UNIVERSITY OF THE PHILIPPINES
CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES
PUBLIC POLICY MONOGRAPHS

Key Issues in Governance, Finance, School Improvement, and ICT in Basic Education

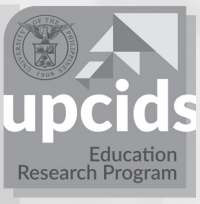
DINA OCAMPO
KATHRINA LORRAINE M. LUCASAN
Editors

upcids
Education Research Program

UNIVERSITY OF THE PHILIPPINES
CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES
PUBLIC POLICY MONOGRAPHS

Key Issues in Governance, Finance, School Improvement, and ICT in Basic Education

DINA OCAMPO
KATHRINA LORRAINE M. LUCASAN
Editors



Published by the
UNIVERSITY OF THE PHILIPPINES
CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES
Lower Ground Floor, Ang Bahay ng Alumni
Magsaysay Avenue, University of the Philippines
Diliman, Quezon City 1101
Telephone: 981-8500 (loc. 4266 to 68), 435-9283 / Telefax: 426-0955
E-mail: cids@up.edu.ph / cidspublications@up.edu.ph
Website: cids.up.edu.ph

The National Library of the Philippines CIP Data

Recommended entry:

Key issues in governance, finance, school improvement,
and ICT in basic education / Dina Ocampo, Kathrina
Lorraine M. Lucasan, editors. — Quezon City : University
of the Philippines Center for Integrative and Development
Studies, [2019], c2019.
pages ; cm

ISBN 978-971-742-121-6 (print)
ISBN 978-971-742-122-3 (electronic)

1. Basic education — Philippines — Management. 2. Basic
education — Philippines — Curricula. 3. — . I. Ocampo, Dina.
II. Lucasan, Kathrina Lorraine M.

Cover and book design: Ace Vincent Molo
Cover image: Kathrina Lorraine M. Lucasan

Contents

Introduction 1

Issues and Concerns on School Governance and School Improvement in DepEd CALABARZON 3
Diosdado M. San Antonio

On the Implementation of the GASTPE Program of the Department of Education (DepEd) 10
Rhodora Angela F. Ferrer

Basic Education ICT for Governance, Finance, and School Improvement 16
Jerome T. Buenviaje

ICT as Enabler for Effective and Efficient Basic Education Governance 24
Aida C. Yuvienco

Summary of Workshop Output 34
Kathrina Lorraine M. Lucasan

Appendix: Participants 36

Introduction

The relationship between research and policy development may be represented in different ways, depending on the porousness of the boundaries separating the communities which formulate the policies and those which create the knowledge that can potentially be relevant to this process.[1] One view stipulates that research may inform policy or policy may lead to research. This view of this research-policy relationship, however, appears to be too simplistic and uncharacteristic of the complex process of policy formulation. An alternative description of this relationship depicts two distinct and oftentimes separate processes which may or may not intersect. Finally, another view illustrates a more collaborative process wherein both communities participate in the research and policy processes.

The University of the Philippines Center for Integrative and Development Studies' (UP CIDS) Education Research Program (ERP) has opted to enable the collaborative process. The emphasis is on shaping a research agenda which could potentially inform basic education policy formulation. By inviting key discussants to identify policy gaps and policy implementation issues in basic education, the UP CIDS ERP aims to craft a five-year research agenda—spanning from 2018 until 2023—that will be responsive to prevailing issues arising from reforms in the educational system, specifically in the following areas:

(1) Basic education governance, finance, school improvement, and their information and communications technology (ICT) applications;

(2) Basic education curriculum, assessment, and their ICT applications; and

(3) Basic education instruction, teacher professional development, and their ICT applications.

The round table discussions on these topics included academics, researchers, teachers, education leaders, policymakers, school leaders, civil society members and other stakeholders. Their perspectives and suggestions about research and policy gaps that need to be prioritized were articulated and documented during a workshop following the presentation of the key discussants.

DINA OCAMPO, Ph.D.
Professor, College of Education,
University of the Philippines Diliman and
Convenor, Education Research Program,
UP Center for Integrative and Development Studies

[1] Boswell, Christina, and Katherine Smith. "Rethinking Policy 'Impact': Four Models of Research-Policy Relations." *Palgrave Communications* 3, no. 1 (December 2017). https://doi.org/10.1057/s41599-017-0042-z.

Issues and Concerns on School Governance and School Improvement in DepEd CALABARZON

DIOSDADO M. SAN ANTONIO, Ph.D.
Director IV, Department of Education–Region IV-A CALABARZON

This paper focuses on the various issues and concerns relative to school governance and school improvement, particularly in the context of the experience of the Department of Education (DepEd) CALABARZON (Region IV-A) Regional Office. I will begin with a short background information about our region. Then, I will talk about the issues and concerns we have faced and are facing in CALABARZON relative to school governance and school improvement. Finally, I will share the responses we have made to address these issues and concerns.

Our context

Region IV-A or CALABARZON is one of the seventeen regions of the Philippines. Covering the provinces of Cavite, Laguna, Batangas, Rizal, and Quezon and several key cities, DepEd CALABARZON serves the basic education needs of around 3,687,811 learners (of which 2.9 million are in public schools and around 700,000 in private schools) in 9,304 schools (composed of 4,057 public schools and 5,247 private schools). In the public school system, our region has a workforce of 102,494 teachers and school officials.

The region has been overall champion in the National Schools Press Conference (NSPC) for the last six years. Last year, it also topped the National Festival of Talents. In the National Achievement Tests (NATs), CALABARZON ranked third in the Grade 6 test and fifth in the Grade 10 test last year.

Our issues and concerns

The following are the issues and concerns on school governance and school improvement that we faced and are still facing in our pursuit for high quality, accessible, relevant and liberating basic education:

- Promotion and hiring decisions that are perceived as unfair

It has been a perception and practice among many DepEd officials and teachers that securing a job or a promotion takes the recommendation of the influential. There have been instances that

even those who are not qualified were allowed to head a schools division office. An official who does not possess the right qualification would also tend to base promotional and hiring decisions on things other than merit. This kind of situation constrains us from allowing the most qualified candidates to get jobs and promotions. Eventually, the best people in the organization get demoralized and stop being valuable assets.

- Disappointed stakeholders

CALABARZON is a region where dynamic local politicians, industry leaders, successful citizens, and parents are eager to become a part of efforts for continuous improvement. Unfortunately, there are school officials who fail to value the inputs from external stakeholders. Some of them do not even apprise their partners on how donated resources are utilized by their schools. When stakeholders become disappointed, their support for schools wane.

- Information and opportunities that are not disseminated to all

Leaders and managers are usually tempted to use access to information as a tool for making subordinates loyal to them. Only those who are perceived as supportive and loyal are informed about opportunities for professional growth and only their close friends are notified about recent policies that affect the whole school and organization. Other leaders and managers are not comfortable receiving feedback and tend to rely on top-down messaging that yield decisions that are not anchored on existing realities. When these conditions prevail, demoralization sets in.

- Unprofessional conduct of some officials

Many school officials seem to forget the DepEd mission declaring that they are stewards of the organization, rather than being owners of their schools and offices. Instead of caring for the welfare of relevant stakeholders (learners, parents, and teachers), they focus on amassing wealth, even through corrupt means. They demonstrate behavior that perpetuate the traditional view of public officials as corrupt and self-interested, rather than being genuine public servants. This kind of behavior inspires scorn and disrespect from the communities we serve.

- Learning leaders and teachers who neglect the core function of making learning happen

With the advent of principal empowerment, financial resources have been devolved to schools. Principals now have to spend time liquidating funds for maintenance and other operating expenses (MOOE) and for the School-Based Feeding Program (SBFP). Faced with other issues like student discipline and many other 'innovations' to implement, school principals forget that their main task is to ensure that learning happens in their schools. These overlapping tasks that drive school officials to forget their core function adversely affect our mandate of providing high quality learning.

- Learners who are not well-motivated

It is said that millennials are usually distracted and that many are disengaged from the task of learning. Many teachers also complain about the deportment of our learners, particularly in these times when the child protection laws have been introduced. Parents also tend to blame the teachers for the failure of their own children. With this, seemingly, highly pampered cohort of learners currently enrolled in our schools, it has become more challenging for teachers and school officials to make learning happen in the classrooms.

- Professional practices exercised on a hit-and-miss basis

A significant number of public school professionals, even if provided with professional induction and in-service training, tend to draw their practices from their own experiences with their former teachers and/or principals. Those that choose to explore new ways of doing things might implement innovations while ignoring the protocols for research and problem-solving. This hit-and-miss approach end up wasting time and resources aside from demotivating the teachers and other officials from pursuing creative and innovative best practices.

- Management and leadership practices that fail to strengthen school-based management (SBM)

The DepEd issued policies that are designed to strengthen school-based management (SBM), as outlined in DepEd Order No. 83, s. 2012. The said order identified the areas of concern that schools should address for them to become matured practitioners of SBM. Implementing SBM also requires the creation of a functional School Governing Council (SGC) that assists the principal in making decisions, especially on school improvement. The common observation is that most SGCs are existing on paper or posted on bulletin boards, but are not even convened regularly.

- Financial management approaches that inspire doubt among stakeholders

A common temptation for human beings is money (Chen et al. 2014) and many people fail this test because they want to enjoy luxurious lifestyles. DepEd officials who give in to this temptation submit 'fake' financial reports to hide the portions they slash for their own personal benefit. When reports are inaccurate and fictitious, stakeholders end up being suspicious. When everyone suspects the motives of their leaders, commitment is also affected and lackadaisical performance among the members of the team pervades.

- Misuse of ICT facilities

DepEd has been vigorously distributing ICT equipment to schools. Substantial funds have been allocated to make all schools ready for 21st-century learning. The Fourth Industrial Revolution demands that ICT is optimized in the learning process. While we have designed a K to 12 curriculum that has been acknowledged as compliant with the demands of Industry 4.0, how schools utilize the hardware distributed is a matter of concern. For instance, the principals prefer to use them for things other than teaching and learning. Another concern is the rampant robbery of the computer units delivered to schools.

