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Learning English Through Games? Taipei Tech Trains Next Generation of Bilingual Engineers

At Taipei Tech, English is more than a subject—it's a bridge to global competence. Aligning with Taiwan's bilingual education policy, the university delivers a diverse portfolio of EMI (English as a Medium of Instruction) and ESP (English for Specific Purposes) courses. This commitment has earned recognition from the Ministry of Education, naming Taipei Tech an EMI benchmark institution in engineering and management.

One standout example is Professor Chen Yen-sheng's EMI course in high-frequency electronics. Known for its complexity, the subject could easily intimidate students, especially when taught in English. But Chen transforms the classroom into an interactive space, using tools like Kahoot, group discussion, and even ChatGPT to boost engagement and reduce students' anxiety about learning the subject in English.

Chen's approach reflects the understanding that EMI is not simply about translating existing lectures into English. In EMI, the subject and the language are being taught simultaneously, which means the teaching method must evolve. To support this dual goal, he invests as much as three hours each week designing every lesson, ensuring content delivery is comprehensible and interactive.

He begins each session with casual conversations in Mandarin to help students ease into the class. Then, he gradually introduces more English, reviewing key points from previous lessons before moving on to new material. Each three-hour session concludes with a quiz game that reinforces learning in a relaxed, collaborative way.

Taipei Tech's bilingual strategy represents a broader shift in teaching philosophy—from traditional lectures to student-centered, activity-based learning. Chen's early

experience teaching EMI using scripted English lectures and pre-recorded Chinese videos proved discouraging. "Only five students showed up by the end of the semester," he recalls. "I knew I had to change." With support from Fulbright advisors, he redesigned his course to prioritize interaction, participation, and a more human classroom dynamic.

Meanwhile, throughout their first three years, Taipei Tech's Bilingual Education Center offers ESP courses tailored to students' disciplines, including Engineering & Technology, Computer Science and Electrical Engineering, Business and Management Studies, Mechanical and Manufacturing Engineering, Design, and Social Sciences. These courses prepare students to apply English in real-world, field-specific contexts. Teachers often co-create lessons with students, who contribute subject knowledge while instructors provide linguistic support.

Taipei Tech promotes its Co-teaching Program, which encourages collaboration between EMI subject instructors and English teachers. While the approach poses initial challenges, it has proven effective in creating richer, more supportive bilingual learning environments.

As Taiwan's bilingual education efforts expand, Taipei Tech is setting the pace, training technically proficient engineers who are ready to connect with the world.



Taipei Tech Hosts “Future of Tech-Vocational Education” Expo to Inspire Hands-On Learning and Career Exploration

Taipei Tech hosted the “Future of Tech-Vocational Education” Expo on July 5th, highlighting the evolving role of technical and vocational education in Taiwan. The event was organized by Taipei Tech and jointly guided by the Ministry of Education’s Department of Technological and Vocational Education, the National Admissions Office for TVET Institutions, and the Department of Education’s TVET Division, Taipei City Government.

Fourteen institutions participated, including Taipei Tech, NTUST, NTUB, and leading vocational universities and high schools from northern Taiwan. The expo offered students and parents an immersive introduction to the vitality and diversity of Taiwan’s tech-vocational track through department showcases, interactive activities, and expert talks. Highlights included AI personality profiling, logic circuit challenges, sharpshooting games, AR and VR experiences, drone demonstrations, and creative workshops such as ceramic decal design and tin art. The Taipei Tech Racing Team also unveiled their self-developed electric race car, the TTR8.

Vice President Yang Shih-hsuan noted that vocational education has moved far beyond the traditional view of being a secondary option to academic studies. “It is now a vital pathway for connecting with industries, realizing personal skills, and meeting workforce demands,” he said. This year’s theme, “Rooted in Skills and Guided by Dreams,” aimed to broaden public understanding of vocational education and inspire young people to think creatively about

their learning and career paths.

