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A Critical Policy Analysis of the Disjuncture between the Higher Education Computing Curricula and the Electronics Engineering Law

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Abstract

This study critically examines the disjuncture between the computing curricula and the Electronics Engineering Law of 2004 within the context of Philippine education and professional regulation. Guided by the framework of Critical Policy Analysis, it investigates how the legislative, implementing, and academic tiers of state policy interact to produce systemic incoherence and exclusion. Using qualitative documentary analysis, the study reviewed key laws, regulations, and issuances. Findings show that the legislative definition of electronics engineering, reinforced by regulatory interpretation, extends into computing and information technology domains defined as distinct academic disciplines. This overlap excludes qualified computing graduates from professional practice, transforming education into a pathway of exclusion rather than empowerment. The analysis further demonstrates that this disjuncture violates constitutional guarantees of quality education, academic freedom, and equal protection. The study concludes that the conflict between academic authority and regulatory mandate constitutes both policy and constitutional incoherence. It recommends legislative clarification, inter-agency coordination, and constitutional harmonization to ensure that education and professional regulation function as complementary pillars of social justice and national development.

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Introduction

The state carries twin mandates that, in theory, should work in concert to advance public welfare through education and professional regulation. The first mandate, embodied in Republic Act No. 7722 (or simply RA 7722), otherwise known as the Higher Education Act of 1994, establishes the Commission on Higher Education (CHED) as the principal government body tasked to promote quality higher education. Through policies and standards known as CHED Memorandum Orders (CMOs), the Commission defines the learning outcomes, competencies, and curricular frameworks for each degree program in the country. These CMOs, crafted through consultation with academic experts and industry stakeholders, represent the state's commitment to an outcomes-based and globally competitive education system aligned with national development goals.

The second mandate lies with the Philippine Congress, which, under its legislative authority, enacts professional regulatory laws that govern the right to practice specific professions. These statutes, such as the Electronics Engineering Law of 2004 (Republic Act No. 9292, or simply RA 9292), are implemented by the Professional Regulation Commission (PRC). They delineate who may lawfully engage in particular professional activities and impose sanctions on those who practice without proper licensure. Through these laws, the state exercises its police power to protect the public by ensuring that only qualified and duly licensed individuals render professional services in regulated fields.

In principle, these two mandates, education and professional regulation, should form a coherent continuum: higher education develops the competencies and knowledge base of graduates, while professional regulation safeguards their ethical and technical application in practice. However, the Philippine experience has exposed a structural policy disjuncture between these two arms of the state. Specifically, the CHED curricula for computing disciplines, i.e. Computer Science, Information Technology, Information Systems, and Computer Engineering, define distinct professional identities, competencies, and occupational outcomes. Yet, Sec. 5(a) of RA 9292 asserts an expansive claim over the practice of electronics engineering that includes “information and communications technology (ICT), computers and their networking and hardware/firmware/software development and applications.” This sweeping statutory definition has effectively absorbed areas that CHED’s computing curricula already govern, resulting in jurisdictional overlap and exclusionary effects on computing graduates who are not licensed electronics engineers.

The resulting tension between CHED’s academic authority and Congress’s regulatory enactments represents more than administrative inconsistency. It is a profound institutional contradiction that undermines both policy coherence and social equity. On one hand, CHED’s CMOs establish the legitimacy of computing as an independent and specialized field of study with well-defined competencies in software, hardware, and systems design. On the other hand, RA 9292, as implemented by the PRC, restricts these same areas of practice to a single licensed profession, thereby marginalizing graduates of CHED-accredited computing programs from engaging in their own fields of expertise.

This policy disjuncture reveals how state institutions, each pursuing legitimate public purposes, can produce

conflicting frameworks for the same professional domains. The disconnection between education policy (RA 7722) and professional regulation policy (RA 9292) not only distorts the intended outcomes of both but also raises critical socio-legal and ethical questions. Whose authority defines professional competence: is it the educational institution that trains the individual, or is it the regulatory body that licenses practice? And more fundamentally, does such overlap serve public interest, or does it entrench a form of professional monopoly that limits access, innovation, and interdisciplinary collaboration?

Within the framework of Critical Policy Analysis (CPA), this study situates this conflict as a manifestation of deeper power relations and institutional hierarchies. CPA provides a lens to interrogate how seemingly neutral policies, when examined together, may reproduce exclusionary structures that privilege one profession while marginalizing others. It foregrounds the need to view policy not merely as text or law, but as an instrument of governance that reflects, and at times distorts, broader social purposes.

By critically analyzing the intersection of CHED's computing curricula and RA 9292, this study exposes how the state's fragmented approach to education and professional regulation perpetuates structural inequities. It argues that the existing disjuncture between education and exclusion is not an administrative accident but a policy configuration that demands critical interrogation and transformative redefinition.

