

# Systems Analysis of the Philippine Basic Education System

## The Role of School Leadership

Ma. Assunta C. Cuyegkeng

*Professor, Department of Educational Leadership and Management  
Ateneo de Manila University  
acuyegkeng@ateneo.edu*

### Abstract

A key factor in improving the quality of teaching and learning is the seamless delivery of education. However, the complex relationships within the Philippine educational ecosystem have not been accurately understood, especially in terms of the interrelationships among various stakeholders. This research seeks to visually show this complexity and identify the points of intervention, which can be the basis for policy recommendations. Systems thinking tools like causal loop diagrams (CLDs) and system archetypes were used to study the educational ecosystem, based on 1) relevant Department of Education (DepEd) orders and memos, and 2) themes arising from focus group discussions (FGDs) and interviews with DepEd leaders representing the region, division, specialists, and schools. Results show that the hierarchical structure and culture of bureaucracy can cause barriers in the effective policy implementation at the school level. Furthermore, the feedback mechanism at the school level shows complex relationships among school leadership, teacher engagement, school innovation, learning innovation, parent engagement, learner health and well-being, learner performance, school performance, support of partners, and support of DepEd and local government.

Based on the feedback mechanisms and the creative strategies that were mentioned in the FGDs and interviews, several points of intervention were identified. Managing the communication and implementation of policies can be facilitated by the central

office. At the school level, achievement of learning outcomes should involve teacher training for adaptive pedagogy and use of educational technologies to help in the mastery of literacy and numeracy skills. Developing competences of school heads should include the development of strategic mindset and innovation competences. Partnerships for innovation competences could also be tapped to assist and support these trainings. Finally, availability of educational data for use of researchers and administrators could improve policy, planning, and monitoring.

Keywords: Philippine education system, systems analysis, school ecosystem, school leadership, innovation, points of intervention

## Introduction

A key factor in improving the quality of teaching and learning is the efficient, seamless, and integrated delivery of educational services. Literature on experiences from countries with similar contexts and challenges did not supply working models, but focused on understanding the challenges and proposing general solutions, e.g., education reform in Cambodia in the context of modernization and changing political ideology (Chhinh and Dy 2009), use of policy instruments in the context of failing service delivery in Ghana and Nigeria (Mangai 2017), basic education reform in Laos within its socio-economic context, (Phetsiriseng 2009), and educational delivery in unequal educational systems like South Africa and India (Andrabi et al. 2015). Studies have looked at the education value chain but not the systems in which they operate (Dorri et al. 2012; Mohamed 2023; Rathee and Rajain 2020). However, understanding the complex interrelationships among various actors and stakeholders in the educational system could inform interventions involving collaboration and alliances across sectors (Marsh and Wohlstetter 2013; Wohlstetter et al. 2004).

By studying educational reforms within the educational ecosystem, different subsystems that interact and support the delivery of educational services can be analyzed (Niemi 2021; Koul and Nayar 2021). While system-driven models have been proposed in limited aspects for the education supply chain (Li 2020), studying ecosystems show the interconnectedness of various subsystems that must work together, e.g., the curriculum, evaluation, teacher education, and labor market subsystems (Niemi 2021). Thus, when enacting educational system reforms, change must happen at all levels of the ecosystem with all actors connected to achieve the same goals as their decisions have an impact on one another (Niemi 2021; Marsh and Wohlstetter 2013). A holistic

learning educational ecosystem model supported by its major actors could also allow educators to better prepare students for the demands of a knowledge society (Koul and Nayar 2021).

These studies highlight the gap in understanding the Philippine educational ecosystem holistically to locate the points for implementing educational reform. Thus, this research seeks to answer the following question: What are the points of intervention and improvement in the school system, which can be the basis for policy recommendations for effective delivery of educational services in the Philippine Basic Education system?

An important social agent in education reform in this ecosystem is the school leader, especially in the context of the Philippine educational system. Thus, a corollary to the main research question is: What creative strategies do the leaders of public schools employ to help them achieve their goals?

To have a holistic view of the school ecosystem, this research uses qualitative methods with a systems thinking perspective. Thematic analysis is supplemented by systems thinking tools like causal loop diagrams and system archetypes. Causal loop diagrams have been used to better understand feedback mechanisms typical of complex issues and wicked problems (Cuyegkeng and Gotangco Gonzales 2020; Groundstroem and Juhola 2021; Iannone et al. 2015), including using it for policy intervention (Roxas et al. 2019). System archetypes, on the other hand, provide guidance in understanding underlying structures that generate particular organizational behaviors, and can be used in identifying points of intervention and improvement (Braun 2002; Mandl 2023; Wolstenholme 2003). Systems thinking tools can help identify points of intervention and improvement, which can be the basis for policy recommendations for effective delivery of educational services.

The research proposes policy interventions regarding: 1) communication and implementation of policies; 2) developing competences of school heads; 3) achievement of learning outcomes; 4) partnerships for innovation competences; and 5) access to educational data for research.

## **Research Setting**

The most influential component of the Philippine Basic Education ecosystem is the Department of Education (DepEd), which is responsible for basic education governance. It consists of the national office as well as field offices at the regional, division, and school/ learning center levels (Republic Act No.

9155). The DepEd oversees a bureaucracy with an enrollment of 28 million students in 60,429 schools (DepEd 2022a, 2022b). Its mandate covers the implementation of free and compulsory education at the elementary level; free education in the high school level; and access to alternative learning systems for out-of-school youth and adult learners. According to R.A. No. 9155, governance begins at the national level, and is translated into programs, projects, and services at the level of the regions, divisions, and schools through shared governance where each unit has a task, responsibility, and accountability for particular outcomes. It emphasizes 1) the need for democratic consultation in decision-making, 2) establishment of feedback mechanisms, 3) accountability and transparency in the performance of functions, and 4) strengthening of communication channels for effective governance (Chapter 1, Section 5). However, the national office of DepEd maintains budgetary and regulatory control and oversight.

Various DepEd Orders aim to improve bureaucratic processes by having a systematic, evidence-based policy development process that has participatory mechanisms and procedures (DepEd Order No. 024, s. 2020); and the introduction of professional standards of teachers (DepEd Order No. 042, s. 2017), school heads (DepEd Order No. 024, s. 2020), and supervisors (DepEd Order No. 025, s. 2020). These standards are based on the principles of learner-centeredness, lifelong learning, and inclusivity, as well as various competences and engagements, depending on the track. Each of these standards have four career stages that differentiate between those at the start of their careers, and increasing in proficiency and depth. Each career stage has four to seven domains, representing key areas of competences. Finally, each domain consists of four to eight strands, which are different aspects specifying indicators for different career stages.

