

Article

A Created Future: Futures and Foresight at Tamkang University in a Postpandemic Era

Lavonne Leong

Vision Foresight Strategy, USA.

Abstract

For a generation, Tamkang University has been a standard-bearer for academic Futures Studies in Asia, having educated more than 120,000 university students in Futures Studies, as well as given rise to important loci for the evolution of the field, hosting visiting scholars and contributing to the foundation of the Asia Pacific Futures Network conference, now in its tenth year. However, the field is comparatively young, centers of Futures Studies are globally far-flung, and reliable information is not widespread about the history or current status of Futures Studies as an academic field, nor about the individual institutions that offer degrees in Futures Studies. TKU became a regional nexus for Futures Studies because of the commitment of its longtime president, Clement C.P. Chang, and yet, as a field, the transdisciplinary nature of Futures Studies means that it has sometimes struggled to sustain robust support in institutions after its initial champions are gone. This article is a study of how futures and foresight has evolved and grown at TKU in the years after Clement Chang stepped down and his daughter, Flora C.I. Chang, assumed the presidency. It also examines demographic, societal and geopolitical trends that are affecting TKU, and looks at current challenges, opportunities, and directions.

Keywords

Tamkang University, History of Futures Studies, Taiwan, Postpandemic Futures, Futures Education.

Introduction

In Tamsui, an oceanside suburb town of Taiwan's capital city, Taipei, many people walk at the end of the day to Fisherman's Wharf, past the park and the *ah gei* stalls, past the graceful lines of Lover's Bridge, to watch the sun set over the sea. The next land in that direction is mainland China: 100 miles away, not visible but certainly present—a gravitational force, a cultural and historic influence, a locus of threat, divergence, opportunity, and for the younger generation, curiosity. A visitor to Taiwan—or this visitor, at least—will always gravitate to the end of the wharf and wonder: What is Taiwan's future? The wharf, which narrows until it is a single finger pointing to the west across the Taiwan Strait, seems to show one possibility only. The future is out there.

But equally if not more so, the future lies within. Futurist Kuo-Hua Chen, Dean of Tamkang University's College of Education, is fond of saying that there is both an external future, and an internal future, where values are set, visions are made, and possibilities are created. One of those places, for Taiwan, has been Chen's workplace, Tamkang University (TKU), set inland in the hills of Tamsui, far from the crowds watching the sun go down from Fisherman's Wharf.

In a packed classroom in Tamkang's College of Education (within which the Department of Education and Futures Design, the university's major Futures Studies presence, resides), long-time TKU Professor Sohail Inayatullah conducts a "Futures Literacy Lab" for students and faculty. It's the first time he's been able to be physically present on campus since the pandemic, and the room buzzes with excitement as Inayatullah (who in 2010 was hailed as an "all-time best futurist" by the Shaping Tomorrow Network and was named the inaugural UNESCO

1

* Corresponding author.

E-mail address: lavonneleong@gmail.com (L. Leong)

Chair in Futures Studies in 2017) introduces participants to the research-backed ways that futures thinking can benefit leaders, organizations, and individuals: anxiety drops, optimism grows, strategy becomes measurably more effective, and change becomes an opportunity rather than merely a threat. Then he leads participants through a quick demonstration of how transformative changing an organization's internal narrative or metaphor can be, taking universities as his example.

"The old narrative of the university is the castle," he says—a hierarchical vision in which the professors and the Ministry of Education serve as the knights and the king. The castle is surrounded by hungry wolves of change: technology, which makes learning anything possible from anywhere at any time; and students and their families, whose values and ways of learning are also changing (Inayatullah 2022).

