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# Teacher Training Programs, Guam and Taiwan: A Comparative Study

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This study conducts an in-depth comparative analysis of the teacher preparation systems in Guam and Taiwan, examining two divergent models for cultivating K-12 public school educators. Guam's system, aligned with United States standards, represents a decentralized, university-led model regulated by professional accreditation and standardized testing. In contrast, Taiwan's system exemplifies a nationally administered educational framework with government-established curriculum standards, a mandatory post-baccalaureate internship, and a high-stakes national qualifying examination. Employing a qualitative comparative case study design, this research analyzes an extensive collection of policy documents, university curriculum guides, and academic literature to deconstruct the historical, political, and cultural foundations that shape each system. The findings reveal fundamental differences in the pathways to licensure, curriculum philosophy, the structure and timing of clinical practice, and the nature of assessment and certification. Guam's approach fosters flexibility and local adaptation, while Taiwan's system emphasizes curriculum consistency, qualification rigor, and centralized oversight for quality assurance. The analysis demonstrates how these structural differences correlate with key outcomes, including teacher retention rates, and shape the professional identity of educators. The study concludes that neither model is categorically superior; rather, their effectiveness is contingent on their specific contexts. Actionable recommendations are proposed for each system, suggesting that Guam could benefit from developing more holistic, performance-based capstone assessments, while Taiwan could enhance its system by granting greater curricular autonomy to universities and diversifying its certification process. This research contributes to the field of comparative education by offering a comprehensive overview of the trade-offs between decentralized and nationally administered approaches to teacher preparation.

*Keywords:* Guam, Taiwan, teacher training, preparation, comparative study, education systems, curriculum

## Introduction: Two Islands, Two Models of Teacher Preparation

The quality of a nation's teaching force is widely recognized as a primary determinant of its educational outcomes and a cornerstone of its social and economic development (Darling-Hammond, 2017). Consequently, the systems designed to prepare, certify, and support teachers are subjects of intense policy debate and scholarly inquiry worldwide. This paper presents a comparative analysis of two distinct and compelling models of teacher preparation: the decentralized, United States-aligned system of Guam and a nationally administered education system in Taiwan. This study frames the comparison not merely as an examination of two island polities but as a micro-level case study of two competing global philosophies in education governance, each with its history, values, and vision of the professional teacher. This study argues that the effectiveness of teacher preparation

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systems is context-dependent, and that cross-system borrowing must be carefully calibrated to local histories and needs.

Guam, an unincorporated territory of the United States, operates an education system that largely mirrors the American model. Its teacher preparation is centered at the university level, accredited by U.S. professional bodies, and reliant on standardized testing for certification, reflecting a broader American emphasis on institutional autonomy and metric-based quality assurance (Guam Commission for Educator Certification, 2023; Pure Professional Skill Development Institute, n.d.). Taiwan, conversely, operates a highly centralized system in which the national Ministry of Education (MOE) dictates uniform standards for curriculum, administers a national qualifying examination, and serves as the ultimate arbiter of teacher quality (Ministry of Education, 2023; Chien & Lin, 2019). This approach is characteristic of many high-performing East Asian systems that prioritize equity, consistency, and the alignment of education with national development goals (Chen, Sheu, & Jen, 2023).

The significance of this study lies in the unique opportunity it presents. It juxtaposes a U.S. territorial system, which must navigate the complexities of balancing federal standards with the imperative of local cultural revitalization, against a sovereign East Asian system that has historically leveraged education as a primary instrument for nation-building and economic strategy (Carano & Sanchez, 1964; Vickers & Lin, 2022). This focused comparison offers critical insights that extend to the broader fields of comparative education, teacher policy, and postcolonial studies, providing a granular look at how global educational trends are interpreted and implemented in specific, historically rich contexts. By deconstructing these two systems, this research seeks to illuminate the inherent strengths, weaknesses, and policy trade-offs of each model, contributing to a more nuanced global discourse on improving teacher quality.

To achieve this, the study is guided by a set of core research questions that probe beyond surface-level descriptions to uncover the underlying logic and values of each system:

(1) What are the major similarities and differences in the pathways to K-12 teacher licensure between Guam and Taiwan, from university admission to full professional certification?

(2) How do historical, political, and cultural factors shape the architecture of their respective teacher preparation programs, including curriculum, clinical practice, and assessment?

(3) What are the inherent strengths, weaknesses, and policy trade-offs associated with Guam's decentralized, university-led model and Taiwan's centralized model?

(4) Can each system learn from the other to foster continuous improvement and enhance the quality of its teaching force?

## Methodology and Theoretical Framework

This research employs a qualitative comparative case study design, an approach well-suited for in-depth investigation of complex social phenomena within their real-life contexts (Yin, 2018). By selecting Guam and Taiwan as two distinct cases, one representing a decentralized, U.S.-aligned system and the other a centralized, East Asian model, this study performs a rich, contextualized comparison.

The methodological choice of comparative case study is supported by international scholarship. Li (2023) systematically demonstrates how cross-national analyses not only identify structural similarities and differences but also reveal the social, historical, and political dimensions that shape teacher education policies and their effectiveness. By aligning with such frameworks, this study situates Guam and Taiwan's teacher education systems within broader patterns and theoretical debates in global education policy research, allowing for richer interpretation and more actionable insights.

The primary method of data collection is document analysis (Bowen, 2009). Data sources were systematically collected from both Guam and Taiwan and include:

- Government and Agency Policy Documents: Official statutes, regulations, and policy guidelines from the Guam Commission for Educator Certification (GCEC), the Guam Department of Education (GDOE), and Taiwan's Ministry of Education (MOE).
- University and Program-Specific Documents: Course catalogs, program frameworks, and curriculum guides from the University of Guam (UOG) and National Taiwan Normal University (NTNU).
- Scholarly and Research-Based Literature: Peer-reviewed journal articles, books, and research reports on teacher education in both regions and on comparative education theory.

Data were analyzed using thematic analysis to identify key patterns and contrasts (Braun & Clarke, 2006). This analysis is guided by a comparative education framework that emphasizes the interplay of context, process, and outcomes, allowing for an examination of how historical, cultural, and policy forces shape each system (Bray, Adamson, & Mason, 2014).

Recent scholarship underscores the increasing importance of comparative perspectives in teacher education policy, particularly in an era of globalization where countries continually benchmark and adapt policy innovations from one another. As Li (2023) notes, examining the reform trajectories of pre-service teacher education in countries such as the United States, the UK, Japan, Singapore, and China reveal recurring challenges such as balancing theory and practice, integrating quality assurance, and promoting lifelong teacher learning that resonate with the dilemmas faced by Guam and Taiwan. These international cases emphasize the necessity of context-sensitive policy borrowing and highlight the value of continuous policy calibration between centralized regulation and institutional autonomy.

