

## Empowering university students' learning in Taiwan's higher education: Pathways to overcome challenges

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**Abstract:** Taiwan's higher education is characterized by tradition, innovation, and persistent pursuit of academic excellence. However, similar to its global counterparts, many challenges are prevalent in Taiwan's educational sector that impede its progress and effectiveness. These challenges encompass demographic shifts, financial constraints, quality assurance, internationalization efforts, and technology integration. This study analyzes the challenges in higher education in Taiwan, and offers strategies to address them and improve university students' learning experiences. The researchers used literature analysis methods to analyze the challenges in higher education in Taiwan, and analyze the pathways to overcome challenges. These pathways can address current challenges and help empower students to thrive in Taiwanese higher education, fostering an adaptable, skilled, and socially conscious generation of learners. These pathways are as follows: (1) In response to the declining birthrate, develop university curricula and courses incorporating diverse perspectives, improve university enrollment, and increase investment in higher education; (2) Improve teaching and learning quality assurance; (3) The internationalization of higher education promotes foreign internationalization and local internationalization; (4) Integrating technology into higher education teaching and providing more diverse online teaching and abundant learning experiences for students.

**Keywords:** Financial constraints, Higher education, Internationalization, Quality assurance, The declining birthrate.

### 1. Introduction: The Value of Higher Education

Modern higher education is generally believed to play a main role in preparing individuals for careers. Modern university graduates are expected to possess general knowledge and specialized subject knowledge as well as capability for continual self-improvement. Educational strategies in universities capable of nurturing curiosity and facilitating self-learning can certainly develop the faculty of higher-order cognition in more students. In addition to instilling knowledge, university education can develop learners' independence. This independence or autonomy allows individuals to critically examine their knowledge and choices as they prepare for their chosen careers (Chankseliani, Qoraboyev, & Gimranova, 2021; Gurukkal, 2024; Juklová, 2007). Therefore, we can understand the value of higher education.

Taiwan was governed by Japan for 51 years before the end of World War II. The Taiwan's higher education system was established during this period to support Japan's policies of colonization and expansion. When Taiwan was restored to Nationalist China in 1945, the Japanese education system was replaced by one modeled on the post-1922 American system. The influence of the American system on Taiwan's higher education system has remained substantial ever since (Wu, Chen, & Wu, 1989). The development of higher education in Taiwan is closely linked to governmental policies. Policymakers have strived to imitate Western practices and benchmark their higher education performance against international standards to enhance the international visibility of Taiwan's higher education (Lin &

Yang, 2022; Shih, 2024a, 2024b, 2024c; Wang & Shih, 2022, 2023). The challenges in higher education in Taiwan is the focus of this article.

Taiwan's higher education is characterized by tradition, innovation, and persistent pursuit of academic excellence. However, similar to its global counterparts, many challenges are prevalent in Taiwan's educational sector that impede its progress and effectiveness. These challenges encompass demographic shifts, financial constraints, quality assurance, internationalization efforts, and technology integration (Wang & Shih, 2024).

First, the cultural ecosystem of higher education in Taiwan is our concern. Second, this study analyzes the challenges in higher education in Taiwan, offers strategies to address them and improve university students' learning experiences, and suggests that HEIs must empower students to become agents of social change while preparing them for careers. Only by improving education for cultivating individuals into global citizens and for preparing them for careers can education produce intellectually active, socially caring, and dynamically adaptable individuals capable of meeting the challenges of tomorrow.

## 2. The Cultural Ecosystem of Higher Education

Education is a fundamental entitlement crucial to individual development. The role of higher education (HE) in cities has been widely researched and acknowledged. In particular, there have been reflections on its role in relation to local and regional development but also on its importance in promoting innovation and industrial growth in nations and regions trying to reposition themselves on the global map. There is also a range of resources focusing more specifically on the role that creative and cultural HE plays and how it develops collaborative frameworks for the development of local creative and cultural industries (CCIs) and cities. Furthermore, the concept of the cultural ecosystem of higher education refers to the interconnected and dynamic relationships among various cultural, social, economic, and institutional factors that shape the environment of higher education. It involves understanding how these factors influence student learning, faculty practices, institutional policies, and societal outcomes. Institutions of higher learning often have distinct academic traditions and values that define their identity. These traditions can influence teaching methods, research priorities, and the student experience (Amjad, Aslam and Hamedani, 2024; Nicia Guillén-Yparrea & María Soledad Ramírez-Montoya, 2023).