"Take thirty seconds," Inayatullah tells his audience. "How can we change the narrative? No right answer." The suggestions come fast: Make friends with the wolves! Or reimagine the wolves as rabbits. Lower the drawbridge. Pull down the castle and build a playground— "move from the narrative 'Protestant hard work leads to learning,' to 'Learning happens through play.'" When faced with this question, the Government of Norway's Ministry of Education didn't just tweak the metaphor, Inayatullah tells the crowd, they transformed it. "They moved from a castle to a jazz orchestra. Jazz is emergent, unpredictable. It requires cooperation. You create a platform for the new future to emerge. And the ministry conducts the orchestra." And just like that, a new possible future for higher education, currently experiencing global challenges, unfurls.

It echoes a sentiment displayed prominently in the university's TKU History Gallery, a quote from its founder, Clement C.P. Chang: "The best future is the created future." It is clear that Taiwan's remarkable trajectory over the last few decades was created rather than fated. The same can be said of futures studies at Tamkang.

TKU: A History of Realizing Visions

Globally, TKU is known as one of the standard-bearers of futures studies in Asia. Chang, the university's Taiwan-born founder, was educated in both Taiwan and China, then traveled to the United States in the 1960s on an Eisenhower Scholarship just as the U.S. was in its political ascendancy and Futures Studies as a discipline was gaining traction within decision-making echelons. Chang received his doctorate from the University of Illinois at Champaign, and was invited to participate in a workshop series directed by the future American Secretary of State Henry Kissinger, who had yet to move to Washington, D.C.. At the workshop, Chang encountered Herman Kahn, an influential early futurist and nuclear strategist at the Rand Corporation, and Chang's own path as a futurist began. At that time, says Shun-Jie Ji, an Associate Professor at TKU's Department of Education and Futures Design, Taiwan's GDP per capita was about \$200 USD, an agrarian nation still under martial law that had yet to experience the economic and political "miracles" that led to industrialization and liberal democracy.

Armed with a vision and a futures skill set, Chang returned to Taiwan and became one of many contributors to its rise. Central to that vision was a seat of Taiwanese higher learning that provided its students with a "triple objective": a globalized, information-oriented, and future-oriented education. Chang's role in shaping Tamkang's first decades as a future-oriented university and Taiwan's evolving place in the geopolitical landscape were detailed in a 2004 article in *Futures* (Stevenson 2004).

When that article was published, Tamkang had become the major academic Futures Studies presence in East Asia. In 1996, the university launched the *Journal of Futures Studies*, a peer-reviewed academic title that helped blaze a trail for global futures thinking and open-access publishing. Master's and doctoral futures studies degrees were offered, and courses with a futures-studies orientation were required for all undergraduates, regardless of their major, spawning more than 80 futures-oriented courses that focused not just on technology, but on other STEEP areas: social, economic, environmental and political. Over the years, more than 120,000 undergraduates have studied futures at Tamkang. In 2002, the various futures graduate programs consolidated into the Graduate Institute of Futures Studies.

Although Futures Studies was still a "secret" discipline for corporations, organizations and many governments, it was a time of growth within the academy, with not only Tamkang, but also the programs at University of Hawai'i at Mānoa, the University of Houston, the Institute for Futures Research at Stellenbosch University in South Africa, and the Finland Futures Research Centre at the University of Turku, among others. Universities were generally well-

funded, and student body numbers were generally steady.

But nothing stands still. Much has happened in the last two decades. This article is the story of that next chapter and a portrait of the university today. Taiwan has a long tradition of family business, and when Clement Chang retired as president of Tamkang University in 2004, his daughter Flora C.I. Chang stepped into his shoes. By then, what had begun in 1950 as an English-language college had evolved into a full-scale research university with futures studies as a central theme.

Flora Chang assumed the Tamkang University presidency with a long and varied academic pedigree: a master's degree in Economics from San Francisco State University, followed by masters' and doctoral degrees in Educational Administration from Stanford University. She also had years of experience working within Tamkang, serving as the university's Vice President for Administrative Affairs from 1986.