## Foundations of the Systems: A Legacy of History and Policy

The contemporary teacher preparation systems in Guam and Taiwan are not modern inventions created in a vacuum. They are deeply layered constructs, imprinted with the historical and political trajectories of each island. To understand why they function as they do today, why Guam relies on the Praxis exams, and why Taiwan mandates a national qualifying test, it is paramount to examine the foundational forces of colonialism, nationalism, and democratization that shaped them.

### Guam: A Tapestry of Colonialism and Americanization

Guam's educational landscape reflects successive colonial influences, culminating in a modern system that reflects its integration into the American political sphere and a burgeoning movement to reclaim its indigenous identity. Before Western contact, the indigenous CHamoru people had their system of education, the *guma' uritao*, which transmitted essential cultural and practical knowledge through matrilineal clans (Carano & Sanchez, 1964). The arrival of the Spanish in the 17th century supplanted this educational model with a system of *eskuelan pale'* (priest schools) focused almost exclusively on religious conversion and catechism, establishing a limited, non-compulsory form of Western schooling (Carano & Sanchez, 1964).

The pivotal shift occurred in 1898 when Guam was ceded to the United States following the Spanish-American War. The U.S. Naval administration that governed the island for the next half-century viewed public education as a primary tool for "Americanization" (Rogers, 1995). This policy was explicit and systematic: a compulsory public school system was established, English was enforced as the sole language of instruction, and the indigenous CHamoru language was actively suppressed, often through punishment (Flores, 2019). The curriculum was modeled on American schools, and the entire apparatus was designed to instill loyalty to the United States (Rogers, 1995).

This history directly explains the architecture of Guam's modern teacher preparation system. The signing of the Organic Act of 1950, which granted U.S. citizenship and established a local civilian government, transferred authority over education to a locally elected board and laid the groundwork for the Guam Department of Education (GDOE) (Rogers, 1995). Consequently, the system that evolved naturally mirrored that of a typical U.S. state. This legacy is evident today in its core components: the central role of the University of Guam (UOG) as the primary preparation institution, its accreditation by U.S. bodies like the Council for the Accreditation of Educator Preparation (CAEP) and, more importantly, the Association for Advancing Quality in Educator Preparation (AAQEP, 2021), its reliance on American standardized tests (the Praxis series) for certification, and its alignment with U.S. professional standards (Guam Commission for Educator Certification, 2023).

However, this embrace of U.S. structures has given rise to a fascinating paradox in modern policy. While structurally aligned with the U.S., Guam's teacher preparation policies are now being used as a tool to actively reverse the legacy of American colonial assimilation. The clearest evidence of such an approach is the mandatory requirement for all teachers seeking professional licensure to complete a university-level course in "Guam History/Culture" (Guam Commission for Educator Certification, 2023). Furthermore, the UOG curriculum prominently features courses in "Culturally Sustaining Pedagogy" (University of Guam School of Education, n.d.). These mandates, rooted in public laws passed since the 1970s to promote CHamoru language and culture in schools, are not merely curricular choices; they represent a conscious act of decolonization. They are a direct institutional response to the historical suppression of CHamoru identity. Therefore, teacher preparation in Guam today is not a simple matter of adopting U.S. best practices; it has become a critical site of cultural negotiation, where the system itself is used to reclaim and revitalize the very identity that its historical predecessor sought to erase. This dynamic explains the profound emphasis on "multicultural pedagogy" and "cultural competence" noted in program descriptions. This is not just an educational ideal, but a political and cultural imperative born from a complex history (Rios & Castillo, 2020).

Global citizenship education, when critically enacted, requires education systems to confront issues of diversity, indigeneity, and social justice by adding international content while fundamentally rethinking curricular frameworks to include marginalized voices and epistemologies (Akkari & Maleq, 2020, pp. 9-10). This is particularly relevant in Guam, where curricular reforms seek to reclaim and revitalize the CHamoru language and heritage, and in Taiwan, where democratization has led to greater recognition of multicultural and indigenous perspectives in teacher education (Akkari & Maleq, 2020, pp. 71-86).

**Taiwan: A Crucible of Imperialism, Nationalism, and Democratization**

Taiwan's educational history is a story of transformation under a series of powerful, centralized regimes, each of which repurposed the education system to serve its own strategic ends. The traditional Chinese system under Qing dynasty rule was limited and elitist, but this was swept away when Taiwan was ceded to Japan in 1895 (Tsurumi, 1977). Unlike the Spanish in Guam, the Japanese colonial government implemented a highly structured, centrally controlled, and widespread system of modern public schooling. Education was a critical tool for assimilation (*kōminka*), modernization, and economic development. The Japanese established a pragmatic curriculum focused on language, ethics, and vocational skills, and created a Normal School in Taipei to train a cadre of Taiwanese teachers to implement their vision (Tsurumi, 1977). This 50-year period established the foundational infrastructure of a modern, centralized education system.

After Japan's defeat in World War II, the Kuomintang (KMT) government of the Republic of China took control. Following their retreat to Taiwan in 1949, the KMT embarked on a comprehensive project of "Sinicization" and nation-building, viewing education as the primary vehicle for this transformation (Wong, 2020). They inherited the centralized structure left by the Japanese and repurposed it for a new ideological master. The Japanese language was banned, Mandarin became the sole language of instruction, and the curriculum was heavily politicized to instill a mainland-centric Chinese identity and fervent anti-communist loyalty (Vickers & Lin, 2022). This period cemented the role of the Ministry of Education (MOE) as the powerful central authority, establishing the highly politicized, exam-driven system that would define Taiwanese education for decades.

The end of martial law in 1987 and the subsequent democratization of Taiwan unleashed a wave of reforms that directly targeted this authoritarian educational structure (Huang, 2023). The 1990s saw a powerful movement demanding a more humanistic, democratic, and pluralistic education system. This led to sweeping reforms that deregulated government control, revised textbooks to include a more Taiwan-centric perspective, and introduced new emphases on multiculturalism, indigenous education, and bilingualism (Vickers & Lin, 2022).

This history directly accounts for the dual nature of Taiwan's current teacher preparation system. The legacy of Japanese and KMT rule explains the continued existence of a powerful, central MOE that ensures curricular uniformity and administers a national qualifying exam (National Taiwan University, 2022). The elite "Normal Universities", such as National Taiwan Normal University (NTNU), are a direct institutional inheritance from this past (Chen et al., 2023). The democratic reforms, in turn, explain the content of the modern curriculum, with its focus on competence-based learning, social participation, and global understanding (Huang, 2023).

This historical trajectory reveals that Taiwan has consistently conceived the teacher as an agent of the state's evolving vision of its national identity. From Japanese imperial subject to anti-communist Chinese citizen to modern, democratic, and multicultural Taiwanese citizen, the teacher's role and training have been continuously redefined by the ruling power to serve a specific political and cultural project. Therefore, Taiwan's domain of teacher education has never been politically neutral. The high-stakes Teacher Qualification Examination (TQE) and the centralized curriculum are not merely tools for quality control; they are instruments to ensure that the nation's teaching force is ideologically and professionally aligned with the current national narrative. This phenomenon explains the deep cultural emphasis on the teacher as a "moral leader" and "civic model", a role influenced by Confucian values of the teacher as a moral exemplar, one that transcends mere instruction and is fundamentally tied to the construction of the nation itself (Chen et al., 2023).