The expo also featured keynote sessions by leaders and alumni. Chen Ping-hsi, Section Chief of TVET at the Taipei City Government’s Department of Education, gave a talk on “Taipei’s Vocational Education in the New Era,” shedding light on early career awareness, collaboration with emerging industries, and international development opportunities. Distinguished Taipei Tech alumni Shen Po-yen (General Manager, Tatung Co.) and Chien Ching-te (Chairman, Chang Hao International) shared their academic journeys and how vocational education helped them become industry-ready professionals.

Lin Yuan-hsiang, Deputy Executive Director of the TVET Admissions Office, delivered a talk on “Skills Competitions and Transdisciplinary Integration,” drawing on over two decades of technical training experience to show how competitions can inspire students to reach their potential and build transdisciplinary problem-solving skills.

In line with talent development trends, Taipei Tech announced the launch of its new undergraduate program in Semiconductor Manufacturing Process and Equipment for the 2025 academic year. Open to both Taiwanese and Japanese students, the program blends academic instruction from university faculty with industry-led training and includes internship opportunities in the semiconductor sector—offering a comprehensive preparation for careers in one of Taiwan’s most critical industries.



Taipei Tech Drives AI Innovation with Academia Sinica and ELAN Microelectronics

As AI transforms industries from autonomous vehicles to national defense, Taipei Tech is helping bring cutting-edge research from the lab into real-world applications. Through the newly established Taipei Tech-ELAN Joint Research Center, Taipei Tech has joined forces with ELAN Microelectronics and Academia Sinica to co-develop advanced object detection and edge AI technologies for applications in smart transportation, unmanned aerial systems, and beyond.

Located on the Taipei Tech campus, the center serves as a platform for transforming cutting-edge research into real-world applications. By transforming Academia Sinica's AI breakthroughs into commercial-ready solutions, the university plays a vital role in accelerating Taiwan's AI ecosystem.

The center builds on Academia Sinica's globally recognized 2D and 3D object detection algorithms—originally developed for UAVs—and adapts them for edge computing systems that do not depend on remote cloud servers, a key requirement for applications in smart vehicles and national defense. Taipei Tech brings deep technical expertise and strong links to industry,

making it the ideal partner to translate complex AI models into deployable technologies.

Professor Chen Yen-lin, chair of Taipei Tech's team, noted that the university has been focusing on three core areas: AI perception, sensor fusion, and control decision-making. These domains are key to developing scalable ADAS (Advanced Driver Assistance Systems), capable of processing data from multiple sensors—including radar, lidar, and cameras—in real time.

To support real-world testing, ELAN Microelectronics has provided critical resources such as experimental vehicles, drones, and computing platforms. Meanwhile, Taipei Tech's researchers have tackled challenges like collecting localized road data, optimizing lightweight edge AI models, and creating an integrated sensor-to-control system—all while training students through direct industry involvement.

Vice President Yang Shih-hsuan emphasized the importance of this hands-on collaboration for student development. "This center is essentially a second classroom," he said. "Students gain practical skills in edge AI, sensor systems, and data annotation, and are exposed to real industrial scenarios before graduation."

This partnership exemplifies Taipei Tech's long-standing commitment to industry-academia collaboration. Beyond automotive applications, the model will expand into sectors such as healthcare, agriculture, and defense—advancing Taiwan's technological self-reliance while training the next generation of transdisciplinary talent.



Taipei Tech and SINKO Industries Sign MoU to Launch International Internship Program in HVAC Engineering

In a major step toward enhancing international industry-academia collaboration, Taipei Tech's Department of Energy and Refrigerating Air-Conditioning Engineering has signed a Memorandum of Understanding (MoU) with SINKO Industries Ltd., a leading Japanese HVAC company. The partnership aims to establish a long-term internship program, offering select students hands-on training opportunities at SINKO's headquarters in Japan and affiliated companies such as SINKO Taiwan.