- Wasteful utilization of resources

It is still common for most public servants not to be mindful of the need to maximize the use of government resources. Utility bills are high because no one thinks about the fact that these government resources are for the benefit of the learners. Lights and faucets are left on, minor repairs are ignored, and air-conditioning units are allowed to run beyond office hours. The habit of saving is not yet fully developed among school officials.

- Work and learning environment that is not conducive for peak performance

DepEd mandates that schools and offices need to be zones of peace, exemplars of environmental stewardship, and showcases of cleanliness and order. However, many members of the team do not even know how to dispose their garbage. They also create destructive conflicts. It has always been said that the best way to educate is to show by example. There is indeed a

need for everyone to try very hard to exemplify the things they wish to develop among the youngsters who will be the leaders of tomorrow.

Our responses to address the issues and concerns

To address the foregoing issues and concerns, DepEd Region IV-A CALABARZON has embarked on an advocacy aiming for Transparent, Ethical and Accountable (TEA) Governance. TEA Governance allows us to do the following:

- Strengthen the merit system;
- Create and nurture partnerships;
- Open channels of communication;
- Uphold the norms of conduct for public servants;
- Take active part in instructional supervision;
- Enable learners to benefit from high quality services;
- Recognize best practices;
- Sustain systematic push for higher levels of SBM practices;
- Render regular and accurate reports;
- Optimize the utilization of ICT;
- Conserve water, energy, and other resources; and
- Keep schools and offices safe and eco-friendly.

To address the concern on promotions and hiring decisions that are perceived as unfair, we have committed to strengthen the merit system. We strengthened the merit system by conducting open ranking procedures, putting premium on performance as the most important factor in promotions, and discouraging 'backers.' These specific practices have allowed us to select the most qualified candidates. McCourt (2007, 5) asserts that "when we prefer the less able candidate, we are preferring to offer our citizens a poorer quality of service." It is therefore imperative that the best candidates are chosen to ensure efficient and effective public service.

To minimize disappointed stakeholders, we have been aggressive in creating and nurturing partnerships. We nurture inspired partners via education summits and fora, one-on-one meetings, attendance to partners' activities and signing of memoranda of agreement and understanding. We likewise manage closely the stakeholders who are highly interested and highly powerful (Mendelow 1991; cited in Berenyi 2017) because they are the key players for change and have the capability to derail our plans if they become disappointed.

To ensure that information and opportunities are disseminated to all, we have opened all channels of communication. We encourage top-down, bottom-up, and horizontal communication via text messaging, emails, social media, and face-to-face meetings. When communication channels are flowing freely, the leaders and managers are able to acquire access to unfiltered information from the ground as basis for decision-making. Transformational leaders who engage in face-to-face communication and allow subordinates to reach them via digital means are able to create highly satisfied teams (Men 2014).

To encourage DepEd members to behave in professional ways, we push for everyone to uphold the norms of conduct for public officials. Republic Act No. 6713 lists the following standards of conduct for all public officials: (a) commitment to public interest; (b) professionalism; (c) justness and sincerity; (d) political neutrality; (e) responsiveness to the public; (f) nationalism and patriotism; (g) commitment to democracy; and (h) simple living (Sec 4, Republic Act (R.A.) No. 6713). Adherence to these norms of conduct allows public officials to earn the respect and trust

of stakeholders. We normally suggest that if remembering all the eight norms is difficult, they can only go for simple living and everything will be fine.

To encourage learning leaders and teachers to focus on learning, we have developed a learning-focused school leadership framework that challenges school officials to be more mindful of the need to (a) maintain presence and visibility in monitoring instructional activities; (b) provide professional development activities; (c) offer technical assistance (TA) towards innovative teaching-learning interventions; and (d) exemplify good leadership behavior. This locally developed school leadership framework was anchored on the works of Hallinger (2010), as well as Smith and Andrews (1989).

On the issue of learners who are not well motivated, we exhaust all efforts to enable them to benefit from high quality services. To attain this goal, we implemented the following initiatives: zero out-of-school youngsters, school-based feeding program, anti-bullying (R.A. No. 10627) and child protection policies (DepEd Order No. 20, s. 2012), holistic co- and extra-curricular activities, and time-on-task and facilities upgrading.

To reduce professional practices of school officials and teachers that are done on a hit-and-miss basis, we recognize research-enabled best practices and enable the proponents of these best practices to share with others. Strong communities of practice and a strong research culture are nurtured. These challenge everyone to become reflective practitioners who carry out interventions for improvement in systematic and critical ways. We also actively campaign for learning leaders to perform tasks anchored on the principles of appreciative inquiry (Cooperrider and Srivastva 1987).

To intensify school-based management (SBM) implementation, we sustained the push for higher levels of performance in SBM. As mandated by DepEd Order No. 83, s. 2012, schools are expected to implement matured levels of practices in four dimensions, namely: leadership and governance, curriculum and learning, resource management, and accountability/continuous improvement. SBM also demands that the School Governing Councils (SGCs) are operationalized to assist the principals in developing realistic school improvement plans.

To minimize financial management approaches that inspire doubt among stakeholders, we encouraged school leaders to render accurate and prompt reports on the various funds generated by the school. Transparency boards featuring MOOE funds received and disbursed, PTA funds raised and utilized, canteen profits and expenses, and school-based feeding funds allocated and spent are conspicuously displayed on bulletin boards in the school premises. School officials are also expected to prepare school report cards, indicating key accomplishments in the targets identified for each year. It has been noted that transparency and accountability mechanisms can bring about lower corruption levels, better budget utilization, and improved delivery of services (McGee and Gaventa 2010).

To avoid misuse of ICT equipment, we campaigned for optimization of these facilities in schools. We exhort principals to encourage ICT-enabled lessons in their schools, implement paperless communication systems, and online submission of documents for action by schools division offices and regional offices. In fact, submission of applications for permit/recognition by private schools is now done online. Noor-Ul-Amin (2013) asserted that ICT has a significant impact on teaching and learning processes, quality and accessibility of education, learning motivation, learning environment, and academic performance.

To control the prevalent wasteful utilization of resources in schools and offices, we conserve water, energy, and even financial resources. We do this by closely monitoring consumption of electricity and water. We also monitor internet and telephone bills. Moreover,

travels among officials and teachers are also rationalized. DepEd Order No. 50, s. 2008 lists measures to save electricity and fuel consumption.

Finally, we try to create work and learning environment that is conducive for peak performance by implementing the disaster risk reduction and mitigation program (DepEd Order No. 21, s. 2015). We also endeavor to make sure that schools are cyber-safe. In addition, we do not relent in discovering better ways of enhancing teacher welfare because we believe that happy teachers create happy learners.

Concluding Comments

The challenges we are facing are herculean. But we are succeeding in our efforts towards a positive organizational culture because the teachers, school officials, and stakeholders have embraced our advocacy for TEA Governance. The journey towards a transformed organization is never ending. With strong resolve to create a government agency that delivers, supported by an open-minded DepEd Executive Committee ably headed by Secretary Leonor "Liling" Magtolis Briones, we are hopeful that we will prevail.

References

General references

Berényi, László. 2017. "Stakeholder Management: Connecting Project and Corporate Level." In *Chapters from the Academic Aspect of Project Management – Research and Teaching Methodologies*, edited by Bálint Blaskovics and Csaba Deák, 26–48. Budapest: PMUni International Network for Professional Education and Research in Process and Project Management.

Chen, Jingqiu, Thomas Li-Ping Tang, and Ningyu Tang. 2014. "Temptation, Monetary Intelligence (Love of Money), and Environmental Context on Unethical Intentions and Cheating." *Journal of Business Ethics* 123, no. 2: 197–219. https://doi.org/10.1007/s10551-013-1783-2.

Cooperrider, David L., and Suresh Srivastva. 1987. "Appreciative Inquiry in Organizational Life." *Research in Organizational Change and Development* 1: 129–169.

Hallinger, Philip. 2011. "A Review of Three Decades of Doctoral Studies Using the Principal Instructional Management Rating Scale: A Lens on Methodological Progress in Educational Leadership." *Educational Administration Quarterly* 47, no. 2: 271–306. https://doi.org/10.1177/0013161X10383412.

Kaplan Financial Limited. n.d. "Mendelow's matrix." Accessed September 3, 2018. http://kfknowledgebank.kaplan.co.uk/KFKB/Wiki%20Pages/Mendelow%27s%20matrix.aspx.

McCourt, Willy. 2007. "The Merit System and Integrity in the Public Service." Development Economics and Public Policy Working Paper Series No. 20, Institute for Development Policy and Management, University of Manchester, Manchester, UK, May 2007. http://cedo.ina.pt/docbweb/MULTIMEDIA/ASSOCIA/INTERNO/ELECTRON/E116.PDF.

McGee, Rosemary, and John Gaventa. 2010. *Review of Impact and Effectiveness of Transparency and Accountability Initiatives*. Brighton: Institute of Development Studies.

Men, Linjuan Rita. 2014. "Strategic Internal Communication: Transformational Leadership, Communication Channels, and Employee Satisfaction." *Management Communication Quarterly* 28, no. 2: 264–84. https://doi.org/10.1177/0893318914524536.

Noor-Ul-Amin, Syed. 2013. "An Effective Use of ICT for Education and Learning by Drawing on Worldwide Knowledge, Research and Experience: ICT as a Change Agent for Education (A Literature Review)." *Scholarly Journal of Education* 2, no. 4: 38–45.

Smith, Wilma F., and Richard L. Andrews. 1989. *Instructional Leadership: How Principals Make a Difference*. Alexandria, VA: Association for Supervision and Curriculum Development.

Department of Education orders

Department of Education. 2008. "DepEd Electricity and Fuel Saving Measures." DepEd Order No. 50, s. 2008, Department of Education, Pasig City, June 20, 2008. http://www.deped.gov.ph/wp-content/uploads/2018/10/DO_s2008_050.pdf.

———. 2012a. "Policy and Guidelines on Protecting Children in School from Abuse, Violence, Exploitation, Discrimination, Bullying and Other Forms of Abuse (DepEd Child Protection Policy)." Enclosure to DepEd Order No. 40, s. 2012, Department of Education, Pasig City, May 14, 2012. http://www.deped.gov.ph/wp-content/uploads/2012/05/DO_s2012_40.pdf.