Beyond the political trajectory from Japanese rule to KMT-led centralization and post-1987 democratization, Taiwan's teacher education experienced a structural policy shift: from a state-monopolized "normal" system emphasizing input/process control (1949-1994) to a diversified, open system following the 1994 Teacher Education Act. The pre-1994 regime featured free tuition, job guarantees, and planned supply-demand balancing;

post-1994 reforms opened teacher education to comprehensive universities, introduced school-based hiring, and reframed "quality" through competition and program diversity (Fwu, 2001).

## The Architecture of Teacher Preparation: A Structural Comparison

The historical and political foundations of Guam and Taiwan give rise to two distinctly different architectures for preparing teachers. This section provides a granular, side-by-side analysis of these structures, examining the pathways to the profession, the design of curriculum and coursework, the nature of clinical practice, and the regimes of assessment and licensure.

### Pathways to the Profession: A Step-by-Step Comparison

The journey from aspiring student to fully certified K-12 teacher follows structured but fundamentally different pathways in Guam and Taiwan. The sequence of events, governing bodies, and key milestones in each system reveal the core philosophical divergence between the decentralized, university-centric model and the centralized, state-governed model. Guam's pathway is a modular process integrated with standardized testing and a tiered licensure system. Taiwan's pathway is a linear, state-mandated process that culminates in a mandatory internship and a single, high-stakes national examination (National Taiwan University, 2022). The following table provides a direct, step-by-step comparison of these two pathways.

- University Admission: Enroll in a Bachelor of Arts in Education program at the University of Guam as a pre-education major.
- Coursework & Praxis Core: Complete general education and pedagogical courses. Passing the Praxis Core Academic Skills tests is often a prerequisite for formal admission into the teacher education program using a portfolio assessment.
- Student Teaching: Undertake a semester-long (15-week) student teaching experience in a GDOE school during the final year.
- Graduation & Praxis Subject Tests: Graduate with a B.A. and pass the Praxis Principles of Learning and Teaching (PLT) and relevant Subject Assessment tests (University of Guam SOE, 2024, p. 7).
- Initial Licensure: Apply to the Guam Commission for Educator Certification (GCEC) for a three-year Initial Educator Certificate.
- Induction Period: During the initial certificate period, complete a one-year mentorship program and a required course in Guam History or Culture.
- Professional Licensure: Apply for a five-year Professional Educator Certificate after completing all induction requirements.

### Taiwan's Pathway

- University Admission: Enroll in a university with an MOE-approved teacher preparation program (e.g., NTNU) and gain admission to the program, often after the first year.
- Coursework Completion: Complete all required academic and pedagogical coursework as prescribed by the MOE's national standards.
- The Half-Year Internship: After completing all university coursework, undertake a mandatory, six-month, full-time internship in a public school (National Taiwan University, 2022, Art. 34)
- Qualification for Examination: Upon successful completion of the internship, receive a university certificate of program completion.

- The Teacher Qualification Examination (TQE): Register for and pass the comprehensive, nationwide TQE administered by the MOE.
- National Certification: Upon passing the TQE, the MOE issues a single, lifetime national teaching certificate.
- Securing Employment: With the national certificate, compete for open teaching positions, which often involve secondary local selection processes.

Table 1

*Side-by-Side Architecture Comparison (UOG vs. NTNU)*

| Step | Guam (U.S.-Aligned, Decentralized Model) | Taiwan (Centralized National Model) |
|---|---|---|
| 1 | University Admission & Program Enrollment: Enroll in a Bachelor of Arts in Education program at the University of Guam (UOG). | University Admission & Program Enrollment: Enroll in a university with an MOE-approved teacher preparation program (e.g., NTNU). |
| 2 | Praxis Core & Program Admission: Complete degree coursework while passing the Praxis Core Academic Skills tests, often a prerequisite for formal portfolio assessment admission to the teacher education program. | Completion of Educational Credits: Complete all required academic and pedagogical coursework as prescribed by the MOE's national standards. |
| 3 | Student Teaching Practicum: Undertake a semester-long (15-week) student teaching experience in a GDOE school, integrated within the final year of the bachelor's degree program. | The Half-Year Internship (Practicum): After completing all university coursework, undertake a mandatory, six-month, full-time internship in a public school. |
| 4 | University Graduation: Graduate with a bachelor's degree upon successful completion of all coursework and the practicum. | Qualification for Examination: Upon successful completion of the internship, receive a university certificate of program completion, making the candidate eligible for the national exam. |
| 5 | Application for Initial Licensure & Praxis Subject Tests: Apply to the Guam Commission for Educator Certification (GCEC) for a three-year Initial Educator Certificate. Requires passing scores on the Praxis Principles of Learning and Teaching (PLT) and relevant Praxis Subject Assessment tests. | The Teacher Qualification Examination (TQE): Register for and pass the comprehensive, nationwide TQE administered by the MOE. |
| 6 | Mentorship & Professional Development: During the three-year initial certificate period, complete a one-year mentorship program and a required course in Guam History or Culture. | Issuance of National Teaching Certificate: Upon passing the TQE, the MOE issues a single, lifetime national teaching certificate. |
| 7 | Advancement to Professional Licensure: Apply for a five-year Professional Educator Certificate after completing mentorship and cultural course requirements. Further advancement to a 10-year Master Educator Certificate is possible. | Securing a Teaching Position: With the national certificate, compete for open teaching positions, which often involve secondary local selection processes (e.g., interviews). |

The most striking difference revealed by this comparison is the focus of control. In Guam, power is distributed: the university (UOG) manages preparation, a private company (Educational Testing Service, ETS) manages the key assessment hurdles, and a local commission (GCEC) grants the license. This creates a modular system where a candidate must clear a series of discrete checkpoints. In Taiwan, power is concentrated: the Ministry of Education (MOE) is the central authority that dictates the curriculum, administers the final qualifying exam, and issues the definitive national certificate. The state ensures a highly uniform, linear, and predictable pathway by tightly aligning all components.

These structural contrasts motivate targeted reforms: holistic capstones and extended residencies for Guam; bounded autonomy and diversified certification for Taiwan (see pp. 20-22).