Statement of the Problem

The central problem examined in this study is not merely a question of statutory overreach but a deeper and more systemic issue of policy incoherence between two state mandates that should otherwise be mutually reinforcing. The CHED, under RA 7722, is legally tasked to define and assure the quality, relevance, and alignment of higher education programs with national development goals. Through this mandate, CHED has institutionalized distinct and rigorous curricula for computing disciplines, each with its own body of knowledge, professional outcomes, and disciplinary logic. These curricula are informed by international standards, such as those of the Association for Computing Machinery (ACM) and the IEEE Computer Society, and are designed to prepare graduates for professional practice in specialized domains of software, hardware, and systems development.

However, RA 9292 introduces a conflicting regulatory regime that subsumes large portions of the computing field under the exclusive domain of licensed Electronics Engineers. By defining electronics engineering to include "computers and their networking and hardware/firmware/software development and applications," the law encroaches upon academic and professional territories already established under CHED's authority. This conflation of educational and professional jurisdictions has created a legal environment in which computing graduates, despite being trained under CHED-accredited programs, are effectively excluded from practicing their own professions unless they obtain an electronics engineering license.

This exclusionary outcome is not a trivial administrative misalignment but a systemic contradiction within the Philippine state's governance of education and professional regulation. It represents a policy disjuncture in which one arm of government (CHED) formally recognizes computing as a legitimate and independent field of study,

while another (Congress and the PRC) enforces a law that denies its graduates equal professional standing. The result is a misalignment between educational qualification and legal recognition, producing social inequity and institutional confusion within one of the nation's most dynamic knowledge sectors.

The incoherence between CHED's curricular frameworks and RA 9292's regulatory claims also undermines broader constitutional and developmental objectives. It raises fundamental questions of academic freedom, professional justice, and state rationality: How can a graduate be simultaneously qualified to earn a degree in a field recognized by CHED yet legally unqualified to practice it? How can the state promote innovation, digital transformation, and STEM development while maintaining a legal structure that suppresses the very professionals who enable these goals?

Anchored in Critical Policy Analysis (CPA), this study views the conflict not as an isolated case of bureaucratic overlap but as a manifestation of institutional power imbalance, where professional regulation, under the guise of public protection, may perpetuate exclusionary hierarchies. The incoherence between educational and regulatory policy produces not only administrative inefficiency but also epistemic injustice: it delegitimizes the knowledge systems that CHED, as the state's academic authority, has deemed valid and globally competitive.

Accordingly, this study seeks to interrogate how and why this disjuncture persists, what political and institutional dynamics sustain it, and what reforms are necessary to restore coherence between education as empowerment and regulation as protection.

Purpose and Significance of the Study

The purpose of this study is to undertake a critical policy analysis of the structural and ideological disjuncture between the CHED computing curricula and the Philippine Electronics Engineering Law. Guided by the CPA framework, the study aims to interrogate how distinct policy instruments, each grounded in the state's twin mandates of education and professional regulation, produce conflicting and exclusionary outcomes for computing graduates in the Philippines.

In particular, the study pursues four interrelated objectives. First, it seeks to critically analyze the stated goals and disciplinary boundaries articulated in CMO No. 25, series of 2015, which governs the Bachelor of Science in Computer Science (BSCS), Bachelor of Science in Information Systems (BSIS), and Bachelor of Science in Information Technology (BSIT) programs, and CMO No. 87, series of 2017, which defines the Bachelor of Science in Computer Engineering (BSCpE) curriculum. These CMOs establish the academic identity and competency profiles of computing disciplines in accordance with international standards and national development priorities.

Second, the study aims to deconstruct the scope of practice defined in Republic Act No. 9292, or the Electronics Engineering Law of 2004, to demonstrate how its expansive language encroaches upon the disciplinary boundaries and professional outcomes delineated by CHED. By examining the statutory text and its operative definitions, the

analysis reveals how the law's overreach effectively transforms a legitimate academic distinction into a site of professional exclusion.

Third, the study endeavors to articulate the socio-economic consequences of this policy disjuncture, particularly how the legal monopolization of computing-related work by licensed electronics engineers undermines the employability, professional mobility, and economic participation of CHED-qualified computing graduates. This exclusion not only disenfranchises individuals but also distorts the state's investment in higher education and weakens the country's capacity to sustain a competitive digital workforce.

Finally, the study seeks to propose pathways for policy reconciliation, offering a critical rearticulation of how CHED's educational mandate under RA 7722 may be coherently aligned with the professional regulatory function of Congress and the PRC. Such policy reconciliation aims to restore coherence between academic qualification and legal recognition, ensuring that education serves as a genuine vehicle for empowerment rather than exclusion.

The significance of this study lies in its capacity to expose the systemic incoherence within state policymaking, where educational quality assurance and professional regulation, two vital instruments of public policy, operate in contradiction rather than complementarity. By foregrounding the socio-legal and developmental implications of this contradiction, the research contributes to the national discourse on policy coherence, academic freedom, and professional equity.