Taiwan's cultural ecosystem of higher education system has adopted various key Western standards regarding academic structure, curriculum, accreditation, and faculty appraisals, in addition to adopting the West's emphasis on general education and governance models. Because it is modeled on these imported values and experiences, Taiwan's higher education system faces several fundamental challenges; in particular, it experiences challenges in the integration of these Western academic ideas with the deep-rooted values and heritage of Taiwanese society. Examining the cultural foundations, local cultural characteristics, and cultural awareness of Taiwanese universities and their development has become increasingly widespread (Lin & Yang, 2022; Shih, 2024c).

## 3. Challenges in Higher Education in Taiwan

The colonial history and American influence in Taiwan do shape current challenges in higher education. Taiwan's colonial past, under Japanese rule, had a significant impact on its educational system, creating a foundation that still affects how education is structured and perceived today. The Japanese emphasis on technical and scientific education left a legacy that continues to influence Taiwanese higher education, particularly in its focus on these fields. American influence, particularly after World War II and the Cold War, also played a role. With Taiwan's alignment with the U.S. during the Cold War, American educational models, including certain pedagogical approaches and institutional structures, were adopted. This influence has shaped aspects of Taiwan's higher education system, including its curriculum, administrative practices, and academic standards (Wang, 2020; Wang and Shih, 2022, 2023). These historical influences can contribute to various challenges in higher education today:

### 3.1. Demographic Shifts

In 2010, Taiwan's total fertility rate (TFR)—the number of children a woman is likely to have during her childbearing years—of 0.89 was one of the lowest in the world. Taiwan's low TFR means that, by the time most women pass childbearing age (49 years old), they will have borne less than one child. In his 2011 New Year's Day Address, President Ma Ying-jeou declared the TFR of 0.89 as a national crisis. He proclaimed that the government would address the low TFR and encourage Taiwanese women to bear more children (Yang, 2019). For reference, the total number of births in Taiwan was 213,093 in 2015. By 2023, that number had fallen to 135,571 (Ministry of the Interior, 2024).

One of the most pressing challenges in higher education in Taiwan is the demographic shift exacerbated by this declining birth rate. Taiwan's low birth rate has resulted in the rapid decline of the numbers of traditional college-age students. This demographic change threatens the sustainability of HEIs, as a smaller pool of prospective students leads to underenrollment, placing financial strain on institutions. Taiwan's Ministry of Education has implemented policies to merge or close institutions that cannot maintain viable student numbers, consolidating resources to maintain educational quality (Ministry of Education, 2024).

### 3.2. Financial Constraints

Financial sustainability is vital for higher education systems to compete in the increasingly globalized world of the 2020s (Eskinat & Teker, 2023). Due to the low birth rate and declining enrollment, satellite campuses of major Taiwanese universities have a serious shortage of students. A significant decrease in the number of students leads to a severe strain on school finances, affecting the rights and interests of faculty and staff and, in extreme cases, threatening the existence of schools (Legislative Yuan, 2020).

Government investment in higher education has not increased proportionally to surmount the decline in tuition revenue due to decreased enrollment. This results in financial constraints that cause universities to cut back on research funding, faculty recruitment, and campus facilities, compromising the quality of education and research. Taiwan's birthrate is among the lowest in the world, which has already resulted in a sharp decline in the school-age population. As this population dwindles, universities face the immediate challenge of filling classrooms, leading to underenrollment, which directly affects their financial stability. The urgency of this issue is magnified when we consider how rapidly Taiwan's population is aging. The country is moving towards a "super-aged" society, where a significant portion of the population will be over 65. This shift in demographic structure means that the number of young people, including potential university students, will continue to decline for the foreseeable future. Universities must prepare for long-term structural changes, such as consolidating programs, merging institutions, or adapting their curricula to cater to older, non-traditional students. Further, the financial pressures caused by underenrollment will likely force universities to reevaluate their funding models. Many institutions in Taiwan rely heavily on tuition fees as a major source of revenue. With fewer students enrolling, universities may face serious financial difficulties, potentially leading to closures or a reduction in academic programs. This structural shift could reshape the higher education landscape in Taiwan, pushing institutions to become more innovative in attracting students, including international learners, or offering new types of educational experiences, such as lifelong learning programs for an aging workforce. Thus, the demographic crisis in Taiwan will not only affect student numbers but also trigger a fundamental reevaluation of the higher education system itself. Addressing these challenges early on will be crucial to ensuring the long-term sustainability of Taiwanese universities (Huang, 2018; Yang, 2019).

