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Educational Policy Concerning the Utilization of Information Technology in Schools

A Short Discussion in the Philippines Context

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Abstract

This paper explores the educational policies in the Philippines that focus on the integration of information technology (IT) in public schools. It analyzes the core government initiatives, such as the DepEd Computerization Program (DCP), the Public Schools of the Future in Technology (PSOFT) Act, and the establishment of the Public Education Network (PEN). These policies are examined for their objectives, implementations, and impact on educational equity and quality. Furthermore, the study compares these initiatives with similar efforts in other countries, such as Indonesia and Malaysia, to highlight best practices and implementation gaps. The paper also addresses the challenges faced in the implementation of these policies and provides recommendations to optimize the digital transformation of the Philippine educational system.

Keywords: *Digital Learning, Educational Policy, Information Technology, ICT in Education, Philippines*

Introduction

The rapid advancement of information and communication technology (ICT) has significantly influenced global education systems. As digital tools become increasingly essential in teaching and learning processes, many governments are investing in the development and implementation of technology-based educational policies. In the Philippines, the push toward educational digitalization has been intensified by both global trends and the urgent need brought on by the COVID-19 pandemic, which disrupted traditional classroom-based learning [1].

Despite this progress, research reveals a gap between policy formulation and effective implementation, particularly in developing countries [2]. In many contexts, policies emphasize infrastructure without adequately addressing teacher training, curriculum integration, or sustainable digital ecosystems. This implementation gap often leads to underutilization of technology, exacerbating educational inequality [3].

The novelty of this study lies in its comprehensive analysis of Philippine ICT-related educational policies from a comparative regional perspective, highlighting the unique challenges and responses of the Philippine context. While prior studies have addressed specific programs or challenges, few have examined the interconnectedness of policies such as the DepEd Computerization Program (DCP), the Public Schools of the Future in Technology (PSOFT) Act, and the Public Education Network (PEN) as part of a systemic approach to educational digitalization.

The urgency of this research is underscored by the increasing global emphasis on digital equity and the right to quality education through technology. As the Philippines continues to expand its digital infrastructure, understanding the effectiveness and limitations of its policy framework becomes critical for national development and global competitiveness. This study offers several benefits. First, it provides a synthesized understanding of the national digital education agenda in the Philippines. Second, it contributes to regional discourse on digital transformation in education, particularly among ASEAN countries. Third, it presents recommendations for policymakers and stakeholders to bridge the gap between planning and practice.

Therefore, the primary aim of this paper is to analyze the current policies of the Philippine government related to ICT integration in education. Specifically, it seeks to:

- Evaluate the content and objectives of the major ICT-related educational policies;
- Assess the challenges and successes of policy implementation;
- Compare the Philippine experience with neighboring countries to identify best practices;
- Propose policy and implementation recommendations for more effective ICT integration in schools.

Material and Methods

This research utilizes a qualitative content analysis method. Primary data were collected from government documents, such as DepEd Orders, legislative acts, and official websites. Secondary data were obtained from academic journal articles, news reports, and policy analyses. The comparative framework was also used to juxtapose Philippine policies with those of Indonesia and Malaysia.

Results

A. DepEd Computerization Program (DCP)

DepEd Order No. 16, s. 2023 revises the guidelines for the DepEd Computerization Program, aiming to provide hardware, software, and training to public schools nationwide. The program seeks to equip schools with computer laboratories and smart TV packages to modernize teaching methods [4]. However, the implementation has been uneven. Reports in 2023 indicated that a significant portion of allocated funds remained unused and many planned devices were undelivered [5].

B. Public Schools of the Future in Technology (PSOFT) Act

House Bill No. 10329, passed in December 2021, mandates investment in digital infrastructure for public schools and the integration of advanced technological subjects like artificial intelligence and big data analytics into the curriculum [6]. The PSOFT Act represents a forward-thinking approach, yet its execution depends heavily on inter-agency collaboration and sustained funding.

C. Public Education Network (PEN)

The Public Education Network (PEN), a joint project between DepEd and the Department of Information and Communications Technology (DICT), is intended to digitally connect all public schools and DepEd offices [7]. Through this, remote learning and online administrative tasks are expected to become more efficient. The DICT supports PEN by providing internet infrastructure and bandwidth allocation.