———. 2012b. "Implementing Guidelines on the Revised School-Based Management (SBM) Framework, Assessment Process and Tool (APAT)." DepEd Order No. 83, s. 2012, Department of Education, Pasig City, November 29, 2012. http://www.deped.gov.ph/wp-content/uploads/2012/11/DO_s2012_083.pdf.

———. 2015. "Disaster Risk Reduction and Management Coordination and Information Management Protocol." DepEd Order No. 21, s. 2015, Department of Education, Pasig City, June 1, 2015. http://www.deped.gov.ph/wp-content/uploads/2015/06/DO_s2015_21.pdf.

Philippine laws

Republic Act No. 6713. "An Act Establishing a Code of Conduct and Ethical Standards for Public Officials and Employees, to Uphold the Time-Honored Principle of Public Office Being a Public Trust, Granting Incentives and Rewards for Exemplary Service, Enumerating Prohibited Acts and Transactions and Providing Penalties for Violations Thereof and for Other Purposes (Code of Conduct and Ethical Standards for Public Officials and Employees)." Enacted February 20, 1989.

Republic Act No. 10627. "An Act Requiring All Elementary and Secondary Schools to Adopt Policies to Prevent and Address the Acts of Bullying in Their Institutions (Anti-Bullying Act of 2013)." Enacted September 12, 2013.

On the Implementation of the GASTPE Program of the Department of Education (DepEd)

RHODORA ANGELA F. FERRER
Executive Director, Private Education Assistance Committee (PEAC)

The Government Assistance to Students and Teachers in Private Education Act (GASTPE), as amended by Republic Act (RA) No. 8545 (1998), has provided for the implementation of mechanisms that contribute to making quality education accessible to all Filipinos. These mechanisms are also based on the recognition of the complementary roles of public and private schools, and the valuable contribution of the latter to the Philippine education system. While GASTPE identified different forms of assistance to students and teachers in private education, this paper will focus on the Education Service Contracting (ESC) Program, the Teachers' Salary Subsidy (TSS), and the Senior High School Voucher Program (SHS VP) that the Private Education Assistance Committee (PEAC) co-implements with the Department of Education (DepEd).

This paper will discuss the studies that PEAC has commissioned as one of its responsibilities in order to inform policies and decisions for a more efficient and effective implementation of these programs.

Education Service Contracting (ESC)

In the 2011 World Bank report *Private Provision, Public Purpose: A Review of the Government's Education Service Contracting Program*, the Education Service Contracting (ESC) program was described as "one of the largest public-private partnership programs in education in the world" (World Bank 2011, 1). Back in school year (SY) 2015–2016, 910,806 students benefited from Php 6.63 billion worth of grants from the government that enabled them to study in 2,920 participating private junior high schools.

Although the program has grown in terms of the number of grantees and the number of participating schools since its nationwide implementation in SY 1986–1987, the program has its share of challenges, such as addressing the unutilized slots in some areas and making the subsidies more attractive for public school students to enroll in private schools, among others.

The Taft Consulting Group was commissioned to undertake the study *Rationalizing ESC Slot Allocations and Subsidies* in SY 2015–2016. The study aimed to develop more rational subsidies and slot allocations in the ESC. By increasing access, the ESC contributes to relieving congestion in public schools, maximizes the use of existing resources of private educational

institutions, maintains the financial viability of private junior high schools, and encourages households to invest in education.

According to the study, the ESC is said to have its greatest potential where public schools are congested and private schools have absorptive capacity. At the time of the study, slot allocation at the school level was determined based on both fixed slot allocation and additional slot allocation. The fixed slot allocation is defined as the "Grade 7 ESC slots equal to its actual number of Grade 7 ESC grantees in the preceding school year" (DepEd 2015, 9). A participating school could also receive additional slots depending on the program budget for that school year and the incidence of congestion in public schools in the municipality where the participating school was located.

After undertaking capacity and congestion studies, as well as determining the factors that parents and their children consider when deciding the choice of schools and availing the ESC, the study recommended "assigning ESC slots equitably across the regions, then across divisions, and finally across participating schools" (Brodeth 2016, 1). It also recommended that more slots be allocated to divisions with more congested public schools. Another recommendation was to allocate slots in consideration of the following school factors: location near congested public schools, quality of program offerings, and capacity to take in more students.

In SY 2016–2017, the recommendations of the study on slot allocation were partially implemented. A participating school still received the fixed slots while the additional slots were determined by looking into congestion and capacity reports that set the distribution limits or the slots available for participating schools.

Requests for additional slots that were within the distribution limits were granted. Additional slots were also given to schools for public elementary students who opt to enroll in private schools and to schools with minimal to no top-up fee. The top-up fee is the difference between the subsidy amount and the total school fees and is shouldered by the grantees. Clearly, aside from congestion, capacity, and quality, the type of student (i.e., public elementary students were considered a priority of the program) and tuition fees were also deemed important factors in slot allocation.

At present, slot allocation is largely determined by the program budget, the capacity of participating schools, and the willingness of students to study in private schools.

As to rationalizing the subsidies, starting in SY 2017–2018, the ESC grants now have three tiers and have been increased as recommended (*see* below).

Table 2.1 Amount of ESC grants for SY 2017–2018 (in PhP per student per SY)

Grade level	Schools in NCR	HUCs outside NCR	All other locations
Grade 7	13,000	11,000	9,000
Grade 8	11,000	8,500	8,500
Grade 9	11,000	8,500	8,500
Grade 10	10,000	8,500	7,500

During a three-year period, the number of grantees continued to increase. In SY 2017–2018, the 974,773 beneficiaries represent 12% of the 7.8 million junior high school students in the country. In addition, 71% of the total junior high school enrollment in private schools received the ESC subsidy.

Table 2.2 Number of ESC grantees and participating schools from SY 2015–2016 to SY 2017–2018

School year	Number of grantees	Number of participating schools
2015–2016	910,806	2,920
2016–2017	933,726	3,187
2017–2018	974,773	3,318

Teachers' Salary Subsidy (TSS)

The government implemented the Teachers' Salary Subsidy (TSS) beginning in SY 2019–2010. The salary subsidy was given to qualified teachers of ESC grantees in schools participating in the program.

PEAC commissioned a study, *Modeling the Effects of Recommendations on the Teachers' Salary Subsidy*, in 2017–2018 that operationalized and quantified the effects of a stricter implementation of the TSS, which was supplemented with recommendations through a policy note on the TSS that was also commissioned by PEAC. At the time of the study, total salary subsidies amounting to Php 706 million were given to 39,264 teachers.

The TSS was seen to encourage teachers to stay in private schools or to discourage them from transferring to public schools where salaries are higher. But with a careful reading of the law, the TSS was not just meant to address the migration of teachers from private to public schools, but "to keep qualified teachers in private schools in order to maintain the quality of education received by state-supported students in these schools." Further, the TSS is clearly meant for qualified teachers and not the schools. The subsidy is also not meant for other school personnel.

The set of recommendations proposed by the study was for a stricter implementation of the TSS. The study found that implementing the recommendations on the eligibility criteria—that the teacher must earn Php20,000 or less per month (salary of a Level 1 teacher in a public school as operationalized in the study) and the teacher must teach at least 300 minutes per week—would have large effects. This could be the most feasible option if the goal is to increase the TSS amount without increasing total program costs.

In the current guidelines, teaching time for recipients is 180 minutes per week. The proposed increase from 180 minutes to 300 minutes helps prevent program abuse such as school administrators managing the teaching load so as to maximize the number of recipients.

Further, the GASTPE limits the recipients of the subsidy: "Provided, That the total monthly salary which includes the subsidy to be received by such private high school teachers shall not be more than eighty percent (80%) of the salary of his counterpart in the public sector" (RA 8545, Sec. 14 1998; Brodeth 2017, 1). Moreover, this is the group that is more likely to migrate to the public schools. During the key informant interviews conducted of stakeholders and specialists on the TSS for the policy note, the present TSS amount of Php18,000 per year was perceived to be too small to stop teachers from transferring to public schools or changing occupations.

Beyond helping close the salary gap, the TSS was seen to maintain the quality in private schools by ensuring that qualified teachers teach the ESC grantees enrolled in these schools. However, the private schools should not rely solely on the TSS to keep their qualified teachers.

Senior High School Voucher Program (SHS VP)

Despite the Senior High School Voucher Program (SHS VP) being relatively new, it is fast becoming the biggest public-private program in education in the country. When it was first implemented in SY 2016–2017, the program had 644,493 beneficiaries who received a total of Php 5.5 billion worth of vouchers to study in 4,361 non-DepEd senior high schools. On its second year, the SHS VP already exceeded the coverage and scope of the ESC.

When the program was conceptualized, it was identified as one strategy to address the needs of Grade 10 completers who would proceed to senior high school. The program was also expected to reduce pressure on the DepEd to provide the SHS program in its schools within a very short time; to minimize the cost of public provision which in turn would generate savings for government; and to lessen the financial impact on colleges and universities which would experience reduced enrollment in the initial years of SHS implementation. More importantly, the SHS VP was seen to enable students to enroll in the SHS program of their choice and to establish a system that provides greater choice by increasing the diversity of SHS providers.

Focusing on the objective of contributing to access, a study, *Migration Patterns and Factors Affecting Participation in the SHS Voucher Program*, was conducted using data from the first year of implementation of the SHS VP.

Comparing the enrollment in Grades 10 and 11, the study found that 90.67% of Grade 10 students proceeded to Grade 11. This high transition rate is consistent in all regions, except in the Autonomous Region in Muslim Mindanao (ARMM). The National Capital Region (NCR) has the highest transition rate.