### 3.3. Quality Assurance and Evaluation

Ensuring the quality of higher education in Taiwan is a challenge. The rapid expansion of HEIs in the past decades has led to concerns regarding educational standards and quality. Accordingly, the Ministry of Education has established various accreditation and evaluation frameworks to monitor and improve higher education quality (Chou, 2014).

Quality culture development in Taiwan's higher education system is often promoted through quality assurance policies. Implementing internal quality assurance initiatives is vital to ensuring the continual quality of higher education in Taiwan. However, the effectiveness of these measures is often debated, with critics arguing that they lead to an overemphasis on quantifiable outputs rather than on genuine learning outcomes and educational excellence (Chou, 2014; Hsu, 2023).

### 3.4. Internationalization Efforts

Over the past several decades, the Taiwanese government has committed to promoting the internationalization of higher education. In the internationalization policies of many Asian countries, including Taiwan, international students have traditionally been viewed as a solution for the low birth rate and university enrollment (Lin, 2020).

Internationalization is crucial for Taiwanese HEIs to enhance their national competitiveness and attract international students. However, several obstacles exist for internationalizing efforts, including language barriers, cultural differences, and global competition for international students. Taiwanese universities have strived to increase English-language programs and establish partnerships with foreign institutions. However, progress has been slow, and attracting large numbers of international students is challenging (Chen & Lo, 2017).

### 3.5. Integration of Technology

In a world driven by constant change and innovation, HEIs must adapt to maintain pace, which is often propelled by external factors including emerging technologies (Chugh et al., 2023; Shih & Wang, 2022).

Globally, COVID-19 has caused rapid changes in the workplace (Kirby, 2020). COVID-19 has disrupted the standard working order of all organizations, including educational, health, business, etc. Integrating technology into higher education is both a challenge and an opportunity. The COVID-19 pandemic accelerated the adoption of online learning platforms and digital tools in education. Although this shift has potential benefits in terms of accessibility and innovation in teaching methods, it also presents challenges in ensuring equitable access to technology, maintaining engagement, and assessing online learning outcomes. The digital divide and the effectiveness of online education remain concerns for educators and policymakers in Taiwan (Aslam, Saleem, Kumar and Parveen, 2022; Wang, 2020).

Especially, the declining birthrate and underfunding in education can be influenced by a variety of social and policy factors. Declining birthrate: the cost of living, housing, and raising children can be prohibitively high, leading many to delay or forgo having children. Economic uncertainty and job insecurity also contribute to these decisions. Educational attainment: higher levels of education, particularly among women, often correlate with lower birthrates. As educational attainment increases, people tend to have children later or choose to have fewer children. Underfunding in education: limited financial resources and budgetary constraints can lead to underfunding in education. Governments might prioritize other areas like healthcare or infrastructure over education.

## 4. Pathways to Empower Student Learning in the Face of Challenges in Taiwanese Higher Education

### 4.1. In Response to the Declining Birthrate, Develop University Curricula and Courses Incorporating Diverse Perspectives, Improve University Enrollment, and Increase Investment in Higher Education

The low birthrate and declining enrollment threaten the stability of HEIs. To address this double challenge, universities must address several key issues: How can they grow their student bodies? How should they adjust curricula and teaching strategies? How to cultivate and recruit excellent teachers? How to attract outstanding students to study and enhance the quality of current students? (Tsang, 2022) To develop their student bodies and increase their finances, universities must strengthen integrated marketing, focus on brand and word-of-mouth, conduct internal and external quality evaluations, and consistently improve the quality of their teachers and curricula.

To innovate and meet the needs of a changing Taiwanese society, departments must become coordinating units for interdisciplinary course scheduling rather than single-discipline silos, with

teachers from different departments and equipment supporting each other in breaking free from the constraints of traditional higher education. Interdisciplinary, thematic, and problem-oriented teaching must provide real-world experiences, service learning, and integrated courses, such as exhibitions, sports matches, internships, games, and productions. Outdoor education, scouting activities, keynote lectures, paper publications, academic seminars, and educational forums promote the development of practical skills and the integration of real-world professional experiences. Additionally, reducing the number of compulsory credits and increasing the number of elective credits provide students with flexibility in their studies. By diversifying teaching methods and courses, universities can reimagine their contributions and responsibilities to society (Chang & Lin, 2019; Shih, Wu, & Chung, 2022; Shih, 2023).