The MoU signing ceremony was held on June 27th at Taipei Tech, with senior representatives from both parties to mark the occasion. The university leadership—including Vice President Jen Yi-jun, Dean of the College of Mechanical & Electrical Engineering Chien Liang-han, and Department Chair Lee Kuei-peng—was joined by top executives from SINKO Industries and key figures from Taiwan's HVAC industry.

The collaboration centers around three goals: establishing a stable international internship mechanism; offering students attractive internship incentives and recruitment pathways; and raising the visibility of Taipei Tech's commitment to global industry engagement. Students selected for the program will gain real-world experience in areas such as HVAC system design, energy efficiency, smart building integration, and on-site construction management.

"This is more than just an internship program—it's a strategic investment in international talent development," said Vice President Jen. "Our students will gain early exposure to global work environments and develop both technical and cross-cultural skills, making them truly industry-ready upon graduation."

SINKO Industries has led Japan's HVAC market for over 75 years and has been active in Taiwan for more than three



decades. The company recognizes the importance of cross-border collaboration in driving future innovation. "We are impressed by Taipei Tech's strength in engineering education and hands-on learning," said Executive Vice President Tokuji Aota. "We believe this partnership will nurture the kind of globally minded, technically capable professionals that our industry needs."

The internship program will offer both short-term (2 months) and mid-term (6 months) tracks, combining immersive workplace training with cultural exchange. Students will also sharpen their industry-specific language skills and global communication abilities.

Looking ahead, Taipei Tech plans to expand this model by partnering with new international institutions, creating a sustainable, scalable platform for cross-border career learning that prepares students to thrive in the global job market while addressing workforce gaps in sustainable HVAC

#420

Taipei Tech Rises to 420th in QS World University Rankings — Taiwan's Only University with Eight Straight Years of Improvement

Taipei Tech has once again demonstrated steady progress, rising to 420th in the 2026 QS World University Rankings—one of the world's most recognized university rankings. This marks Taipei Tech's eighth consecutive year of rising in the QS World University Rankings, making it the only university in Taiwan to show such consistent progress. It now ranks 6th in Taiwan, highlighting its growing academic reputation and international presence.

The QS World University Rankings evaluate institutions across nine key indicators: academic reputation, employer reputation, faculty-student ratio, international faculty ratio, international student ratio, citations per faculty, employment outcomes, international research collaboration, and sustainability.

According to President Wang Sea-fue, Taipei Tech's upward trajectory in global rankings can be attributed to three major drivers:

First, strong industry-academia collaboration. Between 2022 and 2024, Taipei Tech more than doubled its average annual industry cooperation funding compared to 2018. Notably, nearly half of the university's R&D projects involve corporate or legal entity partners, demonstrating the university's success in establishing a practical, industry-oriented research ecosystem. This has led to a strong performance in employer reputation, where Taipei Tech now ranks 202nd globally.

Second, a sharp focus on impactful research. Faculty are

actively encouraged to publish in high-quality international journals. As a result, 79% of Taipei Tech's SCI-indexed papers are published in top 25% journals, significantly boosting the university's global research visibility. This effort has contributed to a 40-place rise in citations per faculty. In addition, research output, grant approvals, and per-faculty funding continue to grow steadily.

Third, an expanding international academic network. Taipei Tech now collaborates with 502 institutions across 59 countries, up from 41 countries previously. It has signed dual degree agreements with 20 partner universities and jointly leads research initiatives with 24 of them. In the past year alone, these collaborations produced 251 SCI-indexed papers, reflecting strong performance in international research partnerships.

Taipei Tech's global reach is also reflected in its international student body, which now includes nearly 1,000 students from 54 countries.

In the latest QS subject rankings, Taipei Tech continues to shine in fields such as Engineering & Technology, with standout performance in Chemical Engineering, Mechanical Engineering, Materials Science, Electrical Engineering, Civil Engineering, Computer Science, Environmental Science, and Business & Management, solidifying its reputation as a top-tier university in Taiwan and beyond.