As president, she drew on her economics knowledge, borrowing the process-oriented, continuous-improvement concept of Total Quality Management (TQM) from the business world to apply to the running of the university. The goal? To ensure that Clement Chang's unique institutional vision survived and evolved through a changing world. One of TQM's signature tools is the "House of Quality," a visual representation of mission, vision, and core strategic approaches as elements of a strong, well-supported structure. Under Flora Chang's leadership, the university has adapted the House to serve as an accessible reference for all administrators, faculty, and students—all the diverse members of what Clement Chang used to call the university's "one big family."

"The House of Quality was designed when I was president," confirms the younger Chang, adding that while the approach comes from her experience, the content comes from Clement Chang. "For the words and ideology, we collected all the things my father had said over the years. The mission, the vision, were all things he said or wrote." Says Dean Chen, "The daughter built the [TQM] house to put her father's legacy in, to make it solid and pass it on to the next generation."

A Futures Studies Education

Flora Chang says that appreciating the discipline so loved by her father was a long journey that started in childhood. When Clement Chang found a book he thought contained important ideas, he was known for buying many copies, distributing them to administrators and faculty, and asking them to absorb and discuss it. Sometimes that extended to his children. Flora Chang recalls being handed Alvin Toffler's *Future Shock* when she was in junior high school. "I did not understand it at all! I wasn't interested," she says.

A few years later, Tamkang University began publication of the *World of Tomorrow*, the first Chinese-language futures journal. "We received it in our home, and my father was very excited about the creation of that journal," says Flora. But she was still not ready, she laughs: "I said I wasn't interested in reading that, either. At that time the future was more about technology. I was a senior in high school, and my interests were in humanities and business. So when I read it, I was not excited at all!"

Clement devoured books for the rest of his life, says Flora. "Before he passed away, he was not that healthy, but he was still reading books and pursuing new knowledge. That was his passion."

Meanwhile, Flora's passion as TKU's president was keeping making sure the university her father had founded continued in its tripartite mission. Futures teaching remained a core component of undergraduate education within the university. Opportunities for student-focused futures education also abounded. "At our peak time on this campus," says Shun-jie Ji, referring to the late 2010s, "we had a Futures Studies Week, a Futures Studies writing competition, a Futures Studies exhibition, and lots of activities."

Tamkang's global reputation for Futures Studies grew, too. Under Flora's watch, the *Journal of Futures Studies* went from strength to strength, with Inayatullah handing the reins to Jose Ramos and then Nur Anisah Abdullah (also known as SeeSee Chan). The journal received support from futurists such as Mei-Mei Song, Shun-jie Ji, Hong Zeng Wang, Jeanne Hoffman, Chien-Fu Chen, Jim Dator, Patricia Kelly, Clem Bezold, and Jan Lee Martin, whom Inayatullah refers to as "the parents who have helped *JFS* grow." The Graduate Institute of Futures Studies was formed, and in 2015, with leadership from Kuo-Hua Chen and Shun-Jie Ji, and a vision from Korea's Seongwon Park (who at that time worked with the Government of South Korea's Science, Technology, and Policy Institute), the Institute founded the Asia-Pacific Futures Network (APFN), an annual conference with the purpose of exploring

3

the unique opportunities of Asian futures. The APFN, which met twice at Tamkang before travelling between member institutions (APFN 10 was held in Bangkok in September 2024, APFN 11 will be held in Manila in March 2025, and APFN 12 will return to Tamkang in October 2025), has grown into an important nexus of Asian futures (Cruz et al. 2016). Internationally, Tamkang filled an important role in the establishment of futures studies that continues to be felt.

Flora Chang says her understanding of the role of Futures Studies has grown slowly but steadily. Her first years in a leadership role at Tamkang were focused on establishing TQM as an operational philosophy. However, she says, "starting from 2010, when people invited me to talk about TQM, I started to spend half of the time introducing Futures Studies. I found that TQM was unique in Tamkang, but that Futures Studies is even more unique—in Taiwan and in the world. Finally, I realized why my father was so enthusiastic about Futures Studies. As I prepared lectures and did talks, I became more and more involved with the future and found it even more important."