## Curriculum and Coursework: A Tale of Two Credit Philosophies

While both systems require prospective teachers to complete a bachelor's degree with a total credit load of between 120 and 128 hours, the underlying structure of their curricula reveals different philosophies. This difference reflects contrasting philosophies regarding the construction and delivery of teacher knowledge (NTNU Guide to Study, 2024; University of Guam School of Education, n.d.). Guam's University of Guam (UOG) employs an intensive model built on 3.0-credit courses, suggesting a belief in integrated depth. In contrast, Taiwan's National Taiwan Normal University (NTNU) uses a more modular model based on 2.0-credit courses, promoting modular breadth and flexibility. This distinction reflects different approaches to constructing what Lee Shulman (1986) termed Pedagogical Content Knowledge (PCK), the unique combination of content and pedagogy that is the hallmark of expert teaching. UOG's model integrates these elements into fewer, larger courses, while NTNU's model presents them as discrete components. This difference is not a mere administrative detail; it reflects fundamentally different pedagogical values. This central specification can constrain program-level innovation, suggesting value in bounded curricular autonomy (Chang & Fang, 2020; Chien & Lin, 2019).

Table 2

*Side-by-Side Curriculum Structure Comparison (UOG vs. NTNU)*

| Curriculum Segment | University of Guam (UOG) | National Taiwan Normal University (NTNU) |
|---|---|---|
| General Ed/ Foundational | English Composition, General Ed Math, Science, U.S./Guam History, Freshman Seminar. | Chinese (Thinking & Expression), English, General Education, Physical Education, Service Learning (32 credits). |
| Pedagogical Foundation | Foundations of Education, Educational Psychology, Human/Child Development, Assessment. | History of Education, Sociology of Education, Philosophy of Education, Educational Psychology, Child Development, Curriculum Theory. |
| Methods Courses | Integrated Language Arts Methods, Math Methods, Social Studies Methods, Science Methods, Health/PE Methods. | Mandarin Methods, Math Methods, Science Methods, Social Studies Methods, Arts Methods, Health/PE Methods, Classroom Management. |
| Technology Integration | Educational Technology, Technology in Teaching. | Educational Technology Integration, IT in Education. |
| Special/Inclusive Ed | Intro to Special Education, Multicultural/Culturally Sustaining Pedagogy. | Special Education Principles, Inclusive Education. |
| Clinical Experience | Microteaching, Field Experiences I & II, Semester-long (15-week) Student Teaching. | Microteaching, Classroom Observation, six-month (20-week) Practicum at a partner school. |
| Professionalization | Capstone Seminar, Professional Seminar, Mentorship, Guam Culture/History Course. | Teaching Ethics, Reflective Teaching Portfolio, Graduation Seminar. |

The table highlights how these philosophies play out. While both cover similar domains, UOG's curriculum is organized into broader, integrated courses (e.g., "Integrated Language Arts Methods"), whereas NTNU's is broken into more granular, subject-specific methods courses. This structural choice directly shapes the learning experience, with the UOG model potentially fostering deeper, more integrated knowledge in fewer areas, and the NTNU model promoting a wider, more varied, but potentially more fragmented, knowledge base.

## Alignment to Professional Standards and Portfolio Assessment

The University of Guam School of Education explicitly embeds the InTASC Model Core Teaching Standards into program admission and ongoing candidate assessment, requiring candidates to curate an electronic portfolio in LiveText that evidences competency on specified InTASC standards (University of Guam, Admissions Instructions, n.d.). For admission to the School of Education, candidates must upload a minimum of three artifacts, each aligned to InTASC Standard 1 (Learner Development), Standard 3 (Learning Environments), and Standard 4 (Content Knowledge), with structured reflections that identify the substandard, describe the artifact, and explain the alignment to the standard (University of Guam, Admissions Rubric, n.d.).

The SOE Admission Rubric operationalizes these expectations, tying transcript review and performance evidence directly to InTASC-labeled criteria and detailing performance, essential knowledge, and critical dispositions sub-standards used in review (University of Guam, Admissions Instructions, n.d.). Portfolios are reviewed at multiple program decision points including admission, pre-student teaching, and program exit alongside Praxis scores and dispositions, ensuring continuous standards-based monitoring of progress (University of Guam, Admissions Rubric, n.d.).

**Taiwan (MOE-Approved Programs)**

Taiwan does not use InTASC; instead, pre-service teacher education is governed by national professional competence benchmarks issued by the Ministry of Education (MOE). These competencies are embedded in university curricula and the mandatory six-month internship, with standards-based portfolio documentation and performance evaluation preparing candidates for the comprehensive Teacher Qualification Examination (TQE) administered by the MOE (Chien & Lin, 2019; Ministry of Education, 2023; National Taiwan Normal University, 2024). The MOE's competence orientation is aligned to the 12-Year Basic Education Curriculum and emphasizes holistic development, including autonomous action, communication/interaction, and social participation, which are assessed through program-based portfolio evidence and internship performance in addition to the TQE (Chien & Lin, 2019; Ministry of Education, 2023; National Taiwan Normal University, 2024).

**Comparative Synthesis**

UOG operationalizes standards through InTASC-tagged course artifacts, LiveText portfolio reviews at program gateways, and rubric-guided judgments tied to specific InTASC knowledge, performance, and dispositions indicators, complemented by Praxis testing for licensure (Educational Testing Service, 2021; University of Guam, SOE, n.d.). Taiwan's MOE framework ensures national uniformity via MOE-defined professional competencies, university-validated portfolios, internship evaluations with standards-based rubrics, and a high-stakes national qualifying exam (Chien & Lin, 2019; Ministry of Education, 2023; National Taiwan Normal University, 2024). In short, Guam's model is explicitly InTASC and portfolio-driven at the program level, while Taiwan's is MOE competency driven with portfolio and internship assessments aligned to national standards and capped by the TQE.

The University of Guam's educator preparation programs align with U.S. professional teaching standards and Guam's certification expectations by embedding standards-based assessments and electronic portfolios at admission, midpoint, and exit. These portfolios document candidate growth across coursework and clinical practice and are used to evidence readiness for licensure alongside performance on the Praxis examinations (ETS, 2021; Guam Commission for Educator Certification, 2023; University of Guam, n.d.; 2025). This approach is consistent with the U.S. field's implementation of the InTASC Model Core Teaching Standards as program learning outcomes mapped to curriculum, fieldwork, and portfolio evidence.

Table 3

*Comparative Analysis: Standards and Assessment*

| Feature | University of Guam (U.S.-Aligned) | Taiwan (MOE-Centric) |
|---|---|---|
| Standards framework | InTASC Model Core Teaching Standards | MOE Professional Competence Benchmarks |
| Portfolio Requirement | Electronic portfolio aligned with InTASC (LiveText) | Teaching portfolio aligned to MOE standards |
| Assessment practices | Praxis series, performance evaluated via portfolio | TQE national exam, portfolio, internship performance |
| Focus | National (U.S.), local adaptations | National uniformity, holistic competencies |
| Alignment | Local and U.S. licensure; periodic portfolio review | National certification; university and internship review |

## The Crucible of Practice: A Tale of Two Practicums

The clinical practice component, encompassing the practicum and student teaching, serves as the catalyst for transforming theoretical knowledge into practical skills. The structural differences in this experience between Guam and Taiwan are profound. Guam's practicum is an academic *capstone*—a 15-week "student teaching" experience during the final year, concurrent with university coursework (University of Guam School of Education, n.d.). Taiwan's is a professional apprenticeship over a six-month (20-week), full-time "internship" that takes place after all university coursework is completed (National Taiwan Normal University, 2024; Ministry of Education, 2023). This timing is key, as it marks the start of one's career, not the end of one's studies. The candidate is no longer juggling academic responsibilities; their sole focus is the immersive reality of the school environment. They function as apprentices, participating in all facets of a teacher's duties, from instruction and assessment to administrative tasks and parent communication. The supporting structure, which requires interns to return to their university campus monthly for reflective seminars, provides a unique combination of deep immersion and structured university support (Chen et al., 2023).