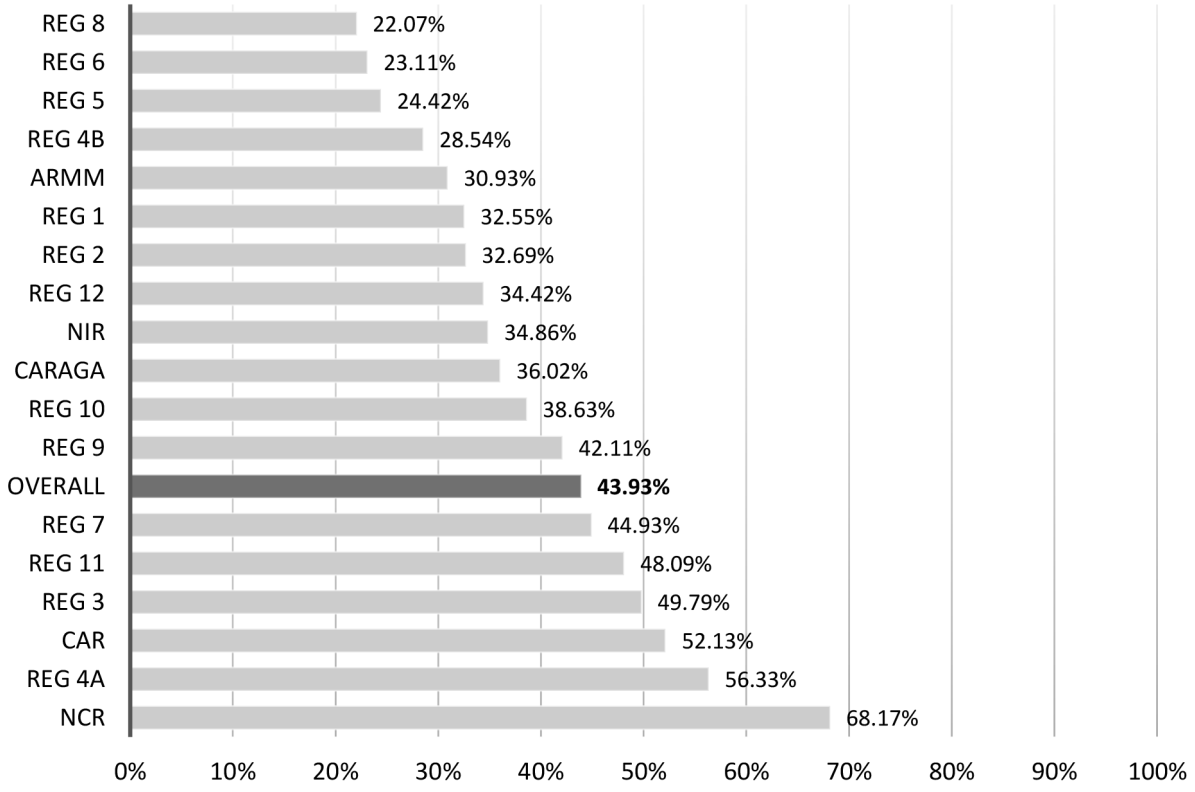
Figure 2.1 Transition of Grade 10 completers to Grade 11 by student type

		TO G11					
		Non-VPB, DepEd	VPB, SUC/LUC	VPB, Private	Non-VPB, non-DepEd	G10 Total	
FROM G10	Public	709,193	37,549	375,661	0	1,260,908	
	ESC Grantee	22,788	4,416	159,857	0	191,512	
	Non-ESC QVR	0	2,031	55,345	7,280	71,308	
	Non-ESC Non-QVR	0	0	0	63,512	70,046	
	G11 VPB Total		43,996	590,863			
	G11 Total	731,981	51,471	661,655		90.67%	1,445,107
						1,593,774	

Source: Brodeth 2017b

When the study looked at the participation in the voucher program, it found that 44% of all Grade 11 students availed the vouchers to study in non-DepEd schools. Further, there are wide differences in participation across the regions. While NCR has the highest participation rate, the participation rates in the twelve other regions are below the national average.

Figure 2.2 Participation of Grade 11 students in the Voucher Program by region



Source: Brodeth 2017b

The figures show that participation in the program can still be improved to increase access and at the same time maximize the use of available resources, particularly in the private schools. Factors that have a greater effect on participation are the number of private schools, market concentration, the proportion of students from public schools, and the number of tracks and strands available.

The study found that when areas have more private schools and enrollment is concentrated in a number of schools, participation is high. It is also interesting to note that there is an inverse relationship between private schools offering more tracks and strands and participation. This means that private schools would be better off having a tighter focus on tracks and strands that they offer. HEIs are also found to have more predictors to voucher participation, such as location near more private schools and congested public schools, location in highly urbanized cities, and absorptive capacity, among others.

Recently, the PEAC commissioned the study *Costing Senior High School* (2018) to inform decision on voucher values in the succeeding school years. The major findings of the study are as follows:

(1) Despite a rise in overall participation, participation is uneven across regions, student types, school types, and over time.

(2) Comparing cost estimates obtained using the DepEd's budget with those obtained using the DepEd's prescribed standards for school inputs show differences that are difficult to explain away.

(3) Not-for-profit schools price their offerings not according to cost, but according to market.

(4) The value of land is a critical component in the cost of public SHS provision.

(5) The added cost of a TVL track or specialization is substantial and varies widely.

(6) The cost of SHSs located in existing junior high schools is representative of the current situation. The approach using standard inputs for stand-alone SHSs produce estimates that best approximate the long-term cost of SHS provision. The maximum applicable voucher value covers, at best, 67% of the cost estimates obtained for stand-alone SHSs.

While some private schools claim that voucher values are not sufficient to cover the cost of providing quality education, the more important consideration will have to be to make sure that voucher values do not hinder student choice. At present, voucher values are less than the cost of public provision. The government will have to strike a balance between spending in the program and providing SHS programs through DepEd schools.

Conclusion

With the many challenges in implementing on a national scale education programs such as the ESC, TSS, and SHS VP, there are many opportunities for research in order to inform policies, to refine or modify processes and practices, and to improve the effectiveness of the programs, which will eventually contribute to realizing the broad goals of education in our country.

References

Brodeth, Don. 2016. "Rationalizing ESC Slot Allocations and Subsidies." Unpublished presentation.

———. 2017a. "A Policy Note on the Teachers' Salary Subsidy." Unpublished manuscript.

———. 2017b. "SHS Voucher Program: Migration Patterns and Factors Affecting Participation in SY 2016–2017." Unpublished presentation.

Brodeth, Don, and Donald Jay Bertulfo. Forthcoming. *Factors Affecting Participation in School Vouchers: First-Year Evidence from Senior High School Voucher Program of the Philippines*. Manila: Private Education Assistance Committee.

Department of Education. 2015. "Senior High School Voucher Policy Brief." Enclosure to DepEd Order No. 11, s. 2015, Department of Education, Pasig City, April 10, 2015. http://www.deped.gov.ph/wp-content/uploads/2015/04/DO_s2015_11.pdf.

Private Education Assistance Committee. 2017. "Modeling the Effects of Recommendations on the Teachers' Salary Subsidy." Unpublished study commissioned by PEAC and funded by DepEd.

———. 2018. "Costing Senior High School." Unpublished study commissioned by PEAC and funded by DepEd.

The World Bank. 2011. *Philippines: Private Provision, Public Purpose: A Review of the Government's Education Service Contracting Program*. Washington DC: The World Bank. http://documents.worldbank.org/curated/en/486651468092652040/pdf/611540WP0P10651e0Govt1s0ESC0Program.pdf.

Basic Education ICT for Governance, Finance, and School Improvement

JEROME T. BUENVIAJE, Ph.D.
Professor, University of the Philippines College of Education

Introduction

Information and communication technology (ICT) in basic education presents not just technical issues that should be addressed. More importantly, it brings about concerns that are central in leadership development. In the *Competency Framework for Southeast Asian School Heads* (2014), though not clearly articulated, ICT is embedded in the functions indicated in various educational leadership domains. Some relevant ICT applications in educational leadership are shown in Table 1.

Table 3.1 Relevant ICT applications in educational leadership domains and competencies (based on the *Competency Framework for Southeast Asian School Heads*)

Domain	Competency	Relevant ICT Application
Strategic Thinking and Innovation (STI)	Leading change and innovation	Use of SMART IDs for employees and students
Managerial Leadership (ML)	Managing sustainable programs and projects	Monitoring and Evaluation of school projects through a software
Instructional Leadership (IL)	Supervising and evaluating teachers' performance	Using videos for instructional and content coaching
Personal Excellence (PE)	Pursuing continuous professional development	Capacity building activities using ICT tools
Stakeholder Engagement (SE)	Sustaining collaborative relationship with stakeholders	Communicating with the parents of students through emails/website

Source: SEAMEO INNOTECH 2014

In the aforementioned examples, ICT plays a vital role in all the five domains of school leadership.

In the last three decades, ICT integration in basic education classrooms in the Philippines has been progressively embraced and has brought impacts on the technical core, administrative tasks, and innovative processes in schools. Without a doubt, ICT has become essential in teaching and learning in classrooms, in educational management, and in improving the functional effectiveness of school systems.

Given these changes and innovations, Mehta and Kasnia (2011) looked at the role of ICT in governance and education systems, and they found some benefits and challenges in integrating ICTs in education. These researchers from India detailed the vibrant role of ICT in "democratizing" education in both developed and developing countries. Nevertheless, the use of ICT in education according to them remains challenging, for it brings difficulties for policymakers and planners, school administrators, teachers, and other stakeholders. In particular, they articulated the role of education administrators in capacity building challenges:

> Leadership plays a key role in ICT integration in education. Many teacher- or student-initiated ICT projects have been undermined by lack of support from above. For ICT integration programs to be effective and sustainable, administrators themselves must be competent in the use of the technology, and they must have a broad understanding of the technical, curricular, administrative, financial, and social dimensions of ICT use in education (Mehta and Kasnia 2011, 105).

Therefore, considering these challenges, the essential question is: How do educational leaders create successful schools? Successful schools that utilize ICTs respond to key areas in educational leadership such as governance, finance, and school improvement.