Ultimately, the study underscores that addressing the disjuncture between CHED's computing curricula and RA 9292 is not merely a technical or disciplinary concern. It is a matter of justice and governance, of how the state recognizes, regulates, and values knowledge itself.

Limitations of the Study

This study is limited by its exclusive reliance on documentary and textual sources. The analysis focuses on the official policy instruments that define the legislative, implementing, and academic tiers of the Philippine state's governance of computing and engineering professions. These include Republic Act No. 9292, the PRBEE and PRBECe Joint Resolution No. 01 of 2020, Republic Act No. 7722, and the relevant CHED Memorandum Orders governing Computer Science and Computer Engineering programs. While this approach allows for a rigorous examination of institutional structures and policy language, it does not incorporate empirical data such as interviews with affected graduates, industry employers, CHED and PRC officials, or legal practitioners involved in regulatory enforcement.

The absence of empirical evidence limits the study's capacity to describe the lived socio-economic consequences of the policy disjuncture. Questions concerning how the exclusion of computing graduates manifests in employment practices, career progression, or industry innovation are beyond the scope of this research. Similarly, the lack of access to PRC enforcement records prevents the study from quantifying or verifying the extent to which the Electronics Engineering Law has been applied to restrict professional practice in computing-related

fields. As a result, the analysis cannot make empirical claims about the frequency, distribution, or individual experiences of exclusion.

These limitations, however, are consistent with the study's methodological orientation. The research is designed primarily as a normative and structural analysis, grounded in Critical Policy Analysis, rather than as an empirical investigation of outcomes. Its objective is to interrogate how policy texts, legal definitions, and institutional hierarchies interact to produce systemic incoherence and exclusion. By focusing on the architecture of policy rather than on its implementation in specific contexts, the study exposes the structural mechanisms through which exclusion is legitimized and sustained. Future research could complement this work through mixed-methods or qualitative inquiry, particularly by documenting the lived experiences of computing graduates and examining the socio-economic impacts of policy incoherence on professional mobility, innovation, and equity.

Theoretical Framework

This study is grounded in the theoretical framework of Critical Policy Analysis, an approach that questions the supposed neutrality and objectivity of public policy. Critical Policy Analysis or CPA contends that policies are not mere administrative instruments designed to achieve rational goals but are instead embedded in relations of power, ideology, and institutional interest. Policy texts and their implementation reflect the priorities of dominant actors and the political structures within which they are produced. As such, CPA exposes how state policies, while often framed in the language of progress or protection, can inadvertently reinforce social hierarchies and marginalize specific groups.

In contrast to traditional policy analysis, which focuses on efficiency, coherence, or measurable outcomes, CPA examines how policies distribute power, privilege, and recognition among social actors. It understands policymaking as a contest of values and meanings rather than a neutral exercise of governance. In this perspective, every policy produces its own "winners" and "losers." Certain professions or institutions are strengthened, while others are subordinated or excluded through the subtle operation of legal and bureaucratic mechanisms. This makes CPA particularly suited to investigating the disjuncture between the Commission on Higher Education's computing curricula and the Electronics Engineering Law of 2004. Both instruments emerge from legitimate state functions, education and professional regulation, but their interaction reveals how competing policy regimes can generate institutional contradictions and structural inequities.

Critical Policy Analysis therefore provides the conceptual lens through which the study interrogates the relationship between education policy under Republic Act No. 7722 and professional regulation under Republic Act No. 9292. It treats these laws not simply as complementary legal mandates but as texts that embody competing logics of authority. While CHED's mandate emphasizes academic freedom, curricular relevance, and human capital development, the professional regulatory law privileges exclusivity, licensure, and control. The conflict between these regimes produces a policy space in which well-intentioned measures yield exclusionary effects.

Within this analytical framework, three interrelated concepts are used to organize the study's critique. The first is

policy disjuncture, which refers to the existence of multiple and conflicting policies originating from different state institutions whose objectives clash in practice. In the Philippine context, this disjuncture is evident in the tension between CHED's curricular policies for computing disciplines and Congress's professional regulation of electronics engineering. CHED's Memorandum Orders No. 25 series of 2015 and No. 87 series of 2017 clearly define computing and computer engineering as distinct disciplines with specialized knowledge domains. Republic Act No. 9292, however, extends the scope of electronics engineering to include computers, networking, and software or hardware development. This overlap reveals how the state, acting through separate institutions, produces contradictory mandates that undermine coherence in both education and regulation. For CPA, such disjuncture is not an administrative accident but a reflection of deeper power asymmetries between educational and professional institutions.

The second concept is systemic exclusion, which captures how policies that appear neutral can perpetuate inequality and marginalization. The Electronics Engineering Law functions as a mechanism of exclusion because it restricts computing graduates from practicing within their own fields unless they obtain an electronics engineering license. This exclusion is systemic because it does not arise from overt discrimination but from the structural design of the law itself, which privileges one professional identity over others. By extending jurisdictional control to licensed engineers, the policy effectively negates the professional legitimacy of CHED-qualified computing graduates. CPA helps uncover how such exclusion results from institutional configurations that subordinate educational authority to regulatory control, thereby constraining professional mobility and eroding academic autonomy.