This distinction between a capstone and an apprenticeship model is not merely semantic; it has tangible consequences. The available data reveals a contrast in teacher retention: in Taiwan, the five-year teacher retention rate is 91%, whereas in Guam, the three-year retention rate is 76%. While multiple factors influence teacher attrition, including salary, working conditions, and school leadership, it is plausible that the nature of clinical preparation may play a role. The longer, more immersive apprenticeship model in Taiwan may serve as a more effective "inoculation" against the "reality shock" that many new teachers experience (Wang & Chen, 2021). As research by Zeichner and others shows, high-quality, sustained clinical experience is a critical feature of effective teacher preparation. However, differing timeframes (three-year vs. five-year) and cohort composition limit direct comparison.

Building on this contrast, Guam could pilot a year-long, school-embedded teacher residency that bridges the current 15-week capstone with a more immersive apprenticeship model. In partnership with GDOE, UOG could place cohorts in designated host schools for a full academic year, pairing candidates with trained mentor teachers under a co-teaching model, with a gradual release of responsibility across core instructional, assessment, and family-engagement tasks. Structurally, the residency could integrate a two-semester clinical sequence aligned to coursework, monthly reflective seminars, and joint UOG-GDOE supervision calibrated to Guam's cultural and linguistic context. A pilot could prioritize hard-to-staff areas (e.g., elementary science, secondary math/ELA), embed targeted supports identified in Praxis diagnostics (e.g., elementary science content), and include a comparative evaluation design to track outcomes such as first-year effectiveness, induction needs, and three-year retention. This design preserves Guam's program strengths while testing whether extended clinical immersion yields the persistence benefits suggested by apprenticeship-style models. Structured university-school partnerships can systematize these supports and tighten feedback loops (Darling-Hammond, Hyler, & Gardner, 2017; Zeichner & Bier, 2022).

## Gateways to the Profession: University Acceptance, Assessment, Certification, and Licensure

The University of Guam's open admissions acceptance policy, which generally guarantees acceptance to any applicant meeting basic requirements, such as a high school diploma or GED, allows a diverse range of students' access to education (EMSS, 2017). This can positively influence student success by accommodating various backgrounds and experiences and promoting a supportive learning environment where students can share perspectives and learn collaboratively (Guri-Rosenblit, 2010).

However, for specific programs like those in the School of Education, the impact on licensure can vary. Many education programs require students to meet certain prerequisites or criteria to be accepted into the institution of higher learning. While open enrollment may allow initial entry into the program, students still need to fulfill academic standards, complete required coursework, and pass exams to succeed in obtaining teaching credentials. College admissions criteria matter significantly, as they influence the selection process of students. Evidence suggests that discretionary admission policies, which consider prior academic performance, can lead to different outcomes compared to open admission policies that rely predominantly on completion of a high school diploma or equivalency (Kamis, 2023). Ultimately, the choice of admission criteria can have an impact on the demographics and academic profiles of the incoming class, shaping the educational environment.

Taiwan universities tend to rely on a competitive admission procedure focused on academic performance. Lin and Gorrell (2001) conducted an analysis of pre-service teacher efficacy in Taiwan, which highlights that Taiwan's teacher education programs have a competitive entry process. The study suggests that these factors could lead to a strong feeling of dedication and a lower dropout rate among those who enter teacher preparation programs. Additionally, teaching is considered a highly appreciated profession in Taiwan (Fwu & Wang, 2002).

The mechanisms used to assess candidates and grant them the license to teach represent the clearest manifestation of each system's underlying values. Guam's certification process hinges on a candidate's ability to pass a series of commercially developed, standardized tests administered by the Educational Testing Service (ETS) called the Praxis series, aligned to U.S. professional and content standards specified for licensure around the common core standards (ETS, 2021). This procedure is a multi-stage process: the Praxis Core tests basic academic skills for program entry, the Praxis Subject Assessments measure content-specific knowledge, and the Praxis Principles of Learning and Teaching (PLT) test evaluates pedagogical knowledge (Guam Commission for Educator Certification, 2023). This approach deconstructs teacher competence into discrete, measurable components. The reliance on these external, national test results in the outsourcing of a significant portion of the gatekeeping function to a third-party entity. Periodic local validity studies can ensure these measures predict effectiveness in Guam's schools (Darling-Hammond & Youngs, 2002; ETS, 2021; AAQEP/UOG, 2024; Guam Commission for Educator Certification, 2023). This model reflects a pragmatic, data-driven approach to quality control characteristic of modern U.S. education policy.

Taiwan's certification is determined by a single, comprehensive, government-administered examination: the Teacher Qualification Examination (TQE) (Ministry of Education, 2023). This exam is not a test of basic skills or discrete knowledge chunks but a holistic, integrated assessment of a state-defined body of professional knowledge. Developed and managed by the MOE, its content directly reflects the national curriculum for teacher education, creating a tightly aligned system where university programs explicitly prepare candidates for this specific, formidable hurdle (Chien & Lin, 2019). The TQE functions as a professional board exam, akin to those in medicine or law. Passing it signals that the state itself has certified the candidate's mastery of an entire professional domain, reinforcing the identity of the teacher as a highly qualified public intellectual. However, incorporating internship portfolio evidence alongside TQE could broaden construct coverage while retaining rigor (Chien & Lin, 2019; Ministry of Education, 2023; Lin & Wang, 2022). Debates over a national licensure exam versus diversified assessments reflect a persistent uniformity-diversity tension identified in Taiwan's reform literature. Reliance on a single high-stakes written exam risks narrowing curricula and undervaluing dispositions and performance evidence, while diversified assessment can preserve national rigor with broader construct coverage (Fwu, 2001).

The licensure structure that follows also diverges. Guam employs a tiered system (Initial, Professional, Master) designed to reflect professional growth over time, moving from an Initial (three-year) to a Professional (five-year) and potentially a Master (10-year) certificate (Guam Commission for Educator Certification, 2023). Advancement requires specific actions like mentorship and ongoing professional development, using the license itself as a tool to structure a teacher's early career. Taiwan issues a single national teaching certificate that is valid for life, with ongoing professional development required for promotion and salary advancement (Ministry of Education, 2023). The initial qualification is considered final. This system separates the act of initial certification from the process of continuous professional growth, which is managed at the employment level.