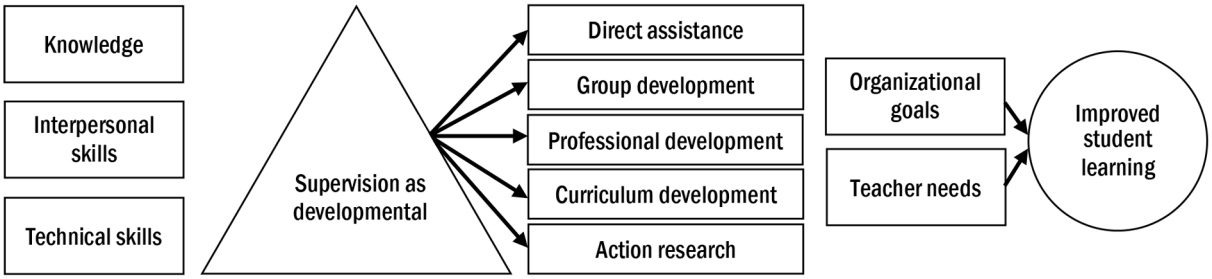
Day and Gurr (2014) provide an empirical answer to this essential question through their study of the *International Successful School Principals Project* (ISSPP). From this consolidated study of 21 countries by 26 research groups, they concluded that there is no single model that can capture what successful principals do. They emphasized that "it is not transformational or instructional leadership, but it is transformational *and* instructional leadership" (ISSPP presentation, Melbourne University).

Instructional leadership

Glickman et al. (2014) identified three types of school culture: (1) a congenial school that is dominated by friendly social interactions, (2) a conventional school that maintains high degree of dependency, hierarchy, and professional isolations, and (3) a collegial school which exhibits purposeful adult interactions about improving teaching and learning where professional respect is a byproduct. Among these three, a collegial school is considered a successful school because it is driven by a covenant of learning, a charter for school-wide democratic decision-making, and a critical study process for informing decisions through action research.

Instructional leadership, also known as instructional supervision (Glickman et al. 2014), requires prerequisite skills in creating successful schools. Figure 3.1 below suggests that technical skills (where ICT skills belong) are essential for instructional leadership.

Figure 3.1 Supervision for successful schools



Source: Glickman et al. 2014

Transformational leadership

Change is the main ingredient in transformational leadership. Its central focus is on commitments and capacities. A transformational leader should develop a vision, goals, best practices, organizational values, productive school culture, and structures that foster collaborative decisions (Glickman et. al 2014). Among these dimensions of transformational leadership, modeling best practices is directly linked to innovation, which is significant to ICT practices in education and educational leadership.

Another way to exercise transformational leadership is through evidence-based practice (EBP). This is a process that is essential in making decisions using multiple evidences (or sources). In the Netherlands, EBP in education is a defined strategy in transformative leadership, as articulated by Jones (2016).

The role of ICT in education and educational leadership

The website of Regional Institute of Education (RIE) (n.d.) in India identified the role of ICT in school administration. In one of its online modules, it states the importance of cost-effective technology that should be flexible in learning and administrative activities to enhance efficiency. It also identified the vital role of ICT in efficient management and administration in the education sector.

Furthermore, the center articulated the role of ICT in three general constructs: school administration, staff administration, and general administration. The table below specifies the content categories for each of these constructs.

Table 3.2 The role of ICT in school administration

Sl. No.	Construct	Content categories
1	Student Administration	• Use of SMART IDs for employees and students • Usage of computers for student registration/enrollment • Availability of time table/class schedule in electronic form • Usage of computers for maintenance of attendance of students • Communication of academic details of students to their parents/ guardians through e-media • Usage of e-media for notifications regarding hostel accommodation • Usage of e-media for notifications regarding transportation
2	Staff Administration	• Usage of computers for recruitment and work allotment of staff in the institution • Automation of attendance and leave management of staff members in the institution • Usage of electronic media for performance appraisal • Communication with staff using e-media • E-circulars from the institution regarding official matters • E-kiosks are available in the institution • Usage of e-media for scheduling/allocation of halls for examinations
3	General Administration	• Dissemination of information in the institution through e-kiosks • Usage of e-media by students to apply for university examinations • Usage of e-media for the processing and display of results of students • Facility for students to make fee payments electronically

Source: Regional Institute of Education n.d.

In the United States, the International Society for Technology in Education (ISTE) recently launched the ISTE Standards for Education Leaders (2018). These standards were developed from the perspective of 1,300 educators and leaders from all 50 states and 36 countries (ISTE 2018). The statement below captures the essence of these standards:

> These standards target the competencies and mindset required for leaders to leverage technology to transform how we learn, teach and lead. The standards are focused on some of the most timely, yet enduring, topics in education today—equity, digital citizenship, team and systems building, continuous improvement and professional growth (ISTE 2018).

Their website indicates the details of these standards:

Table 3.3 ISTE standards for education leaders

Standard	Description	Indicators
Equity and Citizenship Advocate	Leaders use technology to increase equity, inclusion and digital citizenship practices.	• Ensure all students have skilled teachers who actively use technology to meet student learning needs. • Ensure all students have access to the technology and connectivity necessary to participate in authentic and engaging learning opportunities. • Model digital citizenship by critically evaluating online resources, engaging in civil discourse online and using digital tools to contribute to positive social change. • Cultivate responsible online behavior, including the safe, ethical and legal use of technology.
Visionary Planner	Leaders engage others in establishing a vision, strategic plan and ongoing evaluation cycle for transforming learning with technology.	• Engage education stakeholders in developing and adopting a shared vision for using technology to improve student success, informed by the learning sciences. • Build on the shared vision by collaboratively creating a strategic plan that articulates how technology will be used to enhance learning. • Evaluate programs on the strategic plan, make course connections, measure impact and scale effective approaches for using technology to transform learning. • Communicate effectively with stakeholders to gather input on the plan, celebrate successes and engage in a continuous improvement cycle. • Share lessons learned, best practices, challenges and the impact of learning with technology with other education leaders who want to learn from this work.
Empowering Leader	Leaders create a culture where teachers and learners are empowered to use technology in innovative ways to enrich teaching and learning.	• Empower educators to exercise professional agency, build teacher leadership skills and pursue personalized professional learning. • Build the confidence and competency of educators to put the ISTE Standards for Students and Educations into practice.

Standard	Description	Indicators
		• Inspire a culture of innovation and collaboration that allows the time and space to explore and experiment with digital tools. • Support educators in using technology to advance learning that meets the diverse learning, cultural, and social-emotional needs of individual students. • Develop learning assessments that provide a personalized, actionable view of student progress in real time.
System Designer	Leaders build teams and systems to implement, sustain and continually improve the use of technology to support learning.	• Lead teams to collaboratively establish robust infrastructure and systems needed to implement the strategic plan. • Ensure that resources for supporting the effective use of technology for learning are sufficient and scalable to meet future demand. • Protect privacy and security by ensuring that students and staff observe effective privacy and data management policies. • Establish partnerships that support the strategic vision, achieve learning priorities and improve operations.
Connected Learner	Leaders model and promote continuous professional learning for themselves and others.	• Set goals to remain current on emerging technologies for learning, innovations in pedagogy, and advancements in the learning sciences. • Participate regularly in online professional learning networks to collaboratively learn with and mentor other professionals. • Use technology to regularly engage in reflective practices that support personal and professional growth. • Develop the skills needed to lead and navigate change, advance systems and promote a mindset of continuous improvement for how technology can improve learning.

Source: ISTE 2018

What can be done?

This practical question can be further made relevant by asking how ICT can be further utilized to improve our education system in terms of governance, finance, and school improvement.

Considering transformational leadership

The Department of Education (DepEd) must provide a course for education leaders like "Educational Technology for School Managers" from the website of National Council of Education Research and Training (n.d.) in India. This particular course focuses on the following:

(1) Record Keeping

(2) Communicating with Parents

(3) School Management Tools

(4) Managing ICT Infrastructure of the School

(5) Automated and ICT Managed School Processes

(6) School Management Information System

(7) ICT Infrastructure and its Maintenance

(8) Technology Plan for the School Scheduling

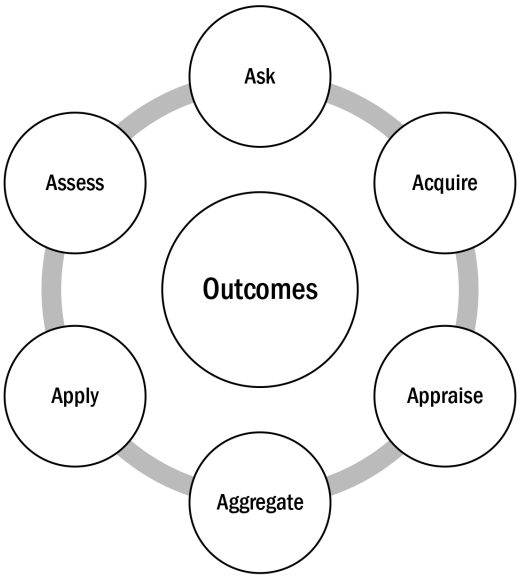
(9) Assistive Technology and Inclusion

(10) Universal Design for Learning (UDL)

According to Passey (2002), it is important to look at certain education management areas that need more ICT-specific coverage, such as (1) personnel management, (2) resource use and resource development management, (3) financial and procurement management, (4) planning and project management, (5) managing sustainability, and (6) monitoring and evaluation processes in management.

Finally, EBP in education should be systematically applied in DepEd schools in order to practice a transformational leadership that genuinely produces quality educational outcomes. The EBP framework from the Netherlands can be used as a guide:

Figure 3.2 Evidence-based practice model



Source: Jones 2016

Considering instructional leadership

The following conditions are recognized as critical elements of future schools (Passey 2002):

- Educational managers need to use technology as a tool for managing schools and learner communities
- Principals, superintendents, and school boards need to understand how the current structure of an educator's and learner's day impact on their effective use of the technology. In effect, managers must provide the vision of change that includes empowering teachers

and learners in new ways and then must learn how to effectively manage these empowered educators and learners.

Recommendations for research

The following recommendations for research are directly taken from Passey's *ICT and School Management: A Review of Selected Literature in the United Kingdom* (2002). They are selected based on their relevance in the Philippine context and are arranged based on how ICTs can further improve our education system in terms of governance, finance, and school improvement.

