Republika ng Pilipinas
# Kagawaran ng Edukasyon
Tanggapan ng Pangalawang Kalihim

**AIDE MEMOIRE**
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## ACCELERATING THE DEPED COMPUTERIZATION PROGRAM IN THE LIGHT OF COVID-19 PANDEMIC

By its very name and as instituted by law, it is the mandate of the Department of Education (DepEd) to ensure access to and provide basic education for all learners at all times. For this reason, DepEd—amidst the COVID-19 pandemic and given the quarantine situation—continues to explore, develop, and enhance online learning and teaching measures, and other alternative modes of education delivery. Needless to say, along its mandate of ensuring learning continuity, the Department is duty-bound to protect the health and safety of learners, teachers, non-teaching personnel, and its school structures. Towards this end, DepEd needs to step up its ICT. Specifically, it needs to speed up the DepEd Computerization Program (DCP) and be prepared for any eventuality.

The use of Information and Communications Technology (ICT) in the Department of Education (DepEd) is anchored on four major areas of the Digital Rise Program under the Public Schools of the Future framework pursuant to *Sulong Edukalidad*:

1) **Digital Literacy Skills** which are contained in the implementation of the K-12 curriculum, covering the following:

   a) Grades 4-6   : Productivity Tools
   b) Grade 7      : Basic Programming
   c) Grades 8-10  : Multimedia Skills
   d) Grades 11-12 : Vocational Skills and Open Source

2) **ICT-Assisted Teaching** where teachers will have access to e-learning resources that have been mapped out against the curriculum and can be used in classroom teaching;

3) **ICT-Assisted Learning** where learners will have feedback regarding the competencies that they are weak in and the corresponding e-learning resources that they need to review in order to better understand the concepts; and

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4) **Automation of Organization Processes**, in particular Financial Management Reforms (FMR), that will allow DepEd to track the status of budget releases in real time as well as improve accounting systems, internal control, budget utilization and delivery systems.

To support these undertakings, the Department of Education has initiated the **replacement of existing computer laboratories with mobile laboratories containing tablets and laptops that can be moved from one classroom to another**. This already started in 2019 DCP where computer desktops were no longer considered.

Previously, thin-clients and desktops were provided which required a dedicated classroom to be converted into a computer laboratory where computer classes would be conducted. Since 2019, the Department has shifted to mobile laboratories where laptops and tablet PCs can be moved across different classrooms using storage carts. This scheme reduces the need to have dedicated classrooms that act as computer laboratory; it allows the school to conduct computer classes even during power interruptions; and it further allows the school to easily move the devices to safe locations during disasters and emergencies.

This change signifies the **leap from merely studying ICT as a subject, to fully utilizing its features and advantages as effective tools for both teaching and learning**.

This direction of the Department has been emphasized and accelerated by the COVID-19 pandemic.

The vision of the Department to enable the following is now accelerated and has become urgent and inevitable:
1) **all classrooms to have televisions,**
2) **all teachers to have laptops and teaching equipment**
3) **all schools to have at least one E-Classroom Package to support 6 sections**
4) **all sites (offices, schools and centers) are connected**
5) **all governance processes are automated, and**
6) **all officials and teachers are connected**

This will cost about **P167,586,511,249**.

This initiative is the core of the DepEd Computerization Program and it includes the following:

1) **E-Classroom and Multimedia Packages** which contain fixed and movable or portable technologies for the teachers to deliver Digital Literacy Skills and implement ICT-Assisted Teaching and for students for their ICT-Assisted Learning during regular classes;

There are currently 39,052 E-Classroom packages being used throughout the country to conduct computer classes to develop Digital Literacy Skills in our learners. Providing all of the 47,025 schools with the needed E-Classroom packages for every six sections would require an investment of **P74,609,600,000**.

There are presently 45,869 classrooms with televisions/projectors and laptops that support ICT Assisted Teaching in schools on top of the 36,676 packages under FY2020. Providing all the 707,600 existing classrooms with multimedia packages would require an additional investment of **P44,773,890,000**. P27 billion of this amount is for teachers' laptops.

2) **Public Education Network (PEN)** to ensure that all schools will be connected, cybersecurity protocols are standardized, and utilization of ICT equipment can be monitored by the Department;

   Connecting all schools to the DepEd Public Education Network will require **P4,467,375,000** more.