## The Professional Teacher: Dispositions, Ethics, and Cultural Identity

Beyond academic knowledge and pedagogical skill, both systems expect teachers to embody certain professional attitudes, values, and beliefs, commonly known as dispositions. However, the way they define, cultivate, and assess these dispositions may provide a window into the core societal expectations of teachers in each context.

Guam's approach is to make these expectations explicit and transparent, in line with the U.S. trend towards codification and accountability. The University of Guam's School of Education outlines key dispositions in its official frameworks, such as fairness, a commitment to professional ethics, and the belief that all students can learn (University of Guam School of Education, n.d.). More formally, the Guam Commission for Educator Certification has adopted a "Code of Ethics" for all educators, which outlines standards of conduct related to the teacher's responsibility to the student, the public, and the profession (Guam Commission for Educator Certification, n.d.). These are not mere suggestions; violations of this code can be grounds for disciplinary action, including the suspension or revocation of a teaching license. This approach reflects a Western, legalistic view of professional responsibility where expectations are codified to ensure they are clear, universal, and enforceable in a diverse, pluralistic society where shared cultural assumptions cannot be taken for granted.

Taiwan's approach is more implicit and deeply embedded in the cultural and historical role of the teacher. While modern policy documents emphasize professional ethics and a passion for education, the concept of dispositions is rooted in a Confucian-influenced tradition that views the teacher as a *shīfù* (師傅) or a master and moral exemplar (Chen et al., 2023). The expectation that a teacher will exhibit unimpeachable integrity, social responsibility, and commitment to public service is a powerful, culturally ingrained assumption (Huang, 2023). Mentors implicitly assess these qualities throughout the competitive selection process and during the intensive six-month internship, evaluating not only skill but also character. This reliance on a shared cultural understanding of the teacher's role is more common in societies with a more historically consistent tradition regarding education. It frames the teacher's professional identity not as a contract to adhere to, but as a holistic role to embody.

## Synthesis and Discussion: A Tale of Two Philosophies

The findings of this comparative study illuminate two philosophies of teacher preparation, each internally coherent yet divergent in its approach. Guam's system, an artifact of its relationship with the United States, champions a model of decentralized university autonomy, regulated by professional accreditation and standardized testing. Taiwan's system, a product of its centralized governance and East Asian educational traditions, presents a uniform pathway where quality is ensured through national standards and a formidable qualifying examination. This section analyzes the implications of these findings, exploring the inherent strengths and weaknesses of each model, the profound impact of their differing approaches to assessment, the cultural and policy underpinnings of their design, and the potential effects on teacher professionalism and identity.

The core difference between the two systems is the classic educational policy debate between standardization and autonomy. Taiwan's centralized model is a powerful instrument for ensuring equity and quality control on a national scale. By mandating a uniform curriculum for all teacher education programs, the Ministry of Education (MOE) hopes that every prospective teacher, regardless of the university they attend, is exposed to the same foundational body of knowledge. The primary strength of this approach lies in its potential to reduce quality variance between institutions and guarantee that all students have access to teachers who have met a high, uniform standard (Pure Professional Skill Development Institute, n.d.). However, this strength comes with potential weaknesses, as a highly centralized system can be rigid, slow to adapt, and may stifle innovation at the university level by "teaching to the test", called the TQE (Chien & Lin, 2019). Taiwan's current model can be read as a negotiated balance shaped by democratization and market liberalization: the MOE retains core authority (standards, TQE) even as programs diversified, hiring localized, and definitions of "quality" expanded beyond prior input control (Fwu, 2001).

Conversely, Guam's decentralized system offers more autonomy and flexibility, allowing the University of Guam to design its curriculum to be responsive to the specific cultural and linguistic context of the island, as evidenced by the mandatory Guam History/Culture course (Guam Commission for Educator Certification, 2023). This model can foster a culture of innovation and adaptation (Eduettu, n.d.). The trade-off is the potential for inconsistency and the challenge of quality assurance, which the system attempts to solve through a heavy reliance on external, standardized tests and outside accreditation that may not be perfectly aligned with the unique pedagogical realities of Guam.

The literature warns that the appeal of universal GCE goals can obscure persistent inequalities and fails to adequately capture the diversity of civic consciousnesses acquired historically around the world (Akkari & Maleq, 2020, pp. 8-10). For Guam and Taiwan, this suggests the need for "critical" approaches to GCE that empower marginalized groups and local knowledge, rather than simply transplanting international templates (Akkari & Maleq, 2020, p. 207).

Findings from other national contexts illuminate further nuances in the centralization-autonomy debate. Li (2023) reports that Singapore's centralized, government-led model achieves high teacher quality through rigorous standards, performance accountability, and a single, elite teacher preparation provider (the National Institute of Education), yet faces challenges related to flexibility and innovation, issues also noted in Taiwan's approach. Conversely, Australia's and Canada's decentralized, university-based systems foster greater institutional diversity and responsiveness, akin to Guam, but often contend with uneven quality assurance. These cases corroborate the argument that there is no universally optimal model; rather, the best outcomes emerge when policy is adapted to unique societal needs and includes mechanisms for ongoing evaluation and reform.

The quantitative data available provides an empirical lens through which to view the outcomes of these differing philosophies.

Table 4

*Quantitative Comparison of Program Metrics (NTNU vs. UOG)*

| Outcome Metric | NTNU (Taiwan) | UOG (Guam) | Source |
|---|---|---|---|
| Avg. Program Completion Rate (University of Guam SOE, 2024) | 92% | 78%-85% | MOE, UOG Annual Reports |
| Avg. Practicum Duration | 20 weeks (full-time) | 15 weeks (full-time) | NTNU, UOG SOE Catalog |
| Qualifying Exam Pass Rate | 83% (TQE) | 80%-85% (Praxis Series) | MOE, GCEC, ETS |
| Teacher Retention Rate | 91% (after 5 years) | 76% (after 3 years) | MOE, Guam DOE |
| Required Annual PD | 54 hours/year | 30-60 hours per renewal cycle | MOE, GCEC |

### Globalization and International Benchmarks

Both Guam and Taiwan operate under increasing pressure to align with global standards of teacher quality, influenced by international assessments like the Programme for International Student Assessment (PISA). PISA results consistently place Taiwan among the top global performers in math, science, and reading, which reinforces the perceived effectiveness of its rigorous, centralized system. While Guam does not participate in PISA as a separate entity, its alignment with the U.S. system means it is indirectly benchmarked against these global standards. This pressure manifests in policy initiatives such as Taiwan's "2030 Bilingual Nation" plan, which aims to enhance global competitiveness by boosting English proficiency across the population, a goal that directly impacts teacher preparation (Ferrer & Lin, 2021). Similarly, Guam's education system must address the needs of a diverse student body, including immigrants from the Freely Associated States, requiring teachers to be prepared for a globalized classroom environment.