The third concept, unmasking dominant interests, involves identifying whose interests are served by the persistence of the policy status quo. CPA maintains that policies often conceal the operation of power beneath technical language and bureaucratic rationality. In this study, the continued enforcement of RA 9292 serves the collective interests of the licensed electronics engineering community by maintaining a monopoly over a wide range of technical domains. The same policy disadvantages graduates of computing programs who are equally competent yet lack licensure within this framework. By revealing whose claims are legitimized and whose are silenced, CPA exposes how policy is used to reinforce existing hierarchies of expertise and authority.

Through these three analytical concepts, Critical Policy Analysis equips the study with a means to interrogate how the Philippine state's educational and professional regulation frameworks have become disjointed. It allows for a deeper understanding of how policy incoherence is institutionalized and how exclusion is normalized under the guise of professional protection. More importantly, it provides a foundation for transformative critique by envisioning a policy environment that aligns education with regulation, restores balance between institutional mandates, and promotes equity across professions. In doing so, CPA positions policy not as a fixed text but as a living instrument that must be continually reexamined in light of justice, inclusion, and public interest.

Review of Related Literature

The regulation of professions in the Philippines is rooted in statutes enacted by Congress, typically executed by

the PRC, whose mandate is to safeguard public welfare and elevate professional standards through the administration of licensure examinations and enforcement of practice guidelines. The Electronics Engineering Law of 2004 exemplifies legislative efforts designed to delineate professional boundaries, ensure technical competence, and protect consumers from malpractice. The law affirms the role of licensure as both a public safeguard and a benchmark for professional identity, mandating that only those who have satisfied the prescribed educational and examination requirements may legitimately practice electronics engineering in the country. While the protective rationale behind RA 9292 is widely acknowledged, scholars have observed that professional licensure regimes can, under certain circumstances, extend regulatory authority so broadly that they encroach upon neighboring disciplines, creating regulatory overlaps and jurisdictional disputes. Such expansions may generate exclusions for otherwise qualified practitioners who have completed higher education programs in related computing fields but remain outside the statutory definition of the regulated profession. Sociologist Andrew Abbott (1988), for example, is widely recognized for his theory of how professions compete to control areas of work, a process which often leads them to extend their authority, encroach upon neighboring disciplines, and foster persistent jurisdictional disputes. Kroezen et al. (2013) outlined how professions may share, contest, or redefine boundaries due to regulatory expansion, with limited settlements often emerging from such interactions. This blurring of boundaries complicates the relationship between academic preparation and legal recognition, raising fundamental questions about fairness, labor mobility, and the purposes of state regulation.

The Commission on Higher Education (CHED) occupies an essential role in defining and regulating the curricular architecture of higher education institutions pursuant to Republic Act No. 7722. Through a series of CHED Memorandum Orders (CMOs), the agency issues prescriptive curricula, program outcomes, and degree requirements intended to harmonize local academic offerings with global standards and labor market needs. For instance, CMO No. 25, series of 2015, sets the curriculum for the BSCS, BSIS, and BSIT, outlining core competencies in programming, algorithms, systems design, and computational theory. Similarly, CMO No. 87, series of 2017, governs BSCpE, articulating distinct learning outcomes in both hardware and software integration, electronics, and embedded systems. These policy instruments emphasize disciplinary identity and the formation of specific technological expertise, while also reflecting international benchmarks and the calls for relevance and adaptability in a fast-evolving digital economy. The design of these programs underscores CHED's commitment to academic excellence, workforce employability, and alignment with industry standards, positioning graduates as capable contributors to a range of computing and engineering fields.

Despite this policy congruence at the level of intention, the socio-legal implications of RA 9292 present a paradox for computing graduates whose education aligns with CHED's mandates but not with the exclusionary licensure requirements set by the PRC for electronics engineers. Critical commentaries in legal and academic circles have suggested that the Electronics Engineering Law, though not explicitly targeting computing professionals, effectively creates barriers for graduates of CHED-accredited computing programs by subjecting certain job functions, especially those straddling hardware and software domains, to licensure requirements traditionally reserved for electronics engineers. This regulatory posture not only restricts the professional mobility of computing graduates but also signals a form of institutional exclusion, undermining the substantial investment made by the state and students in computing education. Such exclusionary effects have broader consequences:

aside from limiting employability and innovation, they risk stifling interdisciplinary collaboration and deterring curricular diversity within the Philippine higher education landscape. Attention should be called to the tensions between CHED's curricular frameworks, which are crafted to develop a distinct cadre of computing professionals, and the restrictive application of RA 9292, which consolidates professional authority under a narrower occupational jurisdiction.