When presenting futures for audiences, Chang ran into a challenge that many futurists struggle with: the difficulty of rendering the discipline legible in a brief span of time. "It was very new, fresh to them," says Chang of her audiences. "People would be interested, but sometimes they still didn't understand."

In 2016, Chang commissioned 2,000 copies of a small brochure that outlined some of the major topics of Futures Studies, which she brought with her to talks and distributed. "I've handed out almost 2,000," she says. "I have almost run out." Another edition is in the works.

2018 and Beyond: Challenges and Opportunities

Flora Chang retired from the presidency of Tamkang University in 2018, moving to a position as Chairwoman of the Board of Trustees. That period coincided with the convergence of many factors that made thriving as a discipline within the university, and as a university itself, much more challenging.

Demographics were a slow-moving but powerful wave of change. The strong, decades-long trend for fewer children has been called a "looming demographic disaster" recently by the *Taiwan News* (Smith, 2024); Taiwan currently has one of the oldest populations in the world. That has meant severe enrollment shrinkage for universities. 2028, the Year of the Tiger, is projected to be the demographic nadir for university enrollment, says Chen, Dean of TKU's College of Education. "That's the lowest," he confirms. "If we can survive the year 2028, starting in 2029 it gets better."

Geopolitics, however, is also putting significant pressure on universities in Taiwan. Beijing has been making it more and more difficult for Chinese students to study abroad in Taiwan (Haime 2023), reducing the number of students approved for study in Taiwan even as it opens its arms to Taiwanese students by erasing formerly formidable bureaucratic hurdles (Nakamura 2024). To a generation of Taiwanese higher-education students that did not grow up in the long era of Western stability and clear world dominance, the "big wide world" now equals China, only 100 miles from home; some of them are voting with their feet.

Add to this, the declining perceived social value, in Taiwan, of a graduate education in humanities, says Ji, the Associate Professor and co-founder of APFN. "Twenty years ago, Tamkang University used to receive more than 10,000 applications for master's programs on this campus. Now, we get 600." Its plight is not very different from other universities across the Taiwanese educational landscape, or, indeed, in the world—where the "end of the university as we know it" has been frequently predicted for more than a decade (Taylor, M., 2009; Taylor, A., 2020; Birrell 2020).

In an environment of declining resources, size matters. As a relatively young academic discipline, Futures Studies has not had time to develop the strong root systems of older fields, such as History or Sociology. At TKU, support for Futures Studies as a distinct academic discipline began to soften, even as Tamkang faced stumbling blocks as a university. "If you see Tamkang as a family business," says Inayatullah, "then futures has been the jewel in the crown. Once you're the jewel, it's fantastic, but you're also an easy target."

Changing domestic regulations also plays a part. The Ministry of Education tightly regulates and monitors Taiwanese universities, and a new ministry requirement for foreign students to meet a mastery level of Chinese means that many prospective students self-disqualify, says Inayatullah. "I meet many people who tell me 'I want to study futures—Can I study futures?' I say, 'Yes, but you have to go there. There is no virtual degree. *And* you have

to know Mandarin. They say, 'Oh,' and the conversation ends straightaway."

And then came COVID, which dealt a blow to a different triple objective of the university, globalization. Tamkang's ability to convene the global futures conversations for which it was known was sharply curtailed during the pandemic, and is still recovering.

Hui-Huang Hsu, Tamkang's Vice President for Academic Affairs, calls enrollment "the most important issue we are facing right now."

An Era of Transformation

One doesn't survive such severe headwinds through stasis, but through transformation. Hsu says there has been a need for "change, to help to recruit students. The students are different, the environments are different, so we need to change. We cannot be like the old days." Dean Chen adds a reminder that this period of challenge can be a "short-term pain. If you don't make a change, the pain will keep on. But if we transform..." The promise, and the concern, hangs in the air. Futures at Tamkang is transforming.