Recent scholarship emphasizes the rise of global citizenship education (GCE) as a major international policy focus, particularly in response to the United Nations' 2030 Agenda for Sustainable Development and SDG 4.7 (Akkari & Maleq, 2020). While these benchmarks seek universal advancement in global competences, peace, and inclusivity, research cautions that the operationalization of GCE often lacks conceptual precision and may not address the local and historical context of education systems (Akkari & Maleq, 2020, pp. 3-6). The introduction of GCE reflects global pressures on national and subnational systems to demonstrate not only quality in subjects like mathematics and science (as measured by PISA) but also commitment to cosmopolitan values, sustainability, and diversity. The priorities now shape both policy discourse and curricular reforms in Guam and Taiwan.

## Contemporary Challenges and Future Directions

Both systems face a host of modern challenges that are reshaping the landscape of teacher preparation.

### The Impact of the COVID-19 Pandemic

The pandemic forced a rapid and unprecedented shift to remote learning in both locations. In Guam, the transition highlighted a digital divide, with at least 30% of public-school students lacking reliable internet access, forcing a reliance on hard-copy materials and relaxed grading policies. In Taiwan, while schools remained open longer than in many places, the eventual shift to online education was a challenge for educators less experienced with digital pedagogy, particularly at the K-12 level. For both systems, the pandemic underscored the urgent need to integrate technology training more deeply into teacher preparation.

### Teacher Shortages and Policy Responses

Both Guam and Taiwan are grappling with teacher shortages, albeit for different reasons. Guam faces a persistent shortage that has led the legislature to consider incentives to bring retired teachers back into the classroom (GDOE, n.d.) Taiwan faces a different challenge: a large pool of certified teachers who are unwilling to enter the profession, coupled with a wave of retirements. The shortage has prompted the Ministry of Education to consider recruiting industry professionals with relevant experience to fill teaching roles, a move that has sparked debate about bypassing traditional preparation pathways (Taiwan News, 2025). Recent reports highlight the immediate scale of Taiwan's teacher shortage at the start of the new school year, with more than 2,600 vacancies in primary and secondary schools, including approximately 900 full-time positions and 1,700 substitute roles. In response to these urgent staffing needs, schools are recruiting substitute teachers who may only hold a university degree in a relevant subject, and some substitute teachers are being assigned significant administrative workloads or required to teach unfamiliar subjects. These patterns reflect escalating recruitment pressures and raise concerns about the sustainability and quality of substitute assignments within Taiwan's K-12 system (Sun, 2025).

### Pipeline and Provider Mix After 1994

After the 1994 Teacher Education Act, Taiwan's teacher-education "pipeline" diversified to a market-competitive model: comprehensive universities rapidly expanded graduate-level teacher-ed pathways, which made it harder for traditional teachers' colleges to attract students. This shift still influences how providers plan enrollment capacity, choose program specializations, and structure university-school partnership models (Fwu, 2001).

### Bilingual Education Imperatives

Both islands have significant bilingual education policies that directly impact teacher training. Guam has a long-standing legal mandate to provide CHamoru language and culture instruction (*Background and History • Page: Guam Department of Education*, 2022), requiring a specialized corps of teachers. Taiwan's ambitious "2030 Bilingual Nation" policy aims to make English a primary language alongside Mandarin, necessitating a massive effort to train Taiwanese teachers in bilingual instruction and recruit more foreign English teachers (Ngangbam, 2022).

## Limitations of the Study

This analysis relies primarily on published documents, curriculum guides, and secondary data. It does not include primary data from interviews or surveys with teacher candidates, program directors, or in-service teachers in Guam and Taiwan. Such firsthand perspectives would provide a richer understanding of the lived experiences within these systems. Furthermore, the quantitative data on retention rates, while indicative, does not control for numerous confounding variables and compares different timeframes, limiting direct causal inference.

## Conclusion and Recommendations

This comparative study has undertaken a detailed examination of the systems for preparing, certifying, and licensing K-12 public school teachers in Guam and Taiwan. By juxtaposing Guam's decentralized model, rooted in the American educational tradition, with Taiwan's centralized approach, this research has illuminated the impact of policy, culture, and governance on the formation of a nation's teaching force. The analysis identifies two systems that aim to cultivate competent, ethical, and successful educators but with analogous yet distinct ideas of the means to attain this objective. Guam's educational framework favors institutional autonomy and employs standardized testing for quality assurance, whereas Taiwan's system emphasizes uniformity and utilizes a stringent state examination as its principal gatekeeper. The strengths and weaknesses inherent in each model provide a possible basis for mutual learning and instructive perspectives on educational policy and practice.

**Summary of Key Findings**

The core differences between the two systems can be summarized as follows:

- Locus of Control: Power in Guam's system is distributed among the university, a local commission, and a third-party testing agency. In Taiwan, power is concentrated within the national Ministry of Education.
- Pathway and Assessment: Guam's pathway is modular, marked by a series of external, standardized Praxis tests. Taiwan's is linear, culminating in a single, comprehensive, government-created Teacher Qualification Examination (TQE).
- Practical Experience: Taiwan mandates a longer, more intensive six-month post-baccalaureate internship. Guam integrates a semester-long student teaching practicum within the undergraduate degree.
- Licensure and Professional Growth: Guam uses a tiered licensure system (Initial, Professional, and Master) to structure and incentivize a teacher's career development. Taiwan issues a single, lifelong national certificate and manages ongoing professional development at the employment level.
- Flexibility vs. Uniformity: Guam's model allows for greater local adaptation, while Taiwan's model ensures uniformity in teacher preparation standards.

**Recommendations for Guam**

**Develop a holistic, capstone assessment for certification.** Guam may develop a territory-specific, performance-based capstone assessment to complement or gradually replace heavy reliance on Praxis exams for certification. A locally validated capstone built around teaching artifacts (e.g., unit plans, assessments, videoed instruction), structured reflections, and observed teaching could provide a more authentic measure of readiness aligned to Guam's cultural and linguistic context. Performance assessments have been shown to better capture complex teaching competencies than discrete standardized tests and can strengthen coherence between coursework, clinical practice, and licensure decisions. Implemented jointly by UOG, GCEC, and GDOE with clear rubrics and trained evaluators, the capstone could initially run as a pilot alongside existing Praxis requirements, with periodic validity and reliability studies to ensure fairness and predictive value for novice effectiveness in Guam classrooms (Darling-Hammond, 2017; Darling-Hammond & Youngs, 2002).

**Strengthen the teacher practicum experience.** Drawing inspiration from Taiwan's intensive internship, UOG and the GDOE could collaborate to pilot a full-year residency program. A longer, more immersive clinical experience would better prepare candidates for the demands of their first year of teaching (Zeichner & Bier, 2022).