An examination of existing literature reveals a persistent gap at the intersection of educational policy and professional regulation: while studies frequently address curricular alignment, workforce development, or the evolution of professional licenses in isolation, few engage in a systematic critique of the institutional disjuncture that emerges when regulatory regimes overstep or misalign with academic preparation. This gap underscores the necessity of the present study, which aims to theorize and document the lived consequences of policy incongruence in the regulatory and educational governance of computing professions in the Philippines. A critical policy analysis is warranted to illuminate the doctrinal, procedural, and social dimensions of this disjuncture, thereby informing future reforms that harmonize educational aspirations with the realities of professional practice.

Burdick & Dhillon (2020) pointed out that while the goals of educational accreditation and professional regulation should overlap to ensure that regulatory skill thresholds are met during the education process, the evidence of this crucial alignment is often scarce and contradictory. They highlight that this misalignment represents a significant gap in policy effectiveness, underscoring the inherent tension between the intent of professional controls and their real-world impact.

This critique provides the universal policy discourse and critical framework necessary to analyze the Philippine context. It frames the tension between CHED, which sets academic standards, and the PRC, which enforces workforce regulation under RA 9292, as a classic case of a regulatory regime overstepping academic preparation. The disjuncture, where a professional license mandated for electronics engineers misaligns with the curricula of computing disciplines, is not merely a local oversight but a globally relevant professional policy issue. It exemplifies the universal risk that licensing, when misapplied, can create illegitimate barriers to workforce entry rather than assuring quality, thereby highlighting the critical need for coherent systems where educational pathways and regulatory practice are systematically aligned.

Jarvis (2014) provides a critical theoretical lens by arguing that Quality Assurance (QA) regimes have become dominant regulatory tools globally, reflecting a shift towards neo-liberal managerialism in higher education. This framework posits that QA is not a neutral mechanism for improvement but an instrument of governance used to enforce compliance, reorient universities towards market-oriented technoscience, and align educational outputs with perceived economic needs.

This critical perspective provides a powerful framework for analyzing the disjuncture between CHED and the PRC. Jarvis's lens frames CHED's curricular policies (CMOs) for computing disciplines as a manifestation of this global QA trend, specifically, as a qualifications framework designed to produce graduates with readily usable knowledge and skills for the job market. In contrast, the expansive scope of RA 9292 can be interpreted as an

entrenched form of professional governmentality, a mechanism of political power used by an existing professional group to control market entry. The resulting conflict is thus not merely a technical misalignment but a fundamental struggle between two competing regulatory logics: CHED's forward-looking, economically-driven QA model and the PRC's boundary-policing, monopoly-protecting regulatory regime. This framing elevates the Philippine case from a local policy anomaly to a clear example of a globally relevant phenomenon, where the instrumental logic of educational quality assurance clashes with the exclusionary tendencies of traditional professional licensure.

Ghamrawi et al. (2023), on the other hand, showed that while those they surveyed acknowledged the macro-level purpose of a performance-based licensure system, an overwhelming 92.4% found it burdensome and struggled to see its relevance to their personal professional development or efficacy. Their study revealed a critical disconnect: the licensure was based on generic standards that failed to account for specific contextual needs, leading practitioners to perceive it as a compliance exercise rather than a valuable developmental tool.

This empirical insight provides a powerful analogical framework for analyzing the Philippine context. The perceptions captured by Ghamrawi et al. mirror the likely experience of computing graduates governed by RA 9292, framing the law not merely as a technical misalignment but as a systemic failure in regulatory design. It substantiates the argument that the PRC's licensing regime, much like the one in the study, can function as a burdensome, one-way mirror: it projects an image of quality assurance to regulators but reflects only irrelevance and hindrance to the practitioners subject to it. This demonstrates that the disjuncture between CHED's academic preparation and the PRC's professional regulation is a globally recognized phenomenon, where top-down, generic licensing standards inevitably create tension and stifle innovation when they overlook the specific context and voices of the professional community they aim to govern.

Methodology

Research Design

This study adopts a qualitative documentary research design situated within the interpretive and critical orientation of Critical Policy Analysis (CPA). The research aims to uncover how multiple layers of state policy—legislative, implementing, and academic—interact to produce structural incoherence and exclusion within the Philippine professional and educational landscape. Rather than collecting empirical data or interviews, the study focuses on the textual, structural, and ideological dimensions of policy formation, interpreting how language, authority, and institutional logic converge to shape professional boundaries.

By employing CPA as its lens, the study approaches policy as both a discourse and an instrument of power. It assumes that policy texts, while written in technical and legal terms, are embedded in broader struggles over legitimacy and control. The analysis therefore moves beyond descriptive comparison to a critical reading of state-produced documents, treating each as a manifestation of institutional interests and as a site where authority is constructed and contested.

Data Sources

The study is based exclusively on the documentary analysis of official policy texts representing three interrelated tiers of the Philippine governance framework for technical professions: legislative, implementing, and academic. At the legislative tier, the principal document is Republic Act No. 9292, otherwise known as the Electronics Engineering Law of 2004. This statute defines the practice of electronics engineering and outlines the legal qualifications and scope of work that fall under its regulation. It serves as the central legislative text through which the professional domain is legally delimited.