3) **Educational Systems** will ensure that the software needed to use the hardware for educational purposes is available.

   a) **Learner Information System (LIS)** is currently used to issue the unique Learner Reference Number (LRN), record the basic Learner profile and generate school forms. It will be enhanced to cover additional information on the academic performance, health status, athletics record, and socio-economic background. It will also be enhanced to allow learners to order their permanent records through the internet without needing to go back to the school where they graduated from. This will ensure that permanent records will no longer be lost due to disasters that may affect the school.

   b) **DepEd Commons** will contain OERs and e-books for each grade level and subject area for each week in the school calendar that can be used to enrich regular classes as well as allow distance learning whenever disasters such as the COVID-19 pandemic prevents learners from going to school.

   c) **LR Portal** will contain learning resources that are intended to be printed as well as the quality assurance mechanisms to produce these materials.

   d) **Learning Management System (LMS)** will allow teachers to create virtual classrooms where blended learning and digital quizzes can occur in face-to-face classes or in conditions where distance learning is required.

e) **Classroom Management System** will allow teachers to view and manage devices inside a classroom so they can make sure that their students are actually doing the activities assigned to them.

f) **Monitoring Applications** will allow DepEd to deploy quick surveys and program monitoring systems that are cellphone based. One of the major functions that it will serve is to facilitate the contact tracing of COVID-19 cases among teachers and learners in a secure manner that is compliant with the Data Privacy Act.

g) **Telemedicine System** will allow DepEd to establish a computerized system of diagnosis and referral to ensure that the health of learners is protected and addressed.

h) **Microsoft Subscription** covers a range of products from Office 365 which is needed to deliver the digital literacy skills component of the K-12 curriculum, Power BI for generating analytics, and Azure Cloud Services where DepEd systems are hosted.

i) **Adobe Subscriptions** covers a range of products from the Creative Cloud which is needed to deliver the digital literacy skills component of the K-12 curriculum and localize OERs as well as Adobe Sign that is used for paperless transactions.

Establishing the Education Systems that will allow the hardware to be used for education purposes will cost **P9,885,638,913**.

4) **Open Educational Resources (OER)** initiative where more than 7,000 videos, 20,000 interactive activities, and 5.8 million articles are preloaded into the ICT equipment **at no cost to government** together with a Learning Management System (LMS) which can be accessed and used even without connectivity. In the near future, DepEd will release a system that will allow learners to take their quizzes and periodical exams in the LMS and automatically get feedback on areas they are weak in with the corresponding e-Learning resources that they need to review to better understand the concepts;

5) **Massive Capacity Building Program** that will enable teachers to fully maximize the use of ICT equipment and the digital literacy component of the curriculum using industry standard proprietary applications, as well as the use of OERs in classroom teaching. Teachers will also be trained to develop localized e-Learning resources that will be more relevant to our learners.

Building the capacity of teachers will cost **P897,288,000**.

6) **Automation of Common Organizational Processes** through the DepEd Enterprise Resource Planning System (DERPS) that will cover the infrastructure, software, and change management services needed to implement an integrated system for Asset Management, Procurement,

Payroll, and Human Resources. It will also include services to communicate with other systems being deployed by oversight agencies such as the Budget Treasury Management System (BTMS) which will automate financial transactions in government.

Automating all governance processes will still need **P945,000,000**.

7) **TV and Radio Based Education** which will produce and broadcast educational lessons through a dedicated DepEd channel in the mediums that currently have the widest reach will cost **P3,000,000,000**.

8) **Establishing an Education Technology Division** which will take charge of conceptualizing and implementing the integration of technology in education will cost **P7,719,336**.

9) **Connecting all supervising officials and teachers** will enable them to communicate easily through voice calls, video calls, and data sharing applications. Through mobile connectivity, DepEd is geared to take advantage of teleconferencing, video conferencing, and video calling systems to drive and manage collaboration among its employees. This will cost **P4,000,000,000**.

10) **Emergency smart phones for learners,** a stock of 5 million smartphones are needed to be prepositioned throughout the country and deployed to learners with no personal devices whenever home-based learning is required to address class suspensions caused by disasters such as the COVID-19 pandemic, typhoons, or earthquakes. This will cost another **P25,000,000,000**.

All in all, a total of **P167,586,511,249** is needed.

While the amounts are staggering, **the benefits of the Digital Rise Program will be a Big Leap of the Philippines towards Cyber Presence**. We can be assured that the proper combination of technology and education, the Filipino Youth will be future-ready to adequately address issues, concerns and problems that they have to face in the midst of the fourth industrial revolution.
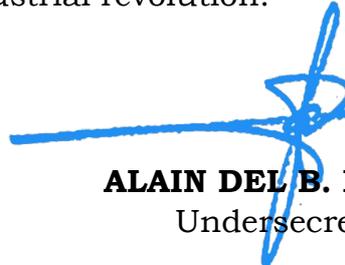
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