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Discussions

A. Implementation Challenges

One of the biggest issues facing these initiatives is infrastructure disparity, especially in rural areas [8]. For example, in 2023, the student-to-computer ratio in some schools reached as high as 1:9, and the teacher-to-computer ratio was around 1:30. Additionally, teacher training remains inadequate, leading to underutilization of the provided technologies.

In many geographically isolated and disadvantaged areas (GIDAs), the lack of stable electricity, internet access, and physical security for ICT equipment hampers effective deployment and use of technology. Schools in mountainous or island regions often receive equipment that remains unused due to lack of power sources or technical support. These challenges result in a digital divide that mirrors broader socio-economic inequalities. Moreover, the cost of maintenance and the risk of rapid technological obsolescence further burden under-resourced schools.

The lack of a standardized digital literacy curriculum for educators aggravates the situation. Many teachers, particularly in public elementary and high schools, report insufficient training in digital pedagogy and classroom technology integration [9]. Professional development sessions are often one-off workshops rather than part of a continuous training cycle. As a result, there is a significant gap between the availability of technology and its actual pedagogical application in classrooms [10]. This affects the students' learning experiences and limits their exposure to 21st-century skills.

Furthermore, monitoring and evaluation mechanisms are either weak or inconsistently implemented, making it difficult to assess the long-term effectiveness of the technology-related investments. Although pilot programs often yield positive initial outcomes, scalability remains an issue due to lack of follow-through in training, infrastructure maintenance, and localized adaptation.

B. Comparative Perspective

"Merdeka Belajar" initiative represents a decentralized and learner-centered approach to education reform, providing both policy frameworks and digital platforms such as Rumah Belajar for autonomous and flexible learning. It emphasizes not only infrastructure support but also teacher professional development through continuous capacity-building programs, particularly in digital pedagogies and online content creation [11].

Malaysia's Smart School initiative, launched in the late 1990s and continuously updated through its Smart School Roadmap 2020–2025, integrates ICT in teaching, learning, administration, and assessment. The initiative combines curriculum development with ICT competency standards for educators, supported by a nationwide Learning Management System (LMS) and school-based digital leadership training [12]. Notably, Malaysia has institutionalized a "whole-school approach" to ICT integration, which has led to more cohesive implementation at the school level.

These comparative cases illustrate the importance of viewing ICT integration as a systemic reform rather than a series of isolated technology deployments. Both countries demonstrate that success lies not only in providing physical infrastructure but also in enabling teachers and school leaders through ongoing training, support systems, and pedagogical innovation. For the Philippines, adopting similar

systemic approaches and institutional commitments may significantly enhance the long-term sustainability and impact of its digital education initiatives.

C. International Support and Investment

The World Bank approved a USD 1.25 billion loan to the Philippines in 2024, with USD 500 million allocated for education reforms, including technological upgrades and disaster-resilient school infrastructure [13]. This substantial investment illustrates international recognition of the need to strengthen digital education systems in the country. The expected impact of this financial support includes accelerated deployment of ICT infrastructure, particularly in underserved areas, and the expansion of digital teacher training programs.

Furthermore, the funds are earmarked for enhancing resilience in school facilities, ensuring that digital education efforts are sustainable even during natural disasters or future public health emergencies. The influx of international funding increases the possibility of success, particularly if paired with robust governance and transparent monitoring mechanisms. By leveraging international partnerships and aligning local initiatives with global standards and best practices, the Philippines has a unique opportunity to transform its education sector and bridge the digital divide across regions. The loan also encourages policy cohesion, pushing for reforms that not only provide technology but also institutionalize digital education across curricula, assessment, and administration.

Conclusion

The Philippines has laid substantial groundwork through policies like DCP, PSOFT, and PEN to advance ICT in education. However, challenges in implementation, especially in rural and underserved areas, continue to hinder progress. By learning from neighboring countries and reinforcing implementation mechanisms—particularly teacher training and monitoring systems—the Philippines can accelerate its journey toward digital education transformation.

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