To complement the main governance structure in teacher training and materials development, the National Education Learning Center, Regional Education Learning Centers, and Decentralized Learning Resource Centers were established in 1985, and later consolidated as the National Educators Academy of the Philippines (NEAP) in 1992. The NEAP conducts a range of programs from onboarding of new teachers to parent engagement and links teachers to useful materials, such as those developed the World Bank in response to COVID-19 (NEAP Webpage n.d.).

There are a good number of memos directed toward the management of the delivery of learning, including the concept of having School-Based Management Systems (DepEd Order 007, s. 2024). Despite the initial conclusion that the introduction of school-based management (SBM) in

the Philippines has improved the English and Math test scores (Khattri et al. 2010; World Bank Group and Australian Aid 2016), overall scores from the PISA 2022 and National Achievement Test Scores 2021-2022 show mainly low proficiency.

There have also been attempts to decentralize procurement, including equipment and tools that are needed for Quality Assurance and documentation, to improve services (DepEd Order No. 043, s. 2021). However, there seems to be a lack of orders that directly address learning itself. One of the few memos on this addresses the learning loss resulting from school closures and disruptions due to the pandemic through learning recovery efforts that improve numeracy and literacy, and accelerate achievement of education targets (DepEd Order 013, s. 2023).

## Review of Related Literature

### *Challenges of the Philippine Educational System*

The Philippine educational system has been analyzed from various perspectives, including historical colonial influence (Durban and Catalan 2012; Low et al. 2021; Lumdang 2021; Musa and Ziatdinov 2012); governance (de Guzman 2006; Frianeza et al. 2024; Saguin and Ramesh 2020); socio-economic factors (Chua Reyes et al. 2022; Orbeta and Paqueo 2022); legal action (Magallanes et al. 2021), and leadership (Chua Reyes 2022). All these studies conclude that there is a need for reform, particularly in the areas of curriculum (Durban and Catalan 2012); governance (de Guzman 2003, 2006; Magallanes et al. 2021); professional development of teachers (Durban and Catalan 2012; Frianeza et al. 2024); values reorientation (Durban and Catalan 2012), and leadership (Chua Reyes 2022).

Curriculum is often reformed to meet global standards, especially in basic education. For example, the K-12 curriculum was implemented without clarity of goals or framework (Saguin and Ramesh, 2020) and without addressing pedagogical, cultural, logistical, and socio-economic problems (Campos 2023; Gumarang and Gumarang 2021; Okabe 2013).

The centralized and hierarchical nature of DepEd has also been the subject of analyses. While there were attempts to centralize and promote school-based management, implementation was inconsistent and there was not enough understanding of the resources, support structure, and competencies that school leaders needed for such responsibilities (Chua Reyes et al. 2022; de Guzman 2006; Saguin and Ramesh 2020).

Addressing governance structures is integral to education policy. Saguin and Ramesh (2020, 162) highlight the political and operational governance functions in education policy as well as the “importance of analyzing the elements of education reform as a whole rather than as discrete strategies or measures.” This is supported by various studies showing a lack of systematic analysis of different factors, such as teacher quality (Gumarang and Gumarang 2021), teacher licensure exams (Acosta and Acosta 2016), development of school leadership (Chua Reyes 2022; de Guzman 2003, 2006), infrastructure (Gumarang and Gumarang 2021), and socio-economic factors (Bernardo 2021)

Saguin and Ramesh (2020, 172) further note that “reforms have focused on specific problematic issues without considering the relationships among them” with the latter illustrated as feedback mechanisms among private schools, households, public schools, state/local government, and the central government (Saguin and Ramesh 2020, 161).

While reform has repeatedly been instituted through various DepEd orders, there is no clear impact on learning or efficient and effective educational delivery (de Guzman 2006; Saguin and Ramesh 2020).

The existing literature highlights the challenges that the Philippine educational system faces, as well as the lack of a systems perspective in analyzing the issues, i.e., looking at the links and feedback mechanisms that happen within the system. Specifically, the school ecosystem could be better studied to understand the points of intervention to improve learning outcomes and not just the efficiency of procedures or compliance to regulations.

### *Systems Analysis of the Philippine Basic Education System*

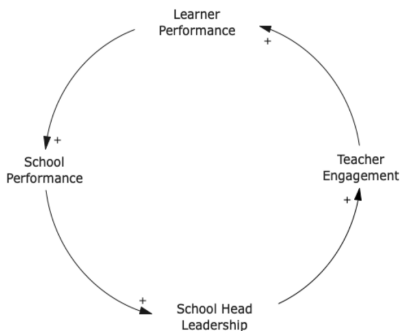
Complex and dynamic social realities require understanding its roots and how outcomes can be influenced; one approach is the use of systems thinking (Arnold and Wade 2015). A system is characterized by its elements (components or parts), interconnections (links or relationships), and its purpose or function (Meadows 2008). By understanding that the whole of systems is bigger than its parts and that its structure can cause certain behaviors (Arnold and Wade 2015; Monat and Gannon 2015), it helps to identify points of intervention in the system structure or patterns of behavior, which may not easily be obvious or observable.

The study uses a modified version of feedback-guided analysis (Newell and Proust 2012), and focuses on causal loop diagrams to understand the elements and interrelationships of the Philippine basic education system based on the themes generated in the analysis of documents, FGDs, and interviews. The CLDs as well as system archetypes inform the possible points of intervention.

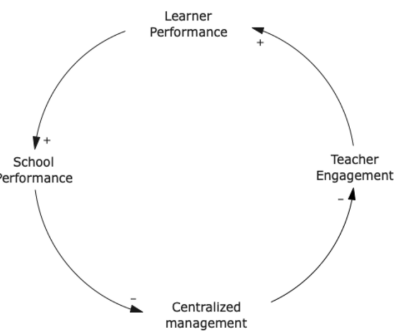
### *Causal loop diagrams*

A CLD maps the links describing causal relationships between variables or elements (Dhirasasna and Sahin 2019). CLDs (see Figures 1a, 1b, 3, 4, 7, and 9) inform about the feedback mechanism. The loops or feedback mechanisms could be a reinforcing (R) loop, i.e., the changes are all in the same direction; Figure 1a). Or it could be a balancing (B) loop, i.e., the direction of change in one link is balanced by the opposite direction of change in another link; Figure 1b) (Blair et al. 2021). This approach can be used to provide significant insight if there is data scarcity in simulating complex systems (Blair et al. 2021).

