- Medical Transcription (NC II)
- Technical Drafting (NC II)
- Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)
- Telecom OSP Installation (Fiber Optic Cable) (NC II)

There is also a TVL Maritime Specialization. The subjects of this specialization are below:
- Navigational Watch 1
- Navigational Watch 2
- Navigational Watch 3
- Engine Watch 1
- Engine Watch 2
- Safety 1
- Safety 2
- Ship's Catering Services (NC I)
- Work Immersion/Research/Career Advocacy/Culminating Activity

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