#### *4.2. Improve Teaching and Learning Quality Assurance*

Internal quality assurance of teaching and learning encompasses the following areas: curriculum and teaching quality assurance, student learning quality assurance, and teacher quality assurance. Teaching quality must be carefully monitored to prevent the learning loss occasioned by the pandemic. To improve learning outcomes, universities can implement the following measures: (1) Establish teaching quality assurance mechanisms for internal and external evaluation. During the pandemic, distance learning—which is not conducive to practice, exploration, experience, and skill-based teaching and assessment—was widely adopted. Teaching quality assurance ensures that student learning outcomes meet educational goals, and that students can acquire core competencies. In terms of their planning, implementation, and assessment, courses must be internally evaluated to drive improvement. Additionally, external evaluations must be conducted regularly according to the standards set by accrediting agencies. (2) Ensure that students and teachers have access to high-quality bandwidth and video. By conducting data reviews and one-on-one interviews, evaluators must ensure that students, teachers, and classrooms are equipped for video presentations. If evaluations cannot be conducted in person, HEIs must develop clear standards for the self-evaluation of the technological preparedness of their students, staff, and facilities. Finally, HEIs must designate personnel familiar with remote learning to implement remote quality assurance. If such measures are implemented, the quality of remote education can be evaluated and improved (Chang, 2023; Ministry of Education, 2023; Shih, 2020a, 2020b).

#### *4.3. The Internationalization of Higher Education Promotes Foreign Internationalization and Local Internationalization*

Internationalization has become a strategic policy priority for HEIs attempting to become world-class universities. Internationalization refers to the process of integrating an international, intercultural, or global dimension into the purpose, functions, and delivery of post-secondary education for enhancing the quality of teaching and research, enabling students and staff to make meaningful contributions to society (Guo, Guo, Yochim, & Liu, 2022; Mestenhauser, 2003; Shih, 2024a; Wang, 2019).

On the basis of this discussion of the internationalization of higher education, the authors propose several suggestions for reforming Taiwan's HEIs. First, although policymakers in Taiwan have realized the importance of internationalizing higher education, they have not paid sufficient attention to local internationalization. Among the various governmental plans for educational reform, only the 2016 plan to improve the global mobility of young students mentions the term "internationalization." Second, the prevailing understanding of internationalization is superficial; universities are frequently believed to be "internationalized" if they offer courses taught in English and recruit international students. However, few English-language or international courses meet the abilities and needs of domestic students or are conducted in such a manner as to expand the horizons of domestic students. In curriculum internationalization, integrating cross-cultural elements and global perspectives is vital. Nevertheless, because most Taiwanese universities only admit domestic students, policymakers rarely consider internationalized teaching or curricula (Wang, 2019). Finally, the Taiwanese government has announced a plan to transform Taiwan into a bilingual nation by 2030, "internationalizing" by providing students with high-quality, multilingual education (Graham & Yeh, 2023; Lin, 2023).



#### *4.4. Integrating Technology into Higher Education Teaching and Providing More Diverse Online Teaching and Abundant Learning Experiences for Students*

The advent of the twenty-first century has accelerated the use of digital technology in HEIs. The increasing use of digital technologies has enhanced learning experiences and has equipped traditional physical university spaces with an array of digital resources (González, López, Calle-Arango, Montenegro, & Clasing, 2022).

After the COVID-19 pandemic online education increasingly spread at universities and higher education institutions (Nikolopoulou, & Zacharis, 2023).

The COVID-19 pandemic caused the largest disruption of education systems in human history, affecting nearly 1.6 billion learners in more than 200 countries. During the COVID-19 pandemic, students at universities were unable to attend school in person, and most schools switched to online teaching. Many teachers in experimental or practical courses unaccustomed to lecturing at a blackboard filmed their lectures for later student viewing. Many university teachers engaged in noninteractive teaching, delivering their lectures to mostly passive online groups of students. However, to create rich learning experiences for students, higher education requires more diverse online teaching than filmed or rote lectures (Pokhrel & Chhetri, 2021).

### **5. Conclusions: The Sustainable Development of Higher Education in Taiwan**

This article explores the challenges in higher education in Taiwan and the measures to address them. The authors proposed the following strategies for addressing these challenges: (1) in response to the declining birthrate, university curricula and teaching incorporating diverse perspectives should be developed, and university enrollment and finances should be improved; (2) strong teaching and learning quality assurance for HEIs should be developed; (3) foreign and local internationalization should be promoted; (4) technology should be integrated into higher education teaching, incorporating teaching methods other than lectures to create rich learning experiences for students. The challenges in higher education in Taiwan are complex and multifaceted, requiring concerted efforts from government, institutions, and the broader educational community. Despite these challenges, opportunities exist for reform and innovation. Policymakers are tasked with navigating these challenges, balancing tradition and innovation, and ensuring that the higher education system can adapt to a changing demographic, economic, and technological landscape. Although implementing reforms is complex, with strategic planning and collaborative efforts, the higher education sector in Taiwan can continue to thrive and contribute to Taiwan's development and global presence.