**Figure 1a.** Sample Reinforcing (R) Loop



**Figure 1b.** Sample Balancing (B) Loop



### *System archetypes*

System archetypes are a way of classifying structures based on CLDs to show generic behavioral patterns (Wolstenholme 2003), which may demonstrate the unseen system structure causing such organizational behavior (Braun 2002). These system archetypes can lead to dynamic insights; they are not intended for simulation models (Senge 2006; Wolstenholme 2003) but for use in practical contexts (Lane in Wolstenholme 2003).

Braun (2002) lists 10 archetypes resulting from studies involving Systems Dynamics, while Wolstenholme (2003) proposes generic two-loop archetypes.

One generic system archetype is described as underachievement, in which the intended goal is not achieved, because there is a resource constraint that is observed only after a delay (Wolstenholme 2003). The solution or point of intervention is to remove the constraint. Examples of this generic system archetype are 1) Limits to Growth/ Success (there is a limiting condition that slows down growth), 2) Growth and Underinvestment (resource investment is not sustained over a long period of time), 3) Tragedy of the Commons (a shared resource is depleted when individuals/teams use it without consideration of other users), and to a certain degree, 4) Attractiveness Principle (several limiting conditions slow down growth) (Braun 2002).

Another generic system archetype is out-of-control, in which an intended control is implemented to manage a problem, but the reaction of another sector—usually to the control action—results to worsening of the problem (Wolstenholme 2003). The solution is to address the sector reaction, possibly through stakeholder engagement. Examples of this generic system archetype are 1) Fixes that Fail (the solution is targeted at a symptom instead of the actual problem), 2) Shifting the Burden (the solution is also targeted at a symptom with a potential but delayed positive outcome), and 3) and Accidental Adversaries (initial partners become adversaries) (Braun 2002).

The generic system archetype relative achievement is when the goal is achieved at the expense of another (Wolstenholme 2003). The solution involves regulatory action to manage the outcomes for both sectors. An example of this is Success to the Successful where resources are allocated to reward good performance, leading to more underperformance of the groups deprived of resources (Braun 2002).

The final generic system archetype is relative control, which is gained at the expense of certain sectors. An intended control is implemented to manage a problem but the reaction of other sectors to the outcome worsens the problem because the control is at their expense (Wolstenholme 2003). The solution could be to replace the relative outcome with an absolute target, and to work toward this. Examples for this are Drifting/Eroding Goals and Escalation, where the former seeks rationale to adjust the goals to be more manageable and the latter is focused on escalating a particular behavior that is perceived to be competitive but results in possible failure (Braun 2002).

## *The Role of School Leaders in Transformation*

Given that social reality is dependent on people’s thoughts and actions, any transformation is conditioned by existing structures and culture, which inform the knowledge, consciousness, and behavior of agents (Archer 2020).

Studies have shown that school leaders drive education reform through a deep understanding of their context (Eley and Berryman 2019), the development of an alternative vision of education (Howard et al. 2019), and leadership styles that are more collaborative and empowering (Gano-Phillips et al. 2011), among others. This may involve transformative leadership, as differentiated from transformational leadership, which seeks to guide educational leaders in addressing the good of both individuals and the public (Shields 2010, 2022).

In papers studying the challenges of the Philippine educational system, recommendations often point to the need for good school leadership. De Guzman (2003, 49) highlights the need for “aggressive but participative management strategies and a dynamic and transformational leadership,” something he repeats in a later article (de Guzman 2006). Saguin and Ramesh (2020, 170) see “a lack of qualified managers at the different levels of the government” as well as a lack of “adequately trained school administrators since school leadership is usually given as a token of seniority and not based on managerial potential” (Luz 2000 in Saguin and Ramesh 2020, 170). Chua Reyes et al. (2022) see two emerging models of school leadership—custodian and crisis leadership—in the context of poor communities constantly exposed to disasters and crises.

In studying the Philippine basic education system, it is thus important to study how school leaders navigate the challenges and barriers in the school’s ecosystem.

## **Methodology**

### *Research Design*

The basis for policy recommendations for effective delivery of educational services in the Philippine Basic Education system needs a deeper understanding, not just of the systems running in the school, but also of the school’s ecosystem. Literature has emphasized the important role of the school leader in achieving goals for their schools. Thus, the research focused on leaders at different levels of the DepEd, who are actually involved in the delivery of educational services, using creative and innovative strategies. In

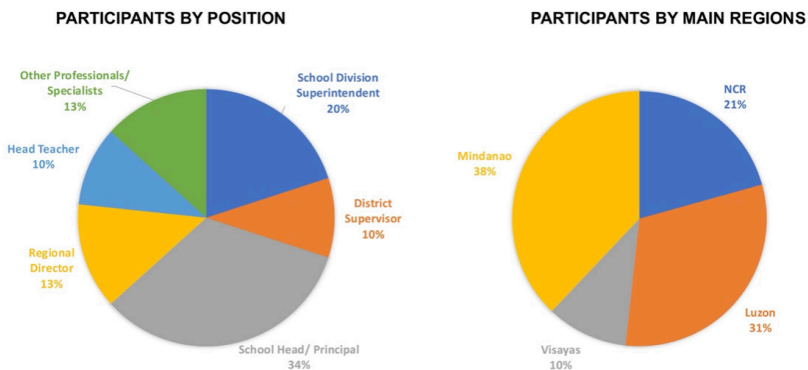
this context, a creative strategy is one that is original and useful/appropriate (Runco and Jaegaer 2012) arising from a generative process (Green et al. 2024) that is open to using unfamiliar approaches (Glăveanu and Beghetto 2021). Innovations refer to the generation of new or modified ideas to create, improve or add value to outcomes (Morad et al. 2021).