Table 3.3 Research recommendations

Areas	Research recommendations
Governance	• How management information systems (MIS) assist effective school management • The effective use of ICT to support and enhance school management • How current and likely shifts in ICT uses and practices will affect the need for personnel management in the future • How planning and project management can be utilized to develop specific practice • How the managing of sustainability should be considered in the present and in the future • Which monitoring and evaluation processes in management need to be integrated to successfully address ICT practices
Finance	• What elements of financial and procurement management need to be integrated within wider management practice, and how support for this process can be most effectively gained • How resource uses and resource development can be managed most effectively
School Improvement	• How development and use of emerging technologies (such as interactive whiteboards) can be managed with and alongside those of other existing technologies (such as computer suites) • How out-of-school practices can be managed through and alongside the management needs of in-school practices in order to gain the maximum educational outcomes for pupils in learning situations

Source: Passey 2002

In all the issues raised in this discussion, it is important to consider the important role of educational leadership—both transformational and instructional—that serves as the building blocks in addressing different issues on basic education ICT because the role of leadership is vital in creating successful schools.

References

Day, Christopher, and Gurr, David, eds. 2014. *Leading Schools Successfully: Stories from the Field*. London: Routledge.

Glickman, Carl D., Stephen P. Gordon, and Jovita M. Ross-Gordon. 2014. *SuperVision and Instructional Leadership: A Developmental Approach*. 9th ed. Boston: Pearson.

International Society for Technology in Education. 2018. "ISTE Releases New Standards for Education Leaders." Accessed September 6, 2018. https://www.iste.org/explore/articleDetail?articleid=2227&category=Press-Releases&article=

Jones, Gary. 2016. *Evidence-Based Practice: A Handbook for Teachers and School Leaders*. Leiden: Center for Evidence-Based Management.

Mehta, Deepa, and Suman Kasnia. 2011. "A Scenario on the Role of ICT in Governance and Education System." *International Journal of Computational Engineering & Management* 13: 100–09. https://www.ijcem.org/papers72011/72011_16.pdf.

Passey, Don. 2002. *ICT and School Management: A Review of Selected Literature*. Coventry: Becta.

Regional Institute of Education. n.d. "Unit - 10 : ICT for Educational Management." Accessed September 6, 2018. https://www.riemysore.ac.in/ict/unit__10__ict_for_educational_management.html.

Southeast Asian Ministers of Education Organization Regional Center for Educational Innovation and Technology. 2014. *Competency Framework for Southeast Asian School Heads*. Quezon City: SEAMEO INNOTECH. http://www.seameo-innotech.org/wp-content/uploads/2015/02/Competency-Framework-for-Southeast-Asian-School-Heads-2014.pdf.

ICT as Enabler for Effective and Efficient Basic Education Governance

AIDA C. YUVIENCO
Information Systems Consultant

For years I have been analyzing systems and processes and implementing information and communications technology (ICT)-based solutions to improve operational efficiencies and help management improve their decision-making. Using ICT, I helped developed new sources of revenues for some businesses.

Before I came to work for the private sector, I worked for several government corporations for twelve years. I felt that those were my most fulfilling jobs—I get to help government in my own small way. I guess, having studied in the University of the Philippines (UP), there is that part of me that wanted to give back to government. Then, the opportunity to work again for the government—and at the biggest agency at that—came and I grabbed it.

I admit, I was daunted when I first realized the enormity of the task before me. I was literally culture-shocked, but I loved it! I thought how much more could I give back to my country than be part of the Department of Education (DepEd). My short two-year stint with the Department opened my eyes to how much significant contributions ICT interventions could make in basic education governance.

For today, I am tasked to talk about the role of ICT in basic education governance which covers policy development, learner needs management, operations management, financial management, and resources management, including teaching and non-teaching personnel development. I will be mostly speaking about my experience in DepEd and the ICT strategies we developed and implemented at the time to resolve the urgent problems relating to basic education governance.

Surveying the ICT landscape in DepEd

First and foremost, I needed to study the ICT landscape within the Department and what initiatives have already been put in place. I was pleasantly surprised to learn that even if ICT has made little impact on the administrative, financial and operations side of the Department, there were three (3) mission-critical systems that were already being implemented when I came in. These were (1) the Learner Information System (LIS), (2) the enhanced Basic Education Information System (eBEIS), and (3) the Learning Resources Management Development System (LRMDS). I was really impressed by the extent of coverage of and implementation for these three systems and though there were problems, there was a general desire and determination to follow through with these projects.

In support of governance

The Learner Information System (LIS) is the registry of all learners in the basic education system, formal and non-formal, public or private. It maintains data on school age learners, out-of-school children, and youth targeted for learning intervention. Learner data includes basic profile, enrollment history, academic and non-curricular profile, grades, and attendance. The assignment of unique Learner Reference Numbers (LRNs) to all students allows the system to track movement of learners within the basic education system, providing more accurate indicators such as transition rates, drop-out rates, and the like.

The Enhanced Basic Education Information System (EBEIS), together with the National School Building Inventory (NSBI), provides support to evidence-based planning, resource allocation, and decision-making. Prior to the implementation of these information systems, data collection was done manually and consolidation would take several months. This challenge has been significantly minimized.

Using these two systems, DepEd was able to do faster consolidation of data from the field, thus enabling its management to use three- to six-month old data (instead of three-year old data) for planning and forecasting of required resources for each school year.

In support of teaching and learning

Preparing our learners—the future workforce—to be technologically and globally competitive and enabling them to significantly contribute to society as skilled knowledge-workers is a herculean task. Fully cognizant of this reality, the DepEd has issued policies on the use and promotion of ICT in teaching and learning in terms of (1) technology support and (2) capacitation and empowerment of teachers.

The DepEd has spent more than PHP 20 billion for the DepEd Computerization Program (DCP) and has deployed computer packages to almost 100% of the DepEd schools. Budget for internet connectivity has also been included in the Maintenance and Other Operating Expenses (MOOE) allocations of all schools.

Equally important as providing the various technologies is the availability and accessibility of quality digitized learning materials and tools and the need to continuously produce these materials. In relation to this, the DepEd has established a Learning Resources (LR) Portal that currently contains thousands of learning resources that can be readily used for teaching and learning.

With the poor or total lack of internet connectivity in majority of the schools, the DCP packages are pre-loaded with an offline version of the LR Portal.

Bringing it to the next level

Bringing the DepEd's ICT initiatives for basic education to the next level was imperative because there were still a lot of governance and operational problems that were needed to be addressed urgently. Some of the major ones were the following:

- Though LIS and eBEIS greatly improved evidence-based planning and forecasting, there is still much to be desired in terms of using the wealth of data produced by these systems in policy development and in more strategic long-term planning, especially when it comes

to mitigating shortage of classrooms and teachers. There was also still the question of accuracy as far as school facilities data is concerned.

- With a non-existent central database of the 800,000 employees of DepEd, it would take months to produce simple demographics for welfare and benefit policies and for professional development policies. Retirement benefits processing usually takes months, even years, because required documents are not readily available. Now we are in the process of capturing and consolidating data of all DepEd employees.
- Gathering and consolidating Work and Financial Plans from all the DepEd organizational units was also a time-consuming process, thereby hampering the monitoring of expenditures and physical accomplishments.
- There were problems in tracking procurement and deliveries of IT, science, and math equipment, as well as books and other learning resources, which are more often than not, delayed and perpetually lacking as far as schools are concerned.
- There were problems in the conduct of national assessments mainly brought about by procurement issues.
- Though most schools already received computer packages through the DepEd Computerization Program, not all of these schools have been able to maximize its use. One of the key reasons often given for this is the lack of ICT capacity building for teachers.
- The low internet connectivity percentage—21% for elementary schools and 58% for secondary schools—causes great difficulty in the capture of data for the LIS and EBEIS and greatly affects access to learning resources. It also contributes to problems in disseminating important communications to those located in far-flung areas.
- Monitoring of the effectiveness of the DCP, for which the government has already spent billions as well as the usage of the ICT equipment deployed in the schools, was still non-existent.

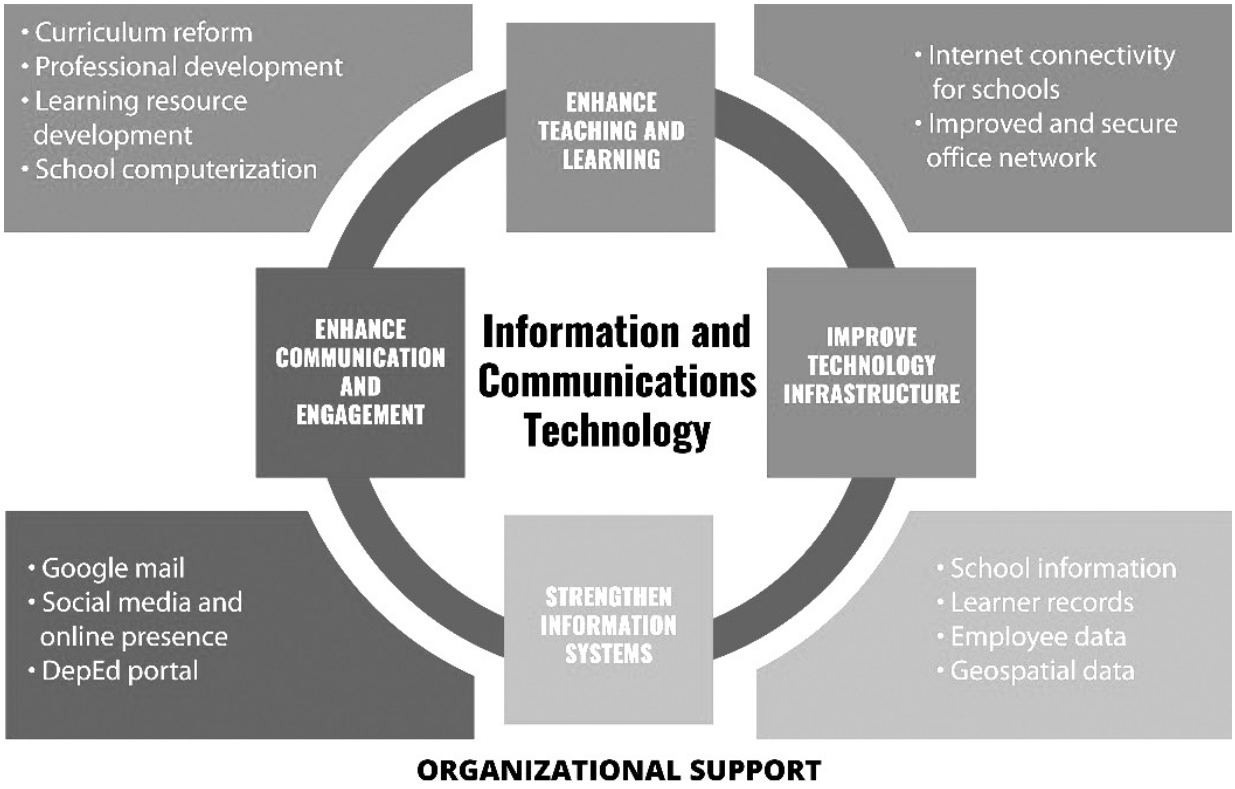
The job was too big and daunting and had to be divided into manageable chunks. Thus, this framework for the digital transformation was developed and adopted.