### **6. Reflection**

Linking internationalization and technology integration to Taiwan's declining birthrate is crucial in addressing the shrinking student population. These strategies offer concrete solutions to maintain university viability in the face of demographic challenges. Here's how they could be framed:

#### *6.1. Internationalization*

Taiwan's declining birthrate means fewer domestic students. By attracting international students, universities can offset this decline, maintaining enrollment levels. International programs, partnerships with foreign universities, and enhanced support for global students can diversify student populations, helping institutions remain competitive.

#### *6.2. Technology Integration*

With fewer local students, universities can leverage technology to offer online programs or blended learning that reach a broader audience, including international students and lifelong learners. This can reduce dependency on physical campuses and expand educational access globally, providing a financial buffer.

Both strategies show how universities can adapt to demographic shifts, positioning themselves as global hubs of learning that transcend national borders and physical limitations.

## 7. Recommendations

Empowering student learning in Taiwanese higher education requires addressing both systemic and student-centered challenges. Here are some key pathways for recommendations in the future:

### 7.1. *Fostering Critical Thinking and Creativity*

**Curriculum design:** Shift the focus from rote memorization to critical thinking, problem-solving, and creativity. Introducing project-based learning, inquiry-based approaches, and interdisciplinary studies can encourage students to think critically and apply knowledge in practical ways. **Assessment reforms:** Move away from traditional exams and integrate diverse forms of assessment such as portfolios, reflective essays, and real-world projects (Almulla, 2023; Wu, 2023).

### 7.2. *Cultivating Student Agency*

**Student voice and participation:** Create platforms where students can have a say in shaping their educational experiences. This can involve student-led research projects, participation in curriculum design, or representation in decision-making bodies. **Support for self-directed learning:** Empower students to take ownership of their learning by providing access to open resources, guidance in goal-setting, and training in self-regulation skills (Holquist, Mitra, Conner, and Wright, 2023).

### 7.3. *Addressing Cultural and Social Equity*

**Culturally responsive pedagogy:** Design curriculum content that reflects the diverse cultural backgrounds and social realities of Taiwanese students. Incorporating local culture, history, and issues into coursework can make learning more relevant and engaging. **Support for marginalized groups:** Provide extra support, such as mentorship, scholarships, and access to counseling, for students from underserved communities, rural areas, or disadvantaged socioeconomic backgrounds (Lin & Yang, 2022; Shih, 2024a, 2024b, 2024c; Wang & Shih, 2022, 2023).

### 7.4. *Strengthening Dialogue and Collaboration*

**Dialogic pedagogy:** Drawing on Freire and Habermas, foster an educational environment where dialogue between students and teachers is at the heart of learning. This involves creating spaces for open discussions, where diverse perspectives are respected, and students learn from each other. **Collaborative learning:** Encourage group projects and peer learning, emphasizing teamwork, cooperation, and shared problem-solving (Freire, 2000; Habermas, 1984, 1987).

### 7.5. *Global Competence and Cross-Cultural Understanding*

**Internationalization:** Encourage student participation in international programs and collaborations to expose them to global perspectives. This can include student exchanges, virtual collaborations with overseas universities, or introducing global issues into the curriculum. **Intercultural learning:** Create opportunities for students to engage with other cultures through language programs, international partnerships, and cultural exchange events (Chen & Lo, 2017; Costa, 2024; Mittelmeier, Lomer, Al-Furqani, and Huang, 2024).

### 7.6. *Industry and Community Engagement*

**Work-integrated learning (WIL)** is conventionally conceived as a theoretical and practical field for educational activities based on collaboration between higher education institutions (HEI) and working life. **Work-integrated learning:** Strengthen partnerships with industry and community organizations to provide students with internship opportunities, mentorships, and real-world learning experiences. **Community-based learning:** Encourage projects that involve solving real problems in local communities, connecting students with societal challenges and fostering a sense of civic responsibility (Sunnemark, Sunnemark, Dahlquist, Gahnström, Assmo, and Piper, 2023).

These pathways can address current challenges and help students empower themselves to thrive in Taiwanese higher education, and foster an adaptable, skilled, and socially conscious generation of

learners. The emphasis on developing adaptable, skilled, and socially conscious learners is crucial, especially given the rapidly evolving demands of society and the global workforce. Strategies like fostering critical thinking, providing practical and interdisciplinary learning experiences, and promoting social responsibility can all play a significant role for university students' learning.

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