Thematic analysis from the inputs and insights of these leaders were used to identify variables and elements of the ecosystem, their links, and feedback mechanisms, leading to the creation of CLD. Furthermore, this thematic analysis went beyond the experiential aspects by studying the structure-agency-culture relationships (Archer 2020; Wiltshire and Ronkainen 2021). The CLD was formulated to visualize the system using these variables (Dhirasasna and Sahin 2019) and validated by a practitioner in the public school system. The themes, informed by the relationships in the CLD and system archetypes, became the basis for the points of intervention.

### Sampling

The study targeted leaders at different levels of the DepEd system involved in the delivery of educational services, using creative and innovative strategies. A request was made to the Department of Education central office to request for endorsement and invite participants from different regions for this innovation workshop-FGD activity. Thirty participants joined the FGD, including Regional Directors, Division Superintendents, District Supervisors, School Heads/ Principals, and professionals/ specialists (Figure 2); another three principals agreed to be interviewed separately.

**Figure 2.** FGD Participants by Position and by Region



### *Data Collection*

The participants were asked to sign an informed consent form, which included sections explaining the research objective; the participant's full, informed, and voluntary consent; risks and benefits; and confidentiality of the research process.

The FGDs and interviews gathered responses on 1) barriers and enablers towards efficiency and quality education; 2) feedback mechanisms affecting the delivery of educational services; 3) creative strategies; and 4) leadership practices in stakeholder engagement. The discussions were recorded with the consent of the participants then transcribed with the help of an AI-based app. Transcripts and notes used codes to hide the identity of the participants and their affiliation. All files pertinent to the research were password-protected and assigned restricted access.

### *Data Analysis*

The study used thematic analysis with a critical realist lens (Fryer 2022; Wiltshire and Ronkainen 2021), generating experiential, inferential, and dispositional themes. Experiential themes were culled from the participants' experiences, observations, insights, and feelings. Inferential themes are redescriptions of the experiential themes in such a way that concepts are distilled to describe observable or non-observable components of an event. The dispositional themes were drawn from the inferential themes, but used the interplay of structure, agency, and culture to delve into the properties and powers that predispose the occurrence of the event (Wiltshire and Ronkainen 2021).

The resulting themes were used as the basis for building causal loop diagrams that showed elements and interdependencies of an educational ecosystem, with the school as the unit of analysis. The themes were also used to understand which system archetypes applied to the DepEd organization.

Analysis of the themes, causal loop diagrams, system archetype diagrams, and policy concerns were validated by a DepEd consultant, and subsequently presented to other researchers to validate policy recommendations.

## Findings

Ten themes emerged from the transcripts of FGDs and interviews, with five of them being overarching themes (Table 1).

**Table 1.** Thematic Analysis of the Discussions on Gaps, Barriers, and Enablers

<b>Dispositional Themes</b>
Impact of hierarchical structure of DepEd on policies, systems, processes, and culture. <ul style="list-style-type: none"> <li>■ Policies not aligned and responsive to changing context; not forward-looking</li> <li>■ Policies subjected to different interpretations (no clear communication of how to interpret the guidelines)</li> <li>■ Influence of political accommodations on the implementation of policy</li> <li>■ Changes in systems and processes with every new administration</li> </ul>
The structure and culture of DepEd as barrier in localizing policy implementation <ul style="list-style-type: none"> <li>■ Lack of collaboration among agencies</li> </ul>
Teachers' commitment to learning (learning innovation, learning performance, parent engagement, school performance)
School leaders as agents of implementation of programs (teacher engagement, learner health and well-being, parent engagement, support of partners)
School leaders as agents of innovation (school innovation, support from DepEd and the local government unit (LGU), support from partners)

The first overarching theme (with four sub-themes) shows the existing structure and culture in DepEd, which conditioned the complex responses in the school ecosystem. There were many concerns regarding the hierarchical structure of DepEd, its policies, and its political nature that could change policies with every new administration. Leaders learn to navigate the system creatively to find the needed support and resources. Thus, the development of the management and innovation competencies of school leaders is important in the given setting.

The next four overarching themes informed the construction of the CLD, which answered the research question on the complex school ecosystem. They show the essential roles of the school leader and the teachers to achieve learning and school performance.

### *The Context: The Impact of the Hierarchical Structure and Culture of DepEd*

Both the documents and the experience of the participants highlighted the hierarchical nature of the structure of DepEd, with decision-making and power concentrated at its central office, leaving schools to deal with a culture of compliance. This configuration leads to systems that focus on oversight (regulation) of delivery and control processes, instead of empowering school leaders to be agents of change and innovation. Consultation and feedback are not done extensively to reflect things happening on the ground. School leaders at different levels perceive that these policies are not consistent and responsive enough to the changing context of the schools.

The policies are communicated such that there are different interpretations with no clear arbiter on which direction to follow. Some school heads share that one way of getting policies and processes implemented is for them to communicate the documents using language that the teachers can easily understand and relate to, to clarify what they are supposed to do and how it will affect them. These effective school heads also have closer communication with their teachers, entertaining input and feedback.

The hierarchical structure and the culture of compliance are hindrances for effective implementation. Some school leaders end up doing the minimum for fear of making mistakes in the interpretation of the documents. Other school heads carry out the policies, but at the expense of time that teachers could have spent on developing students' mastery of needed competences.

Some participants also noted that despite policies, there are political accommodations, and policies change with every new administration.

### *Structure and culture as barriers in localizing policy implementation*

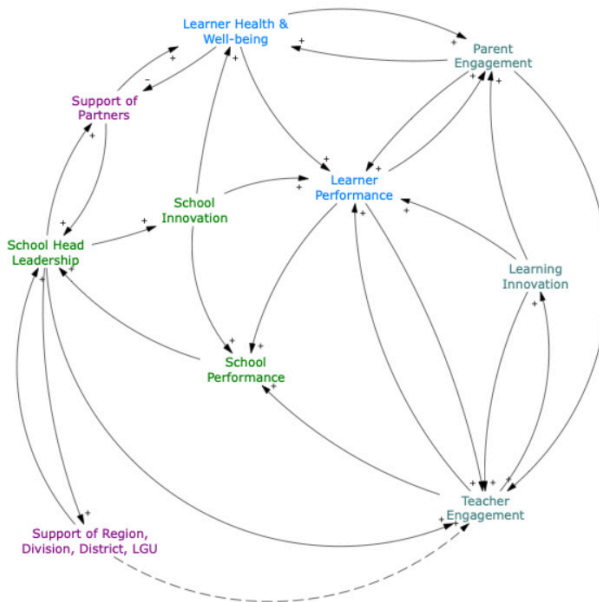
The rigid standards associated with the culture of compliance in the DepEd system, especially during monitoring and evaluation, discourage creativity in localizing policy implementation. Trust issues also get in the way of interpreting how such policies can be localized. Most of the responsibilities are left with the school leaders, who have different levels of understanding and modes of implementation.