At the implementing tier, the analysis incorporates the PRBEE/PRBECe Joint Resolution No. 01, series of 2020, issued by the Professional Regulatory Boards of Electrical Engineering and Electronics (PRBs) under the PRC. This resolution interprets and operationalizes RA 9292, clarifying how the law's provisions are applied in practice. It is particularly significant because it reaffirms the expansive interpretation of the Electronics Engineering Law's scope, thereby consolidating the professional monopoly over computing-related functions and directly illustrating how policy overreach becomes institutionalized through regulatory enforcement.

At the academic tier, the study examines Republic Act No. 7722, or the Higher Education Act of 1994, which establishes the mandate of the CHED as the state agency responsible for formulating policies that promote quality higher education. Within this framework, the study focuses on two key curricular policies: CMO No. 25, series of 2015, which sets the policies, standards, and guidelines for ITE (IT Education, consisting of BSCS, BSIS, and BSIT), and CMO No. 87, series of 2017, which establishes the same for the BSCpE program. These CMOs define the academic identity, competencies, and professional outcomes for computing disciplines, providing the educational baseline against which the legal and regulatory frameworks are compared.

Data Analysis Technique

The study employs a critical content analysis structured as a three-tier comparative framework. This technique involves systematically identifying, interpreting, and contrasting the key definitional and jurisdictional claims embedded in the legislative, implementing, and academic documents. The analysis proceeds through three primary stages.

The first stage involves identifying key definitions and jurisdictional claims. The scope of practice defined in RA 9292 will be extracted and examined, with particular attention to the phrases describing "any work or activity" related to "hardware, firmware, or software development and applications." These legislative terms will be contrasted with CHED's program-level definitions in CMO No. 25, which include outcomes such as "designing and creating software solutions" and "software engineering," and in CMO No. 87, which include competencies in the "design, development, implementation, and integration of computer hardware and software components." This initial textual analysis identifies the precise points of overlap and potential conflict between education policy and professional law.

The second stage consists of analyzing the regulatory reinforcement introduced by the PRC Joint Resolution. The resolution's declaration that the delineation of professional practice "shall be the domain as provided in RA No. 9292" will be treated as a crucial interpretive act that both clarifies and expands the legislative scope. By reinforcing the law's broad jurisdictional claims, the resolution demonstrates how professional regulatory bodies actively defend and institutionalize the overreach originally embedded in the statute. Through this act of administrative interpretation, the implementing tier consolidates the dominance of one professional group and neutralizes the academic distinctions established by CHED.

The third stage involves triangulating the conflict across the three policy tiers. This step interprets how the legislative, implementing, and academic documents interact to produce a systematic pattern of exclusion. Three key contrasts frame the analysis. The first is between the academic and legislative tiers, where the CHED-defined role of a software engineer is directly claimed under RA 9292's definition of electronics engineering practice. The second is between the academic and legislative tiers in the context of hardware competencies, where CHED's defined outcomes for computer engineers overlap with the same law's claim over hardware design and development. The third is between the academic and implementing tiers, where the PRC resolution disregards the disciplinary distinctions articulated by CHED and instead affirms a single, monopolistic interpretation of professional jurisdiction.

Through this comparative and interpretive process, the study reveals not only the textual inconsistencies among these policy instruments but also the systemic nature of the disjuncture that arises from their interaction. The findings are expected to demonstrate that the legislative and implementing arms of the state effectively nullify the autonomy of the academic tier, producing a hierarchical configuration in which professional regulation subordinates educational legitimacy. By tracing these patterns through a CPA lens, the study situates the resulting exclusion of computing graduates as a product of policy design and institutional power rather than as an unintended administrative outcome.

Results and Discussion

The analysis of key legal and policy documents reveals a persistent structural incoherence in the Philippine state's governance of technical professions. The results show that the country's educational and professional regulatory systems operate as fragmented instruments of authority, producing tensions that extend beyond bureaucratic misalignment. Through the lens of Critical Policy Analysis, this study identifies three interrelated mechanisms that shape this incoherence: policy disjuncture, systemic exclusion, and the influence of dominant interests. Together, these mechanisms illustrate how state policies can function not as neutral administrative tools but as instruments that sustain inequality and undermine constitutional guarantees of education, equity, and academic freedom.

Policy Disjuncture in Legal Definition

At the legislative level, Republic Act No. 9292, or the Electronics Engineering Law of 2004, exemplifies a

fundamental policy disjuncture. The law's expansive definition of professional practice includes activities related to the design, development, manufacture, and application of computers and their networking, hardware, firmware, and software. By defining electronics engineering to encompass the entire field of computing, the law creates a conflict between two state functions: the congressional mandate to regulate professions and the constitutional and statutory mandate of CHED to define educational disciplines. This disjuncture is not an incidental overlap but a structural contradiction that originates in the legislative text itself.