In this discussion, I will just focus on the strategies we adopted for strengthening information systems.

As part of strengthening information systems (IS) and after consultation with all stakeholders nationwide, we defined the IS Architecture (*see* Figure 4.1 on page 24) for DepEd aimed to provide the roadmap for computerization and systems development efforts in the Department. A roadmap for IS development is essential because simultaneous development of all systems cannot happen because of the following factors:

- *Budgetary constraints:* Simultaneous development would entail a humongous budget not only for manpower for systems development, but also for the network infrastructure, including servers and peripherals as well as for software licenses.
- *Absorptive capacity of the organization:* Developing and implementing an IS also put a lot of pressure and expectations on the users and would-be identified owners of the IS. They will be involved and will commit time during almost all phases of the systems development.

Figure 4.1 DepEd's Digital Transformation Framework



Source: Laguda 2015

- *Personnel:* Assuming that the organization has the budget to spend for simultaneous development, there will be a need to outsource most development activities and in this case, the developers would need a blueprint that will guide them to arrive at the same goals and to ensure that the IS will be able to interconnect with one another. There is a need for a strong systems integrator and database administrator to ensure this.

Of the many information systems that have been identified in the IS Architecture, let me just mention here the three (3) systems that have to be developed immediately because of their great impact on operations, human resources, and financial management. These are the (1) School Information System (SIS), (2) the Programs and Projects Monitoring and Information System (PMMIS), and (3) the enterprise Human Resources Information System (HRIS):

- To support school-based management, the School Information System (SIS) must be developed and implemented. Aimed at establishing a standard system to support learner management, financial management, and delivery of administrative functions at school level, the SIS shall provide a standard system for effective and efficient record-keeping and reporting. The system can operate in a standalone client server environment with a facility to upload and synchronize data with centrally-managed information systems such as the LIS and eBEIS. This will also eliminate the need to be always connected to the internet all the time.

- The development of a Programs and Projects Monitoring and Information System (PMMIS) will shorten the time to gather and consolidate work and financial plans from all the DepEd organizational units, while monitoring expenditures and physical accomplishments will be much improved with more updated reports.

- The development of an enterprise-wide Human Resource Information System (HRIS) shall automate core human resource management (HRM) functions and processes and shall provide the platform for the single source of truth (SSOT) for human resource information and organizational structure.

To improve turnaround times and accuracies, automated processes should use embedded workflows for tracking the delivery of learning resources, the processing of financial documents, and provision of personnel services.

There shall be continuous assessment by all stakeholders of operational information systems (i.e. LIS, EBEIS, LR Portal) to improve these systems' responsiveness to management and user requirements. Because of the breadth and width of the DepEd organization, we needed to establish a core group composed of planning resource officers, LRM focal persons, and ICT coordinators for the operation and maintenance of these systems. These Champions are in charge of promoting the use of the systems in their respective areas. They are also the ones who gather feedback on the usability of the systems, the enhancements needed for the systems to be responsive, and report any problems and issues from the field.

As a result of consultations with and feedback from the Champions, these systems now have improved functionalities than what they originally have. Annex A (on page 26) provides an overview of these systems.

With the experience that we got in nearly five years of implementation of these three mission-critical systems, I believe that the implementation model—which involves the major stakeholders in the development and maintenance—is greatly effective and has contributed to the institutionalization of these systems.

With the implementation of the LIS, eBEIS, and the LR Portal, a wealth of data has already been produced, stored, and ready to be used. In this regard, the use of a business intelligence (BI) and data mining tool is highly recommended. It allows different views, aggregation and disaggregation, as well as correlation of data based on various attributes to support learner-centered decision-making and policy development.

DepEd, through the Basic Education System Transformation (BEST) Program, bought five licenses of the BI Tool Tableau. For this initial set, we trained at least eight people on Tableau: two from Planning Service, two from the ICT Service, two from the Disaster Risk Monitoring and Management Service, and two from the team of BEST. The plan was to deploy additional licenses for the concerned Management Committee members, the Regional Offices, and large Division Offices. As additional systems are developed, more licenses will be procured to allow for data mining in these systems.

There is a big debate on whether an organization should buy off-the-shelf software packages or develop and customize information systems from scratch. In my opinion, it really depends on how much of the processes of the organization deviate from the "regular" processes as implemented in software packages available in the market, and therefore, how much customization is needed to make it work for the organization. This must be carefully evaluated because a wrong decision in this regard could be very costly for the organization.

In my experience, it is not advisable to acquire an off-the-shelf financial package for use by a government agency because financial processes and policies in government greatly differ from that of a private company unless the financial software package is tailored for government. One must be wary of procuring off-the-shelf enterprise management systems

because customizing and consequently maintaining these systems are very costly and may not be sustainable for a government agency.

Whenever applicable, it is best to get data from the source, and therefore, getting into data sharing arrangements with relevant government agencies such as the Government Service Insurance System (GSIS), the Bureau of Internal Revenue (BIR), and the Department of Budget and Management (DBM) is beneficial and could greatly decrease the time needed to build up the same data from scratch. For instance, when we were strategizing the capture and digitizing the service records of the 800,000 employees of DepEd, we decided that initial data will be secured from GSIS. Once the data are gathered, the corrected records will now be validated by HR-deputized personnel prior to permanent recording in the Service Records Database.

Sustaining the achievements

Great strides have already been achieved in terms of the use of ICT in basic education governance. To sustain these achievements, an Information Systems Strategic Plan for the next five years must be carefully laid out and adopted as the blueprint for all ICT efforts in this area. All basic education stakeholders must be consulted in the preparation of this plan and be given accountabilities for its success. Another key element is the financial support that the government would give to the endeavor.

As the main implementing agency of Republic Act No. 9155, known as the Governance of Basic Education Act of 2001, the Department of Education (DepEd) must have:

- Executive support to approve ICT programs and plans and issue corresponding directives and policies; and
- Full cooperation and commitment of field personnel who will utilize and provide feedback on the information systems.

References

Cruz, Rechie. 2016. "BEST Report on the Unified Information System." Unpublished report for the Department of Education Executive Committee.

Laguda, Reynaldo. 2015. "DepEd ICT Situationer." Unpublished report for the Department of Education Executive Committee.

Yuvienco, Aida. 2016. "DepEd Computerization Program Updates on Procurement." Unpublished report for the Department of Education Executive Committee.

ANNEX A
Department of Education (DepEd) Information Systems

1. Learner Information System (LIS)

The LIS was established in all schools and learning centers to serve as the "single source of truth" on learners in formal and non-formal systems of basic education. It maintains data on school-age learners, out-of-school children, and youth targeted for learning intervention. These learner data include basic profile, enrollment history, academic and non-curricular profile, grades, and attendance. The LIS is accessible to all schools and learning centers as an online system for registering, enrolling, and tracking movement and performance of learners.

At the school level, the LIS provides an electronic and secure system for maintaining learner records. It provides teachers and school heads easy access to comprehensive learner data, including historical enrollment, that enables them to make data-driven and learner-centered decisions at their level.

At the division, regional, and national levels, the LIS provides demographic data for better profiling of learners which are helpful to the formulation of plans, policies, and programs that are responsive to learner needs. The LIS enforces the reporting of individual learners by schools and learning centers, thereby increasing the quality of enrollment data and providing a more accurate picture of participation and other basic education indicators.

The LIS aims to achieve the following objectives:

- Implement a standard system in all formal and non-formal schools for maintaining learner records and tracking their movement within the basic education system;
- Automate the generation of school forms and reports; and
- Improve quality of learner data to support learner-centered decision-making at all levels.

System functions and features

The LIS consists of the following sub-components:

a) *Dashboard:* This module displays web pages containing packaged information about learners based on realtime and historical data. It provides a graphical view of learner demographics, summary enrolment by age, grade level, program offerings, and other areas of aggregation. The level of aggregation corresponds to the user's management level (i.e. school, division, and region), with the ability to drill down to level of detail.

b) *Register and Enroll Learner:* This module handles the online registration and enrollment of learners at the school and learner center. It is accessible to teachers, class advisers, and school heads authorized to maintain learner records in the LIS. It involves the creation of learner record with the assignment of a Learner Reference Number (LRN) that uniquely identifies a learner within the basic education system. It provides a robust and intuitive search facility to determine if the learner being registered is already in the central database.

c) *Edit and View Learner Profile:* This module provides a single view of a learner's profile that includes his/her personal data, enrollment status and history, and academic, co-curricular, and extra-curricular profile. It provides the facility for schools to update these data online to ensure that learner information is relevant and accurate. The updating and

viewing of learner profile is governed by policies and procedures such as the Data Privacy Act to ensure privacy and confidentiality of personal information.

d) *Transfer Learner:* This module aims to facilitate the smooth transfer of learner records from one school to another in accordance with guidelines provided under DepEd Order No. 54, s. 2016 (Guidelines and Procedures on the Request and Transfer of Learner Records). This facility provides an online platform for communication between schools and learning centers on transferring learners.