How? "We have totally changed the courses and the model," says Chen. Starting in 2024, the Graduate Institute for Futures Studies merged with the College of Education, forming the Department of Education and Futures Design under the college's aegis. There is still a Doctoral Program in Foresight for Educational Leadership and Technology Management (also within the College of Education), taught in Chinese and aimed at older students with experience, which Chen describes as "booming."

Five years ago, the university was "forced" by the Ministry of Education to drop the undergraduate requirement for a futures-oriented course, says Hsu, the Vice President for Academic Affairs. Although it is no longer mandatory, most students still elect to take these courses; instead of 4,000 - 5,000 students taking a futures-studies-oriented course per year, it's about 3,000, says Chen. What is required instead: courses in AI and sustainability, reflecting the university's new motto: "AI + SDGs (referring to the UN's Sustainable Development Goals) = ∞ ." Both topics, with a forward-looking flavor, will be diffused throughout undergraduate education, and futures studies will also be practiced through that avenue, says Rui-Mao Huang, Chair of Social Practice and Strategy Section, Center for Sustainable Development and Social Innovation. Says Professor Huang, "Tamkang University should not be a place of abstract knowledge, but also a place to implement and practice to realize the values of knowledge. This is also linked to Futures Studies—we have to practice linking the abstract with the concrete."

Flora Chang sees in this change an opportunity to make Futures Studies feel more applicable. "Before, when we said Futures Studies, people still didn't understand. It was not 'real.' But sustainability is similar to futures studies—it is embedded in futures studies. And everybody can understand sustainability. They'll say, 'I understand [sustainability],' and I'll say, 'That's futures studies.'"

For Po-Ta Chen, a Taiwanese doctoral student at TKU, the gift of Futures Studies becomes concrete when applied to his own life. "In the past, I became stuck in situations," says Chen. "I thought that in front of me, there is only one chance or one choice. I used to get stuck and think I have *no* choice; I have to do one or the other. But after I learned more about Futures Studies, I started to think, 'Hey, maybe we can change the way we think about these things. Maybe right now, even if I am in a depressed time, what I am doing and experiencing is only the process. Maybe the important thing is: What does this time want me to learn?"

Futures in the World

One thing the world seems to be learning from this current period of global volatility, with shifting geopolitical winds, climate change, and with a fresh post-pandemic memory of how quickly and completely things can change in an instant, is an exponentially stronger willingness to invest in Futures Studies, futures literacy, and futures thinking.

Various branches of the United Nations have been deploying futures and foresight for many years, and recently the discipline has been named as one of the five major pillars of "UN 2.0," the United Nations' plan for an evolved entity that is better suited—more nimble, more flexible, more aligned—to current and future world changes. (In an illustration of how gradually change can unfurl, the *Journal of Futures Studies* featured an article on this topic more

than a quarter-century ago, in its first issue (Inayatullah 1996).)

In 2020, the European Commission announced the EU-wide Foresight Network, with Ministers of the Future in charge of building foresight capacity in Member State administrations (Lausberg et. al. 2024). The same year, the World Health Organization Science Division established its "Global Health Foresight Function" (World Health Organization 2021). Governments including Finland, Malaysia, Singapore, South Korea, the UAE, and Canada have embedded foresight into their functioning (School of International Futures 2021). Inayatullah describes foresight in the 1990s and early 2000s as "a hard sell" with prospective clients, but that is no longer the case, he says: "Futures has gone from the weird cousin to the cool kid everyone wants to hang out with." He mentions that General Anita Hazenburg, former Head of Strategy and Futures at Interpol, told him that futures and foresight had gone from a "nice-to-have capability to a must-have capability."