From a Critical Policy Analysis perspective, this disjuncture demonstrates how the state's own instruments can become sources of incoherence. The legislative expansion of jurisdiction reflects a lack of alignment between professional regulation and academic preparation. It effectively transforms education policy into a subordinate framework, disconnecting the right to education from the right to practice one's acquired knowledge. Such disjuncture violates the constitutional intent that education serve as a vehicle for human development, as guaranteed under Article XIV, Section 1 of the 1987 Constitution. The result is a system in which two arms of the same state produce competing frameworks for defining technical competence, leaving graduates caught between the authority that trained them and the authority that licenses them.

Systemic Exclusion through Regulation

The implementing tier of policy, represented by the PRBEE and PRBECe Joint Resolution No. 01 of 2020, reveals how systemic exclusion emerges from administrative practice. This resolution explicitly declares that all delineations of professional practice shall follow the domain prescribed in Republic Act No. 9292. In doing so, it converts the law's ambiguous wording into a definitive regulatory position that forecloses dialogue or coordination with other professional or educational bodies. What begins as legislative disjuncture is therefore transformed, through regulation, into systemic exclusion.

Critical Policy Analysis views such exclusion not as a by-product of poor policy design but as an institutionalized mechanism that privileges certain groups while marginalizing others. The PRC's interpretive authority allows it to enforce a monopoly over the scope of computing-related practice, effectively invalidating the professional identity of CHED-qualified computing graduates. This process institutionalizes inequality under the guise of standardization. Graduates of computer science and computer engineering programs are denied professional recognition despite being trained under the state's own educational mandate. In constitutional terms, this exclusion undermines the guarantees of equal protection and equal opportunity in employment, as well as the state's obligation to promote social justice.

By interpreting its jurisdiction as absolute, the PRC converts the constitutional ideal of professional regulation into a mechanism of exclusion. This administrative enforcement of hierarchy transforms education from an instrument of empowerment into a source of disenfranchisement. It demonstrates how state institutions, through routine regulatory practice, can reinforce power asymmetries and create structural barriers to participation in national development.

Dominant Interests and the Subordination of Educational Authority

At the academic tier, the presence of dominant interests becomes visible in the erosion of CHED's curricular autonomy. The Commission on Higher Education, established under Republic Act No. 7722, is constitutionally mandated to promote quality and relevant higher education and to safeguard academic freedom. Through CMO 25 for ITE programs and CMO 87 for BSCpE, CHED defines the competencies, outcomes, and professional identities of computing disciplines. These CMOs align Philippine programs with international standards and explicitly prepare graduates for roles in software and hardware development.

However, these academic definitions are undermined by the expansive scope of RA 9292 and the PRC's interpretation of it. From a CPA perspective, this subordination reflects the operation of dominant interests within policy structures. The authority of professional regulation has come to dominate the academic field, privileging the interests of licensed electronics engineers while silencing the academic and professional claims of computing disciplines. This dominance is sustained not through overt conflict but through the institutional acceptance of regulatory hierarchy as the natural order of governance.

The persistence of dominant interests reveals how policy operates as a site of power, not merely administration. The authority to define what counts as a legitimate profession becomes concentrated in one sector of the state, marginalizing others and reshaping education to conform to regulatory logic. This undermines the constitutional guarantee of academic freedom and the principle that education should serve the collective good rather than the interests of a single professional community. It also distorts the developmental purpose of education articulated in Article II, Sections 9 and 10 of the Constitution, which obliges the state to promote social justice and provide opportunities for citizens to improve their quality of life.

The Interplay of Disjuncture, Exclusion, and Dominant Interests

When viewed together, the findings reveal a coherent pattern in which policy disjuncture, systemic exclusion, and dominant interests operate as interconnected mechanisms that sustain structural inequality. The legislative tier produces disjuncture by creating contradictory definitions of disciplinary jurisdiction. The implementing tier converts this disjuncture into exclusion by institutionalizing it through administrative authority. The academic tier reflects the consolidation of dominant interests, where one profession's regulatory power overrides another's academic legitimacy. These mechanisms interact to create a policy ecosystem that systematically privileges one professional domain while marginalizing others.

From a constitutional standpoint, this interplay exposes how incoherent policymaking can erode the foundations of education, equity, and freedom. Policy disjuncture fragments the state's commitment to quality education, systemic exclusion violates equal protection and social justice, and dominant interests undermine academic freedom and institutional autonomy. Together, these outcomes reveal a governance structure that reproduces hierarchy rather than coherence.

The study thus concludes that the Philippine state's current configuration of education and professional regulation represents a condition of constitutional incoherence. What appears as administrative fragmentation is, in fact, a deeper structural imbalance in which policy serves as an instrument of power rather than equity. Restoring coherence requires more than coordination; it demands a realignment of state policy with its constitutional purpose. Education and regulation must function as complementary forces guided by the principles of inclusion, equality, and freedom. Only then can the state ensure that its policies lead not from education to exclusion, but from education to empowerment.