Drawing from the various DepEd documents and the dispositional themes, a basic CLD shows the possible feedback mechanisms in a school context

(Figure 3). The elements of the school ecosystem include learner performance, health, and well-being; teacher engagement; learning innovation; school head leadership; school performance and school innovation; support of partners and the hierarchy in the DepEd. The links indicate the relationships of the different elements.

The diagram shows the crucial role that school heads have in bridging the school context with what is happening in the division and regional offices, or the central office. It also shows that learner performance is influenced by many factors, and not one particular initiative or program. Depending on the school context, the strength of the links and feedback mechanisms differ but, in general, positive school leadership can lead to positive learner and teacher performance. Further explanations are discussed in the subsequent subsections.

**Figure 3.** The Elements and Links in a Philippine Public School Ecosystem



Note: The +/- near the arrow head indicates the if change happens in the same or opposite direction. A “+” arrow from School Head Leadership to Teacher Engagement means that good school head leadership leads to good teacher engagement and bad school head leadership leads to bad teacher engagement. A “-” arrow from Learner Health and Well-being to Support of Partners means that good learner health and well-being does not attract the support of partners, but poor learner health and well-being gets support from partners to assist the school leadership.

Using Figure 3 as the starting point, different school leaders may take different approaches toward improving learner performance, e.g., improving teacher engagement, promoting school innovation, and developing school partnerships and stakeholder engagement. The other important actor in the school ecosystem is the teacher, and when paired with the right style of school leadership, can be instrumental in Learner Performance (Figures 3, 4, 7, and 9).

### *Teachers' commitment to learning*

The CLDs (Figures 3, and later, 4, 7, 9) show that Teacher Engagement influences Learner Performance; thus, teachers are important actors in helping learners perform. Any new learning innovation comes from them. They are the main drivers of learning performance. They engage parents, too.

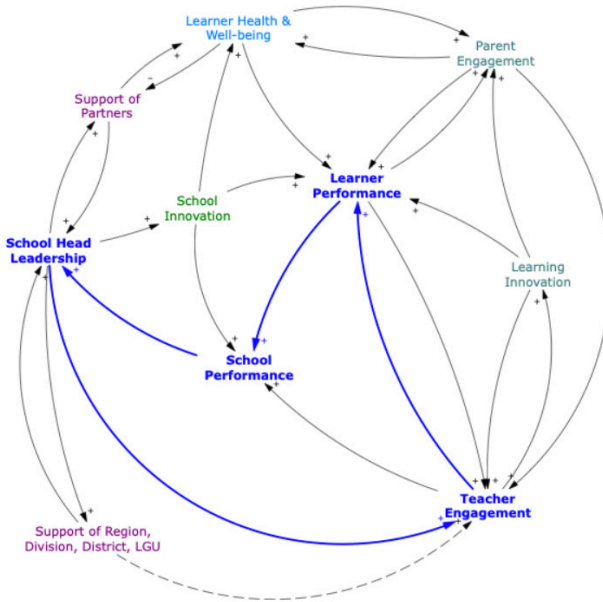
Aside from their regular duties, teachers are the collaborators and implementors of innovation—whether in the classroom or in school-wide initiatives, making them agents of school performance. They are also recipients of initiatives and innovations coming from the school leader and the DepEd offices at all levels, e.g., teacher training programs.

However, a common sentiment from school leaders and master teachers concerned the many tasks and reports required by the hierarchy, where teachers end up doing data collection and writing reports. Teachers are also the frontliners when it comes to dealing with the students and parents. Despite the heavy workload, the school leaders still see their teachers' commitment to the school.

### *School leaders as agents of implementation*

School leaders take responsibility for the implementation of programs. They attempt to implement school-based management, according to their understanding and competences. To a certain degree, they are focused on regulation and compliance, but there is still the effort to improve learner performance through teacher-led initiatives (Figure 4). Getting learners to reach their potential depends largely on teachers; thus, there needs to be better working and support relationship between the school leader and the teachers. A good working relationship and support can lead to a positive reinforcing loop with the school leader having a positive influence on the teachers, and the teachers on the learners.

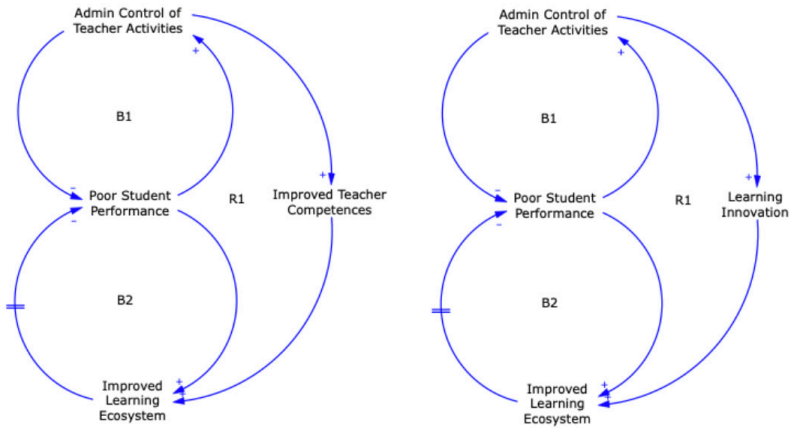
**Figure 4.** Reinforcing Loop: Good School Leadership for Good Learner Performance through Teacher Engagement



Data from the FGDs show that good administrative controls that support improved teacher competencies and learning innovation can contribute to improved learning ecosystem, in the hope that this improves student performance. However, this last part is not immediately observed because there is a time delay between the complete implementation of the improved learning system and effect on student performance. Thus, the school leader must see through the complete implementation of a program. This is consistent with the system archetype Shifting the Burden (Figure 5). Unfortunately, this is often interrupted by new policies and programs that come from the top, mandating curriculum change or some policy change that disrupts the potential improvement in student performance.