Turning on Creativity: Taipei Tech's Interaction Design Students Shine in National Competitions

Taipei Tech's Department of Interaction Design is turning heads once again with its 2025 graduation exhibition, Sensing Trigger - The Interactive Button Company. Held at the Taipei Nangang and Kaohsiung Exhibition Centers, the show features 18 teams, each exploring a unique topic through creative and emotionally engaging experiences that invite visitors to reflect on the role of technology in everyday life.

This year's graduates achieved remarkable success, earning 14 nominations across Taiwan's three major student design competitions: the Golden Pin Design Award - Young Pin Category, the Vision Get Wild Award, and the Youth Design Festival Creative Design Competition.

Two standout projects—Fragile Signals and Unforgettable Memories—advanced to the final round of the Young Pin Best Design Award, with several others also shortlisted for the Vision Get Wild competition.

The exhibition is themed around a fictional "interactive button company," where each button acts as a trigger for a unique experience that blends technology and design. The 18 teams explore a range of themes, including digital trauma, dementia, child safety, and immersive gaming.

Fragile Signals confronts the topic of online sexual violence through an immersive audiovisual installation. Participants experience the emotional journey of a victim through motion-sensing interaction and AI-generated visuals. Their live movements are captured and projected onto the screen, creating a powerful and unsettling look at how people can be harmed in the digital world. Participants experience the emotional journey of a victim through motion-sensing interaction and AI-generated visuals. Their live movements are captured and projected onto the screen, creating a powerful and unsettling look at how people can be harmed in the digital world. The project won the Jury Award at the Youth Design Festival.

Unforgettable Memories offers a VR/MR simulation of life with dementia from a first-person viewpoint. Caregivers can experience the everyday challenges of memory loss through interactive activities that simulate non-pharmaceutical interventions. The goal: to foster greater empathy and understanding for aging individuals.

Taipei Tech continues to lead in combining design, technology, and empathy—producing graduates ready to innovate across industries.



Taipei Tech Confers Honorary Doctorate and Alumni Awards at 2025 Commencement Ceremony

Taipei Tech celebrated the 2025 Commencement Ceremony on June 7th with a heartfelt tribute to alumni and contributors who have shaped the university's legacy. This year, Mr. Wang Xiao-shen Managing Director of Yuanlih Group, was awarded an Honorary Doctorate in Design for his long-standing contributions to campus development and generous support of student welfare.

Wang is an alumnus of Taipei Tech and holds multiple degrees from the university, including a master's in architecture and a doctorate in design. With over 50 years of experience in the construction and architectural industries, Wang's contributions to campus development include the restoration of the university gate and the Taipei Tech Archive, among other projects. He has also established the Rui-Zhen Scholarship to support underprivileged students, embodying Taipei Tech's motto "Integrity, Humility, Intellect, Fortitude."

"I feel deeply connected to Taipei Tech—I've entered and graduated four times," Wang shared in his remarks. "Receiving this honorary doctorate today feels like the perfect closing chapter to my academic journey." He also encouraged the 2,500 graduates to give back to Taipei Tech once they find success in their careers, and to stay connected by joining their local alumni chapters.



Also recognized during the ceremony was Mr. Chen Jin-de, who received the Outstanding Alumni Award. A graduate of Taipei Tech's Chemical Engineering program, Chen credited the technical knowledge he gained at the university for guiding his leadership during major public infrastructure and environmental incidents, such as the Kaohsiung gas explosion. "Becoming a distinguished alumnus of Taipei Tech is the highest honor of my life," he said.

Additional honors were presented to Mr. Andy T.C. Chiu, Top Taiwan Venture Capital chairman, as an Honorary Distinguished Alumnus, in recognition of his success in venture capital and his ongoing support for Taipei Tech. With over 30 years in finance and innovation, Chiu has backed hundreds of startups and led efforts to shape Taiwan's entrepreneurial ecosystem.

The ceremony concluded with an original song by the student graduation committee, expressing the hopes, doubts, and dreams of a new generation stepping into the future.