Chen agrees that there is now more respect for a discipline that deals with change in all its manifestations. From the fall of the USSR onwards, he says, "people started to feel uncertainty, all the possible risks and the threat. Not just China. There was also global warming and the financial crisis." Twenty years ago, people used to tease him about being a futurist by inviting him to predict tomorrow's stock market. These days, says Chen, "People don't laugh about it anymore."

A New Direction for Futures Studies at TKU

Futures at Tamkang itself may be at a crossroads, but its presence has laid the foundational groundwork for futures in Asia. "This school has been so stubborn with futures studies," says Ji, the Associate Professor and futurist. Inayatullah agrees: "Tamkang University did the initial hard work." It's there in the tens of thousands of students who have studied futures, and in the international relationships that were begun on the Tamkang campus.

The seeds of a new chapter for Futures Studies at Tamkang University are also present in recent developments. As part of Tamkang's postpandemic reconnection to the global academic community, the university invited renowned futurist Riel Miller to give the Tamkang Clement and Carrie Chair lecture for 2023. Miller, who served as Head of Foresight and Futures Literacy at UNESCO from 2012 to 2022, has worked tirelessly to make futures thinking accessible and useful globally, through a concept Miller calls "futures literacy."

In Miller's talk, "Escaping Certainty: Humanity, the Universe, and Anticipation as Liberation," Flora Chang found a new way to communicate futures and foresight to practical-minded and busy audiences. "I was fascinated by his speech," she reports. "Futures literacy is a very good idea. If you call it a literacy, people say, 'Oh, that is something I can learn for everyday work. It's a literacy, just like writing, or speech. Everybody can start learning it from kindergarten, or elementary school. Then we will think futures studies is easier, and useful. It's not just about technology—it's about everything. Gender, climate. You can have futures thinking with every topic."

"After I heard [Miller's] speech," continues Chang, "I thought, 'I will put more effort in Futures Studies, starting with the faculty. The students have classes [to learn about futures studies], but the faculty members sometimes didn't pay too much attention. [Getting them to learn about Futures Studies] was too hard, was my thinking before. But we'll have more workshops about the future." Chang is also contemplating a renewed focus on futures in her own speeches and communications: "I think futures literacy will be my next talk to all the universities. At UNESCO, they emphasize it—so you can see that futures will be very important, worldwide."

Chen adds that Miller's talk rekindled unexpectedly widespread interest in futures and foresight at Tamkang. At Inayatullah's workshop, described at the beginning of this piece, "we expected maybe ten" attendees. Instead, says Chen, "the room was exploding! We set a limit of forty, but people begged. We had fifty or sixty."

"All the faculty members need to know what futures studies [is]," emphasizes Flora Chang. "I just hope Dean Chen can have more workshops."

A few days after Inayatullah's workshop series, another seed of positive change for foresight at Tamkang took root. Twenty-two students from Northwestern University of the Philippines arrived at Tamkang for a week of immersion in futures studies and futures thinking tools entitled "Pioneering the Future." Although the students came from many different disciplines, they were all on the same page when it came to studying futures. The university has offered Futures Thinking as an elective course for more than a decade, but this academic year it made Futures Thinking a requirement for all undergraduate degree courses, upon approval by the Commission on Higher

Education in the Philippines.

Jezreel Larry Caunca, Foresight Coordinator for the UNESCO Chair on Anticipatory Governance and Regenerative Cities and an instructor at Northwestern University Philippines, says the group was particularly excited to be there because of TKU's "significant contributions to Futures Studies." "Tamkang University has always been first in Futures Studies and foresight," Shermon Cruz, UNESCO Chair on Anticipatory Governance and Regenerative Cities, tells the group. Cruz describing for the students an "upsurge of interest in futures since the pandemic, especially in the Philippines," before handing the session over to Nur Anisah Abdullah, one of TKU's foremost Futures Studies instructors. Before long, she has the students imagining futures where most of their friends were robots, or futures dominated by AI—and laughing.