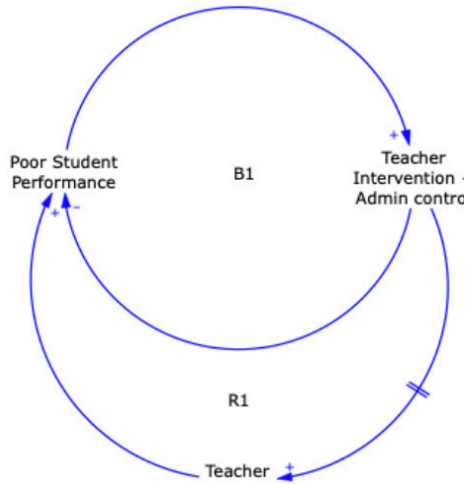
On the other hand, if the impact of the school leader’s administrative control is negative, it could become a negatively reinforcing loop. For example, too much control can lead to teacher burnout mentioned by the school leaders in the FGDs. This is characterized in the system archetype Fixes that Fail (Figure 6).

**Figure 5.** Healthy Control of Teacher Activities for Improved Student Performance



Note: There is delay in seeing the effects of an improved learning system on student performance. B1 and B2 are balancing loops while R1 is a reinforcing loop.

**Figure 6.** Tight Control of Teacher Activities with Negative Effects



Note: B1 is a balancing loop; R1 is a reinforcing loop.

### *School leaders as agents of innovation*

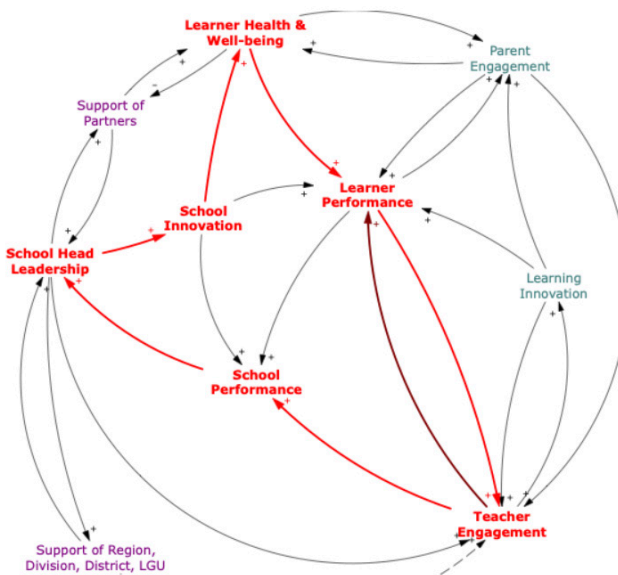
The last theme also provided insights regarding the research question on the leaders' use of creative strategies. Some school heads put fresh twists or innovations to mandated programs to improve the efficiency of their systems,

engage teachers, and get the support of partners, parents, and LGUs for resources by the school. This highlights the need to develop the management and innovation competencies of school leaders, this time to help them implement genuine school innovations to achieve student learning outcomes.

Using Figure 3 again as the starting point, learner performance can be improved with the help of school innovations, such as school-wide programs and activities for learning recovery and learner well-being.

School leaders use these innovations to get people energized and engaged (Figure 7). Many of the school innovations cited in the FGDs and interviews involve improving learner health and well-being, whether it was for mental health, nutrition, or family support. Such efforts are usually correlated to improved learning performance, which also positively supports teacher engagement. However, these initiatives should be paired with other school innovations focused on literacy or numeracy, as well as the teacher's engagement with the learner.

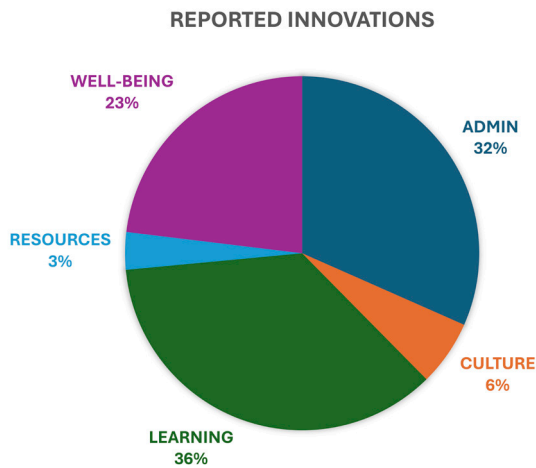
**Figure 7.** Reinforcing Loop: Good School Leadership for Good Learner Performance through School Innovation and Learner Well-Being



## The Nature of School Innovations

It was clear during the FGDs and interviews that there were many inspiring school leaders who were creative enough to get things done in their respective schools. The 120 reported innovations were analyzed to see how these contribute to learner performance, and could be categorized into innovations focused on learning, well-being, administration, resources, and culture (Figure 8).

**Figure 8.** Categories of Reported Innovations



Most number of innovations were on learning (36 percent); however, most were stopgap measures to prevent student dropouts and address no or low proficiencies. They were remedial programs described under the National Learning Recovery Program (DepEd Order 013, s. 2023) as numeracy and literacy programs. Since the schools are simply implementing a DepEd order, it is not clear whether any strategic perspective is involved. The other type of learning innovation were initiatives to help teachers become better facilitators of learning. However, it is not clear how this is implemented.

Administration concerns ranked next (32 percent) in what they classified arguably as innovations. Many of those labeled as innovations are good management practices, e.g., improved management competences, feedback system, efficient practices, and capacity building, which are also seen in the frameworks cited in the DepEd orders on the Philippine Professional Standards for School Heads (DepEd Order No. 024, s. 2020) and Supervisors (DepEd Order No. 025, s. 2020).

The third ranked set of innovations are related to mental health and gender issues, possibly because there are efforts from the central office to address them. These included a good number of wellness innovations, as well as parent education. However, the initiatives are focused on inputs, but do not lend themselves to measuring outcomes.

The participants also said that there were attempts to create a positive school culture of community involvement for a holistic flourishing school community; however, they gave few details in how this is actually achieved, and focused only on how the initiatives were organized.

Finally, there were initiatives to generate resources for schools, usually tapping on partnerships to develop facilities and better school environment. Partners could include LGUs or private companies, groups, or individuals as benefactors. The resources were generally used to improve facilities and overall school environment, run teacher training programs, or improve student nutrition.