**Conduct regular alignment and validity studies of standardized tests.** GCEC, in partnership with UOG, should conduct periodic local validity and alignment studies of the required Praxis examinations to verify that test content reflects Guam's curriculum priorities and that scores predict key outcomes such as candidate performance during clinical practice and early-career effectiveness in GDOE schools (Darling-Hammond & Youngs, 2002; ETS, 2021). Such studies should include content alignment analyses, subgroup fairness reviews for CHamoru and other local student populations, and criterion-related validity analyses linking Praxis results to mentor/supervisor evaluations and employer ratings (AAQEP/UOG, 2024; Guam Commission for Educator Certification, 2023).

### Recommendations for Taiwan

**Grant greater curricular autonomy to universities.** Granting bounded curricular autonomy to MOE-approved providers while maintaining core national requirements could encourage innovation and differentiated program strengths without sacrificing quality control (Chang & Fang, 2020; Chien & Lin, 2019; Lin & Wang, 2022). Enabling universities to create a portion of their curriculum while upholding fundamental national requirements could encourage innovation and allow institutions to create distinctive specializations. This approach might encourage creativity and enable institutions to develop distinctive specializations and allow for the creation of distinctive specializations by institutions.

**Diversify certification beyond single high-stakes TQE.** Diversifying assessment methods could mitigate the pressure of a single national exam by integrating validated performance evidence from the six-month internship portfolio into the final certification decision, thereby broadening construct coverage while maintaining national rigor (Chien & Lin, 2019; Ministry of Education, 2023; Lin & Wang, 2022; Darling-Hammond, 2017).

**Foster more dynamic university-school district partnerships (professional development school models).** Establishing formal university-school partnerships can better align coursework, clinical practice, mentoring, and induction, creating continuous improvement cycles that benefit both preservice and in-service teachers. Professional Development School (PDS) models, widely used in the U.S., integrate joint governance, co-designed curricula, shared supervision, and embedded research, which can enhance the quality and coherence of Taiwan's six-month internship and strengthen school capacity. International syntheses find that tightly coupled university-school partnerships improve clinical preparation quality, candidate readiness, and teacher retention by ensuring consistent mentoring and rapid feedback between placement schools and preparation programs (Darling-Hammond et al., 2017; Zeichner & Bier, 2022). Taiwan could benefit from fostering more dynamic, long-term partnerships, like the Professional Development School (PDS) models in the U.S. These partnerships would create a stronger feedback loop, ensuring university-based preparation remains grounded in the realities of K-12 classrooms (Darling-Hammond et al., 2017).

### Broader Implications and Suggestions for Future Research

The findings hold broader implications for other small islands and postcolonial education systems seeking to balance global pressures with local priorities. Neither a purely decentralized nor a purely centralized system represents a perfect model. The path toward excellence lies in a thoughtful balance between standardization and autonomy.

Future research should incorporate primary data collection, such as interviews with teacher educators and graduates from both systems. Further avenues for inquiry include a cost-benefit analysis of each preparation model, a longitudinal study tracking the career trajectories of teachers, and an analysis of how students taught by teachers from each system perform academically.

Drawing on global patterns, Li (2023) advocates for hybrid policy designs that combine strong regulatory frameworks with opportunities for local adaptation and innovation. She further recommends that pre-service teacher education benefit from clear career pathways, embedded mentorship, and quality monitoring that integrate both external standards and context-sensitive criteria. Guam and Taiwan could, therefore, consider international examples not as templates but as reference points for continuous, participatory policy development, especially as the needs of their educational systems evolve in response to both local and global pressures.

Critics of global citizenship education stress that, while international benchmarks encourage innovation and accountability, effective policy borrowing requires deep attentiveness to local histories and epistemologies (Akkari & Maleq, 2020, pp. 9-10). They advocate for hybrid teacher education approaches which integrate global perspectives with local or indigenous knowledge, allowing education systems to decolonize curricula while engaging with global challenges (Akkari & Maleq, 2020, pp. 24, 207-208). As such, efforts to reform teacher preparation in Guam and Taiwan should not only address international standards but also preserve and revitalize cultural and community identities.

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**Appendix A: Detailed Side-by-Side Course Sequencing**

| Segment | NTNU: Taiwan Elementary Ed. | UOG: Guam Elementary Ed. |
|---|---|---|
| General Ed/Foundational Credits | Chinese, English, Gen Ed, PE, Service Learning (32 credits) | English Comp, Gen Ed Math, Science, History, Freshman Seminar |
| Pedagogical Foundation | History of Ed, Socio/Phil of Ed, Ed Psych, Child Dev, Curriculum | Foundations of Ed, Ed Psych, Human/Child Dev, Assessment |
| Methods (Year 3 focus) | Mandarin, Math, Sci, Soc. Stud, Arts, Health PE, Classroom Mgmt | Language Arts, Math, Social Studies, Science, PE Methods |
| Technology | Educational Tech Integration, IT in Ed | Ed Technology, Technology in Teaching |
| Special/Inclusive Ed | Special Ed Principles, Inclusive Ed | Intro to Spec Ed, Multicultural/Inclusive Pedagogy |
| Clinical Experience | Microteaching, Classroom Obs, 6-mo Practicum at partner school | Microteaching, Field Exp I-II, Semester-long Student Teaching |
| Professionalization | Ethics, Teaching Portfolio, Grad Seminar | Capstone, Professional Seminar, Mentorship, Guam Culture |

**Appendix B: Sample Quantitative Comparison Table**

| Outcome Metric | NTNU (Taiwan) | UOG (Guam) |
|---|---|---|
| Avg. Program Completion Rate | 92% | 78%-85% |
| Avg. Practicum Duration | 20 weeks full-time (6 mo) | 15 weeks full-time |
| Praxis/Qualifying Exam Pass Rate | 83% (TQ Exam) | 80%-85% (Praxis) |
| Retention after three/five Years | 91% (five years) | 76% (three years) |
| Professional Dev. Required | 54 hrs/year | 30-60 hrs per cycle |

**Appendix C: Narrative Flowcharts of Teacher Preparation Pathways**

UOG Teacher Preparation Flow:

(1) Admission to the Bachelor of Arts in Education program.

(2) Years 1-3: Completion of general education and pedagogical foundation courses, alongside early field experiences.

(3) Acceptance into the School of Education requires passing the three Core Praxis Exams.

(4) Years 3-4: Completion of methods courses, assessment, Guam culture course, and advanced fieldwork, completing the PLT and the content Praxis examination.

(5) Year 4 (Final Semester): Full-time student teaching (15 weeks) and completion of Praxis series exams.

(6) Graduation with a B.A. and an application to GCEC for an Initial Educator Certificate.

NTNU Teacher Preparation Flow:

(1) Admission to the Bachelor of Education program.

(2) Years 1-2: Completion of general education and foundational education courses.

(3) Year 3: Completion of all subject methods courses, microteaching, and classroom observation.

(4) Year 4 (Coursework Completion): Pass the national Teacher Qualification Exam (TQE).

(5) Post-Coursework: Undertake a mandatory six-month full-time practicum at a partner school, including a teaching portfolio and monthly seminars.

(6) Graduation and receipt of the Teaching Certificate.