The enrollment of a transferee in the receiving school automatically triggers the sending of a notification to the former school via the LIS dashboard. The notification may come with a request for the learner's Form 137. The same facility also requires the originating school to respond to the notification and request. A smooth transfer transaction in the LIS results to a clear record of transfer in the learner's enrolment history and an efficient and speedy transfer of records to the receiving school.

e) *Update Learner Enrolment Status:* This module provides the online facility for schools and learning centers to update the enrollment status of learners and encode the grade or result of learning interventions delivered for a given school year or term. Learners' enrollment status in the formal schools is tagged as "promoted," "retained," or "dropped out," while enrolment status in the non-formal system is tagged as "completed" or "not completed." At the school level, these data inform programs for dropout reduction and learning interventions. At the division, regional, and national levels, these data feed into results-based performance evaluation, budget and planning, and program and project monitoring and evaluation (M&E).

f) *Generate Reports:* This module is a suite of mandatory school forms and reports that are generated online. Among these forms are the following:

- School Form 1: School Register (Masterlist of Learners)
- School Form 4: Monthly Learners Movement and Attendance
- School Form 5: Report on Promotion and Level of Proficiency
- School Form 6: Summarized Report on Promotion and Level of Proficiency
- School Form 137: Learner's Permanent Record

g) *Update Learner Permanent Record:* This module provides an online facility for maintaining and updating a learner's permanent academic record or "transcript of records" (Form 137). This record contains subjects or programs taken, grades received and honors received from the first day of school of the current school year. This end-of-school-year updating by schools and learning centers establishes the data that determines a learner's eligibility to enroll in higher levels in the next school year. Learners' enrollment status in the formal schools is tagged as "promoted," "retained," or "dropped out," while enrolment status in the non-formal system is tagged as "completed" or "not completed." At the school level, these data inform programs for dropout reduction and learning interventions. At the division, regional, and national levels, these data feed into results-based performance evaluation, budget and planning, and program and project M&E.

A database of learner permanent records shall be centrally managed and maintained. An offline facility in the SIS shall enable offline recording of quarterly or semestral grades and attendance of learners. These data from the offline database of the SIS shall be uploaded into the central LIS database to make complete and up-to-date learner data accessible and available for different types of stakeholders, including the learner him/herself.

Permanent records prior to the implementation of this module will be captured in the database through a data buildup strategy that involves both encoding of previous years' data and digitization of records. This database shall be maintained with an online "Request Permanent Record" facility that allows a learner to get a copy of his/her Form 137 without the need to go to the school where he/she last attended.

Integration with other systems

LIS maintains linkages with other systems:

- Enhanced Basic Education Information System (EBEIS) as source of official and accredited schools and learning centers that can access and enroll learners in the LIS; the LIS posts aggregate enrollment data from the beginning and end of school term/year to the EBEIS
- School Information System (SIS) as source of learner and enrollment data from "offline" schools; the LIS provides official Masterlist of Learners to SIS

2. Enhanced Basic Education Information System (EBEIS)

The EBEIS is established as the single source of truth on schools and learning centers that are permitted by the Department to deliver basic education. It maintains current and historical information on enrollment demographics and other survey data submitted by schools and learning centers on an annual basis or according to a specified reporting schedule. These data are processed, analyzed, and packaged into information that feeds into the education dashboard and informs critical education processes such as planning, budgeting, policy formulation, and program implementation.

The Education Management Information System Division (EMISD) of the Office of Planning Service is the designated system owner of the EBEIS. As such, the EMISD determines the policies and processes governing the creation, updating, and reporting of data in the EBEIS.

System functions and features

EBEIS consists of the following functions:

a) *Maintain School and Learning Center:* This component handles the online creation and updating of a school or learning center record in the centralized database. The creation of a new record triggers the automated generation and assignment of an EBEIS identification number that uniquely references a school or a learning center in all relevant processes and documents.

b) *Data Collection and Reporting:* This component provides the templates and forms for the online encoding and submission of data on school statistics and operations. Learner data are automatically summarized from the LIS and posted in the EBEIS as enrollment demographics. This module also provides an open and adaptive platform for collecting and reporting survey and ad hoc data that are not part of the regular report templates.

c) *School Report Card:* This online dashboard provides visual information about a school or learning center's performance indicators and accomplishments for stakeholder reporting and transparency.

Integration with other systems

EBEIS maintains linkages with other systems:

- Learner Information System (LIS) as source of aggregate enrollment data; the EBEIS as source of official and accredited schools and LCs that can access the LIS
- School Building Information System (SBIS) as source of data on newly constructed and repaired school buildings and classrooms
- Private Schools Accreditation System (PSAS) as source of data for opening and closing private schools; EBEIS shall provide PSAS with school profile to inform accreditation
- School Information System (SIS) as source of aggregate data on enrollment, resources inventory, and other statistics of "offline" schools
- Planning and M&E System on school statistics and performance indicators
- Disaster Risk Reduction and Management Information System (DRRMIS) on profile of schools affected by disasters
- Real Property Information System (RPIS) on school ownership and real property data as recorded and reported by the school
- Executive Information System (EIS) on profile of schools and learning centers

Summary of Workshop Output

KATHRINA LORRAINE M. LUCASAN
UP CIDS Education Research Program

To have a more in-depth interaction on the issues raised by the discussants, workshops were conducted. Three groups were formed for the workshop based on relevant topics: (1) governance and ICT integration, (2) finance and ICT integration, and (3) school improvement and ICT integration. Each group collaborated and discussed to come up with a response to this question: What research should the University of the Philippines Center for Integrative and Development Studies (UP CIDS) Education Research Program (ERP) conduct in the next five years to help develop basic education policy formulation? The groups categorized policy needs according to urgency. Policies which need to be released within three years are categorized as "very urgent," while policies which need to be released within five years are categorized as "urgent."

Governance and ICT integration

The first group's discussion ranged from national- to school-level governance concerns. Initial discussions centered on consistent policy dissemination from the central offices of government agencies. The discussion then shifted to the challenges school heads and teachers face in school-based management and policy implementation.

Research that are considered very urgent are the following:

(1) Standardization of policy implementation; and

(2) Policy dissemination

Research that are considered urgent are the following:

(1) Working towards a Filipino model of effective school governance;

(2) Policy review on the implementation of school-based management;

(3) Enhancing teacher welfare;

(4) Review of partnerships of schools with higher education institutions; and

(5) Review of policies on leadership development for school heads

Finance and ICT integration

The group on basic education finance discussed various finance and budget contexts across various levels of governance before deciding on their final responses. All identified policy gaps are identified as "very urgent." These are the following:

(1) Budget for schools, including capital outlay, personnel, non-teaching functions (e.g., registrars, bookkeepers);

(2) Accountability of schools;

(3) Public finance model; and

(4) Cost of education per student per program

School improvement and ICT integration

The group discussed schools' daily ICT operations concerns and the ICT capacities and skills of education supervisors and managers. The research considered as very urgent are the following:

(1) Review of the issuances limiting the use of ICT devices in schools;

(2) Review of the purpose of the DepEd Computerization Program (DCP); and

(3) ICT use of supervisors and other education managers for technical assistance provision and monitoring and evaluation

Research on provision of incentives for independent teacher innovations in the use of ICT in classrooms is categorized as urgent.

APPENDIX

Participants

Basic Education Governance and ICT Integration

Clockwise, from left to right: Jerome Buenviaje, Marian Christine Patriarca, Monica Ang-Tan, Greg Pawilen, Denise Adriano, Larry Gabao, Diosdado San Antonio, Joel Javiniar, Lorina Calingasan, and Kathrina Lorraine Lucasan

	Name	Institutional Affiliation
1	Denise Adriano	Private Education Assistance Committee
2	Monica Ang-Tan	Project Management Specialist, Office of Education, USAID
3	Jerome Buenviaje	Professor, UP College of Education
4	Lorina Calingasan	Principal, UP Integrated School
5	Larry Gabao	Professor, Philippine Normal University

	Name	Institutional Affiliation
6	Joel Javiniar (Moderator)	Professor, UP College of Education
7	Kathrina Lorraine Lucasan (Documenter)	Junior Research Associate, UP CIDS ERP
8	Greg Pawilen	Professor, UP Los Baños
9	Marian Christine Patriarca (Reporter)	Professor, UP College of Education
10	Diosdado San Antonio	Regional Director, DepEd Region IV-A

Basic Education Finance and ICT Integration

Facing the camera, left to right: Reynaldo Laguda, Rhodora Angela Ferrer, and Victoria Catibog

Facing away from the camera, left to right: Marie Therese Angeline Bustos, Aida Yuvienco, and Junette Fatima Gonzales

	Name	Institutional Affiliation
1	Victoria Catibog	Undersecretary of Finance, DepEd
2	Marie Therese Angeline Bustos	Dean, UP College of Education
3	Rhodora Angela Ferrer	Executive Director, Private Education Assistance Committee
4	Junette Fatima Gonzales (Documenter)	Junior Research Associate, UP CIDS ERP
5	Reynaldo Laguda (Moderator and Reporter)	Executive Director, Philippine Business for Social Progress

	Name	Institutional Affiliation
6	Aida Yuvienco	Information and Systems Consultant and Formerly Director, Information, Communications and Technology Service, DepEd

Basic Education School Improvement and ICT Integration

Left side of table, back to front: George Emanuel Martin, Rashyl Delobio, and Roel Ugaban
Right side of table, back to front: Lito Palomar, Merlene Alon, and Mark Anthony Sy

	Name	Institutional Affiliation
1	Merlene Alon	Alpha Angelicum Academy
2	Rashyl Delobio (Documenter)	UP CIDS ERP
3	Aileen Lapitan	Assistant College Secretary, UP Los Baños Graduate Studies
4	George Emanuel Martin	Head Teacher III, Quirino High School
5	Lito Palomar	Chief, Curriculum Implementation Division, Schools Division Office of Antipolo City, DepEd
6	Mark Anthony Sy (Moderator and Reporter)	Executive Assistant of the DepEd ICTS
7	Roel Ugaban	Executive Assistant at the Office of the Assistant Secretary for Project Management and Field Operations, DepEd

The **PUBLIC POLICY MONOGRAPHS** of the University of the Philippines Center for Integrative and Development Studies (UP CIDS) feature original scholarly work on themes relevant to Philippine public policy that aims to provide research-based advice and recommendations in addressing national issues and concerns.

ISBN 978-971-742-121-6 (print)
ISBN 978-971-742-122-3 (electronic)