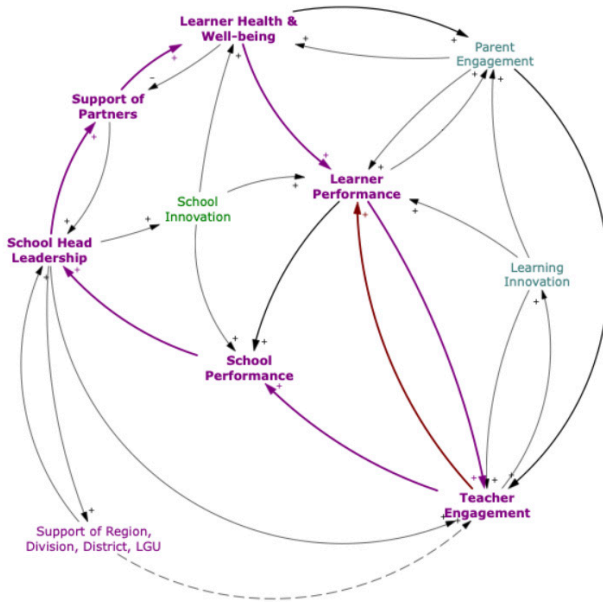
These show that while the initiatives are creative, there needs to be a deeper understanding of what actually constitutes innovation (versus being simply creative and thinking out-of-the box or versus good management practices). This highlights the need to train both school leaders and teachers in real innovation competences that can really help them design learning innovations within their local context.

### Partnerships for innovation

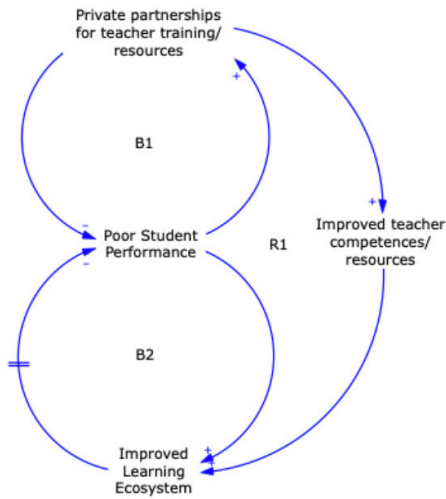
A specific form of school innovation practiced by school leaders is partnerships, especially if they have resource constraints. They partner with LGUs, private benefactors, and other agencies to ensure that their schools get the needed resources to improve the school environment, learner nutrition and/or mental health, or parent involvement (Figure 9).

Partnering with LGUs, private benefactors, and other agencies is a positive way of “shifting the burden” to get teacher/ staff training, improvement of facilities, or fund certain projects (Figure 10). The downside of this approach is that the school becomes dependent on the generosity and thrusts of partners through funding and preferences of corporate foundations and non-government organizations (NGOs), which may not be sustained in the long term.

**Figure 9.** Reinforcing Loop: Good School Leadership for Good Learner Performance through School Partnerships



**Figure 10.** Private Partnerships for Training and Resources

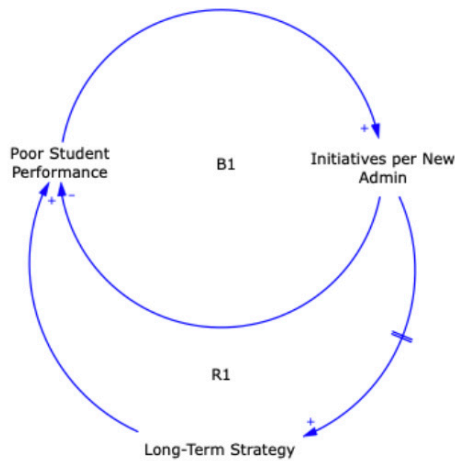


Note: B1 and B2 are balancing loops; R1 is a reinforcing loop.

## Strategic Innovation

A word of caution for school innovations: these may initially help, but if it is not part of a long-term strategy, stakeholders may easily be frustrated by the time it takes to see results. The long-term strategy is important to sustain the efforts long enough to actually see their impact. Consistent with the system archetype Fixes that Fail (Figure 11), such initiatives fail, especially if changes are made with every new administration.

**Figure 11.** Impact of Constantly Changing Initiatives on Long-term Strategy



Note: B1 is a balancing loop; R1 is a reinforcing loop.

## *Points of Intervention*

The findings show that there have been 1) efforts to improve the delivery of educational services, albeit with policy changes of every new administration; and 2) leaders at the regional, division, and school levels who have tried to deliver the educational services despite many constraints. To answer the first research question, the first three topics of this section highlights points of intervention, which will be the basis for policy recommendations for effective delivery of educational services in the Philippine Basic Education system. The second research question (creative strategies) is discussed under Partnerships for Innovation Competences.

## Managing the Communication and Implementation of Policies

One way of bridging the hierarchical structure and culture of DepEd is managing the communication and implementation of policies. This would be the support that DepEd offices give to the school leaders (Figures 3 and 4). While it is understandable that orders/memos read like laws, and are clear to someone used to the tone and interpretation of these documents, they can be quite challenging for school leaders and teachers, depending on their contexts. This leads to different levels of understanding, interpretation, and implementation, resulting to disjointed efforts overall. This is consistent with literature that states that the interpretation of the policy can affect its implementation (Yanow 1993; Trullen et al. 2020).

In the FGDs and interviews, some school leaders recognize that part their role as policy implementors requires them to communicate these orders and memoranda effectively. They make it a point to simplify the documents to give a clear picture of what the policies mean in the school context and what it means for the roles of school leaders, teachers, and other stakeholders. However, this is not true for all school heads because they are afraid to make a mistake in the interpretation.

### Developing Competences of School Heads

Strategic planning is usually done at the level of the central office or regions, especially with every new administration. Schools are expected to implement these strategies, which often take a new form even before the previous strategy is completed. Because of the time delay in accomplishing the goals, the impact of current strategies and programs may not be observed before a new set of initiatives are implemented yet again. Furthermore, localizing policy implementation is difficult given the DepEd structure and culture and the uneven training of school heads in leadership and management.