"If we don't think different things are possible in our lives, we will get stuck in one reality," Abdullah tells the students, who have crossed an ocean to learn futures at Tamkang. "If we start to realize there are different possibilities, then we choose—we choose. Yes, we might make mistakes. But if it doesn't work, we try another way."

Caunca says he hopes to bring students back to Tamkang every year.

Graduate student Po-Ta Chen says that TKU students who have taken a futures studies course will be equipped with the agency to envision more possible futures than the ones they are offered: "I think that some of them think that they are too small, they do not have the power to change the world. But even if we think we are small sometimes, we can still have change. We can see a weak signal, and maybe have a little change around our own lives, around ourselves. But then that change might have influence, more and more." Choosing which weak signals to nourish so they bloom into a movement, says the PhD student: "That is the beauty of futures studies—and the power."

Flora Chang, carrying on her father's legacy, might agree. "When I was in high school, I thought, 'Oh, futureology is very far away from me,'" she says. "But my father said, we have to first recognize the future, then adjust to the future, and then create your own future. That is the most important thing: to create your own future. Then people will feel that the future is not very far away."

References

- Birrell, H. (2020). A golden age for universities will come to an end. The Economist. https://www.economist.com/the-world-ahead/2020/11/17/a-golden-age-for-universities-will-come-to-anend.
- Cruz, S.; Sweeney, J., & Ghahfarokhi, M.D. (2016). Flavors of practice: Developing the Asia Pacific Futures Network. Journal of Futures Studies, 21, 93 104.
- Haime, J. (2023, March 14). Why Chinese students are an increasingly rare sight in Taiwan. Al Jazeera. https://www.aljazeera.com/news/2023/3/14/why-chinese-students-are-disappearing-from-taiwan.
- Inayatullah, S. (2022). Anticipation to Emancipation: Toward a Stage Theory of the Uses of the Future. Tamkang University Press. https://jfsdigital.org/wp-content/uploads/2022/02/Anticipation to Emancipation Inayatullah-Final.pdf.
- Inayatullah, S. (2003). Futures at Tamkang University. Futures, 35, 1075 1077.
- Inayatullah, S. (1996). The futures of the UN in emerging world orders. Journal of Futures Studies, 1, 27 50.
- Lausberg, P., Maurice, E., & Rayner, L. (2024). Making the EU fit for the permacrisis: A foresight analysis on social, economic, and governance resilience. European Policy Centre. https://www.epc.eu/content/REGROUP_foresight_paper.pdf.
- Nakamura, G. (2024, February 25). Concerns as China tempts Taiwanese students. NHK World. https://www3.nhk.or.jp/nhkworld/en/news/backstories/3079/
- School of International Futures. (2021). Features of effective systemic foresight in governments around the world. https://assets.publishing.service.gov.uk/media/609a55638fa8f56a402b7ba1/effective-systemic-foresight-governments-executive-summary.pdf
- Smith, C. D. (2024, February 22). Taiwan's looming demographic disaster. Taiwan News. https://www.taiwannews.com.tw/news/5100734

- Stevenson, T. (2004). Clement C.P. Chang: Bringing foresight to Taiwan. Futures, 36, 921 931.
- Tamkang University Times. (2010). Dr. Flora C.I. Chang succeeds as the 8th KU president to wheel her toward the fourth wave. TKU Times, 579. https://tkutimes.tku.edu.tw/edtl.aspx?no=9397
- Taylor, A. (2020, September 8). The end of the university. New Republic. https://newrepublic.com/article/159233/coronavirus-pandemic-collapse-college-universities.
- Taylor, M. (2009, April 27). End the university as we know it. New York Times. https://www.nytimes.com/2009/04/27/opinion/27taylor.html.
- World Health Organization. (2021, October 13). WHO Foresight: Monitoring emerging technologies and building futures-thinking. https://www.who.int/activities/who-foresight---monitoring-emerging-technologies-and-building-futures-thinking.