Conclusion and Policy Recommendations

The analysis conducted in this study demonstrates that the disjuncture between the Commission on Higher Education's computing curricula and the Electronics Engineering Law of 2004, or Republic Act No. 9292, is not a mere administrative misalignment but a manifestation of deeper structural and constitutional contradictions. The documentary analysis of Republic Act No. 9292, the PRBEE and PRBECe Joint Resolution No. 01 of 2020, and the relevant CHED Memorandum Orders has shown that the legislative, implementing, and academic instruments governing the computing and engineering professions do not form a coherent or mutually reinforcing policy continuum. Instead, they operate in tension, creating overlapping jurisdictions that lead to professional exclusion.

Through the lens of Critical Policy Analysis, this disjuncture reveals how state institutions, even when acting within their lawful mandates, can produce inequitable outcomes by reproducing existing hierarchies of power. The legislative and regulatory tiers have consolidated authority over the definition of professional practice, while the academic tier, though grounded in constitutional and statutory legitimacy, has been subordinated to this regulatory dominance. The result is a policy environment in which education policy no longer functions as a pathway to empowerment but as a precursor to exclusion.

This incoherence has significant constitutional implications. The right to quality education guaranteed under Article XIV, Section 1 of the 1987 Constitution is diminished when graduates of CHED-accredited computing programs are legally barred from applying their knowledge in professional contexts. The principle of academic freedom articulated in Article XIV, Section 5, which guarantees that institutions of higher learning may determine what to teach and how to define their disciplines, is undermined when regulatory agencies effectively redefine academic boundaries through administrative interpretation. Furthermore, the exclusion of computing graduates from professional participation violates the equal protection clause and the broader constitutional policy of promoting social justice and equitable opportunity. These contradictions reveal how incoherent policy frameworks can translate into constitutional incoherence, eroding the normative integrity of state governance.

Addressing this issue requires a process of legislative, regulatory, and institutional reconciliation that restores balance between education and professional regulation. Legislative action is essential to clarify the scope of Republic Act No. 9292. Congress should review the law's definition of electronics engineering to ensure that it accurately reflects the boundaries of the discipline and does not absorb computing and information technology, which are distinct fields recognized by CHED. Legislative amendment should aim to align the statutory language

of professional laws with the program outcomes and competencies defined by CHED, thereby restoring coherence between Republic Act No. 7722 and Republic Act No. 9292.

At the regulatory level, a sustained partnership between the PRC and CHED should be institutionalized. The creation of a permanent joint committee or coordination mechanism would allow for regular dialogue and policy alignment in fields where disciplinary overlap is likely to occur. This inter-agency coordination should not be symbolic but operational, ensuring that policy interpretations, resolutions, and licensing frameworks respect the academic identities that CHED has established under its mandate. Through collaborative governance, the state can move beyond jurisdictional competition and toward a model that respects both academic expertise and professional accountability.

Reform must also include the constitutional harmonization of all future professional regulation policies. Both legislative and administrative processes should incorporate explicit checks to ensure compliance with constitutional guarantees of education, academic freedom, and equality. Policies should be evaluated not only for their technical precision but for their potential social and constitutional implications. In this way, the state can prevent future instances where regulatory dominance transforms lawful education into professional disqualification.

Beyond technical reform, the recognition of computing as a distinct professional field is necessary. The disciplines of Computer Engineering, Computer Science, Information Systems, and Information Technology, have matured into autonomous fields with their own methodologies, global standards, and ethical frameworks. Their graduates contribute to digital transformation, software innovation, and information systems security, areas that extend beyond the traditional scope of electronics engineering. The formal recognition of computing professions, whether through new legislation or the amendment of existing laws, would restore professional equity, strengthen workforce development, and reaffirm the state's constitutional commitment to technological advancement.

In the broader context of governance, the findings of this study point to the need for a national framework that integrates education, licensure, and employment policy under a single vision of coherence and justice. Such a framework should be guided by constitutional principles that view education and professional regulation not as competing domains but as complementary functions of the state. The ultimate goal is to ensure that educational achievement translates into meaningful participation in national development, rather than exclusion from it.

The policy disjuncture between CHED's computing curricula and the Electronics Engineering Law exemplifies how fragmented state policymaking can reproduce inequality and erode constitutional values. From a Critical Policy Analysis perspective, the present configuration of laws and regulations reflects a system where institutional power, rather than public welfare, dictates professional boundaries. Rectifying this condition requires a deliberate and principled reconciliation between education and regulation, anchored in the Constitution's vision of human development, equity, and freedom. Education must be restored to its rightful place as an instrument of empowerment. Only through the harmonization of these mandates can the Philippine state ensure that its policies no longer lead from education to exclusion, but from education to opportunity and nation-building.

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