Crucial to this problem is the development of school heads who have the competences to localize school strategies and innovate for learning (Allen and Middlebrooks 2013; Chua Reyes et al. 2022; de Guzman 2003; Saguin and Ramesh 2020; Smith and Raymen 2008), so that they are not severely affected by the changing strategies and plans. Because school leaders play a central role, strengthening their competences can help them in adjusting strategies to their context, even with new policies. What is important in their training is the development of a “big picture” perspective so that they can plan for long-term strategies instead of nice one-time projects.

## Achievement of Learning Outcomes

Most DepEd efforts are focused on management and oversight of delivery processes, and—with the exception of the National Learning Recovery Program—are not explicit on achieving learning outcomes. The NLRP is heavily dependent on teacher competences, particularly on how they can adjust pedagogies in different settings and contexts of the students.

With the right competences, teachers can determine how best to improve learning in their classrooms. However, this intense journey may require more time from the teachers, competing with their existing workload, which include activities that sometimes have little to do with learning.

Meanwhile, student learning cannot be put on hold, while teachers catch up with their training. Some schools turn to education technologies to help both teachers and students catch up to the desired performance levels, e.g., the way Khan Academy apps are used by US, Chilean, and Nigerian schools to help individuals improve their competences (Arnold et al. 2021; Kopp and Thomsen 2023; Light and Pierson 2014; Muir 2014; Ruipérez-Valiente et al. 2015).

## Partnerships for Innovation Competences

Although innovation is encouraged by the DepEd, it is understood differently by different sectors. Innovation needs to be framed as innovation with strategic perspectives that are done always in relation to improve learning outcomes of students. Design thinking in education, with its associated innovation competences, can be crucial in localizing learning strategies to truly see improvement in the learning performance of the students (Bower 2017; Hennessey and Mueller 2020; Koh et al. 2015; Laurillard 2024). This is one way for teachers and school leaders to demonstrate agility in responding to needs of the learners in their local context.

To develop these competences, programs for both principal and teacher training can be connected to partnerships in school ecosystems, especially since some organizations may already have the expertise in education technologies or design thinking.

## Conclusion

While many studies address particular issues of the Philippine basic education system, there has been no study from a systems perspective to understand the complex relationships and feedback mechanisms. This study makes the unique contribution of visualizing these complexities using a causal loop diagram, and using this to identify points of intervention, which would be the basis of policy recommendation. Given DepEd's hierarchical structure and culture, the points for intervention include further developing school head leadership, better teacher engagement, and school partnerships.

The study further showed that school leaders and teachers use creative strategies to navigate this educational ecosystem, implying the need for more professional development to improve their strategic innovation competencies.

These points for intervention have practical implications in DepEd's policy development (see below), as well as the initiatives external partners could extend to the schools, such as assistance in the professional development of school leaders and teachers, in the proper training on and use of educational technologies, or in resource management.

This qualitative study is a good starting point to understand particular ecosystems in different regions. More interviews in particular contexts (e.g., rural, upland, indigenous peoples', madrasah, etc.) could shed light on specific concerns that need to be addressed because of the local context. Another direction is to use systems dynamics, which may need more quantitative data and a knowledge of the mathematical relationships among the different elements of the ecosystem.

## Policy Recommendations

While not much can be done about the hierarchical structure and overall culture of DepEd as well as shifting to long-term orientation, it might be acceptable to look for efforts that can be achieved within five to six years. It might also be good to encourage the retention of good aspects from a previous program and have more consultation from the ground. More specific recommendations are discussed below.

## *Managing the Communication and Implementation of Policies*

To address the uneven interpretation of policies, the recommendation is to have key DepEd orders and memoranda accompanied by a communication plan (e.g., with infographics) and implementation toolkits that can be used by school heads to disseminate to their stakeholders, if they so wish. This may also be a good way to get those preparing the memos to think of how the orders can be implemented on the ground, allowing for flexibility for school leaders to localize them in their particular context.

### *Developing Competences of School Heads*

It is crucial that school leaders acquire competences that enable them to localize strategies in relation to their context (e.g., with the help of NEAP) for them to actually have the management, leadership, and strategic (not just tactical) innovation competences. It would also be ideal to train, not only the school heads themselves, but their administrative team or whoever supports them in their functions.

Although the focus in this section is in-service professional development for school heads, it might be good to consider more thorough training prior to assuming the position.

### *Achievement of Learning Outcomes*

Education technologies could help both teachers and students catch up to the desired performance levels. One recommendation is the use of AI-based resources, apps, and workbooks to help both teachers and students in doing repetitive exercises to achieve mastery. The DepEd, NEAP, and policymakers should explore the use of apps and workbooks, with the help of institutional partners. It is also imperative that we have these apps and workbooks in Filipino, if this can help the students internalize the concepts and skills better.

The use of education technologies needs teacher training and support structures, such as internet connectivity, computers/tablets, and technical support, especially in remote areas. Alternatively, non-internet based education technologies could be explored, such as offline apps that can be used on school computers/gadgets, since we cannot assume individual access to these gadgets.

Related to the use of education technologies is the investment in connectivity of our schools, even in far-flung areas. Policymakers could work with educators who have long-term vision for the kind of infrastructure and software that can benefit Philippine education, even as efforts continue to improve functional literacy and numeracy.

Aside from education technologies, there is need to intensify teacher training, particularly in terms of content mastery, education technologies, and effective pedagogical strategies, with the help of the NEAP or its partner institutions. The main training can focus on how to teach the existing curriculum content (pedagogy), and in the process, enable teachers to master the content as well. While this may not be the best way to do it, having sample lesson plans for the entire year with tips on how to adapt them in specific contexts, may be one way to achieve the scale of teacher training that is needed.

### *Partnerships for Innovation Competences*

The DepEd or the regional offices could partner with institutions and organizations who use design thinking for education and train promising teachers to be trainers, in collaboration with the NEAP. The training can develop school leaders and teachers who can localize school strategies and work toward the achievement of learning outcomes.

### *Availability of Educational Data*

Although the availability of educational data did not come up as a research question or as a theme in the FGDs, the conduct of this research could have been better facilitated with the availability of data on learning performance. It is a challenge to have data at the level of schools, even if these data could be useful for monitoring of school programs and initiatives and for school planning.

It would be ideal to have a central repository of specific data that can be useful for policy research or the planning and monitoring of regions. However, if there are resource constraints in maintaining a central repository, an oversight group could at least direct researchers where such data can be found. The group can also look into how school data can be better managed and accessed for planning, monitoring, and oversight.

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The author did not declare a conflict of interest.