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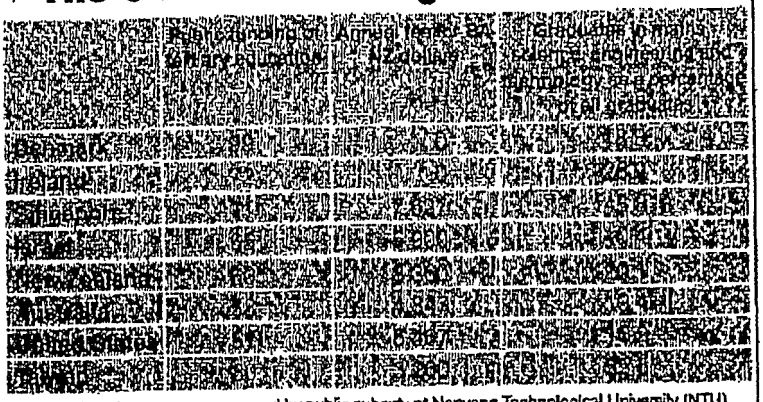
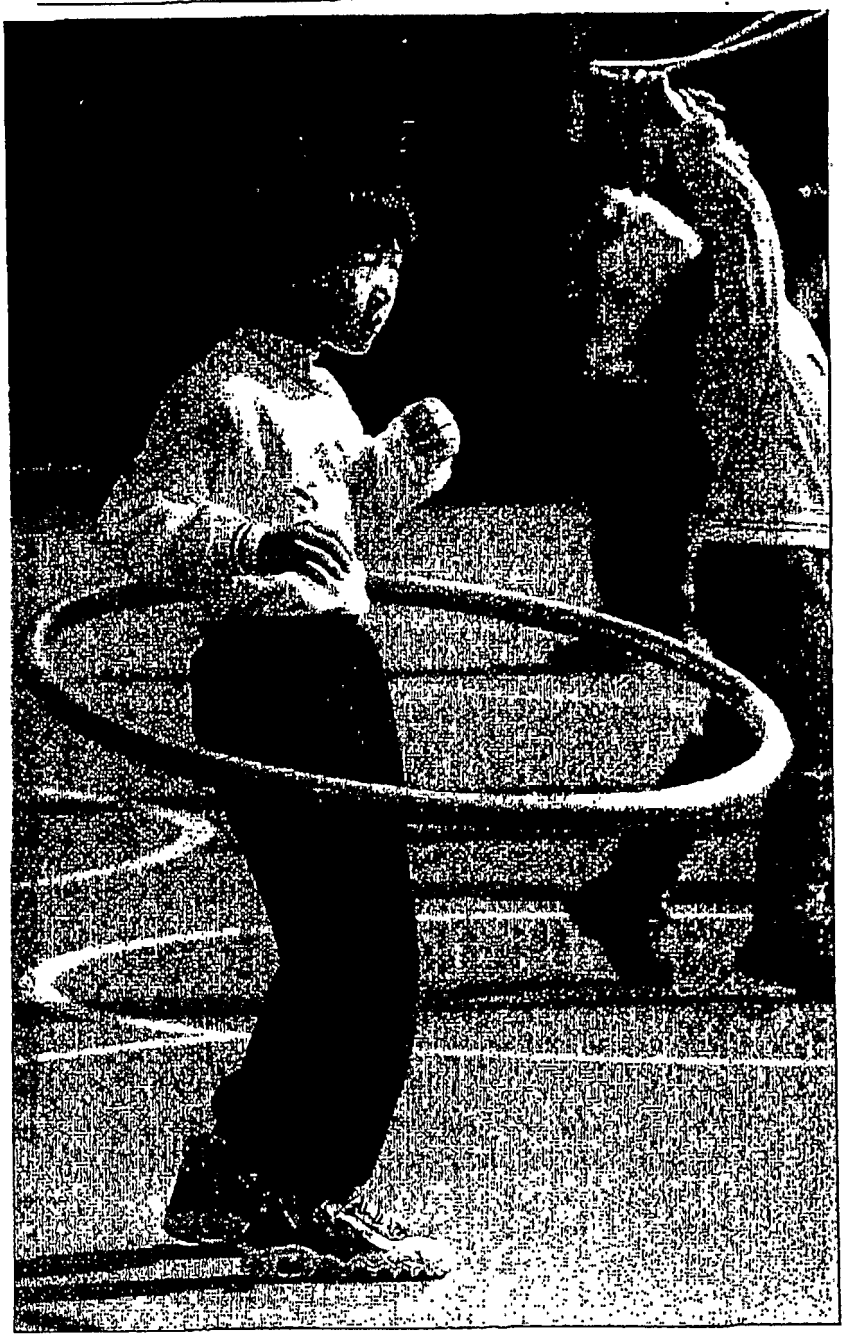
The Cost of Learning



*Proportion of course costs covered by public subsidy at Nanyang Technological University (NTU)
**Estimates for universities only by NZ Vice-Chancellors' Committee

Sources: OECD education database; NZ University Students' Association; Israel Council for Higher Education; www.ntu.edu.sg/iaas.html.



PHYSICAL EDUCATION: Attached to Taipei Teachers College is a school for children from kindergarten age up to year six, where trainee teachers do their internships.

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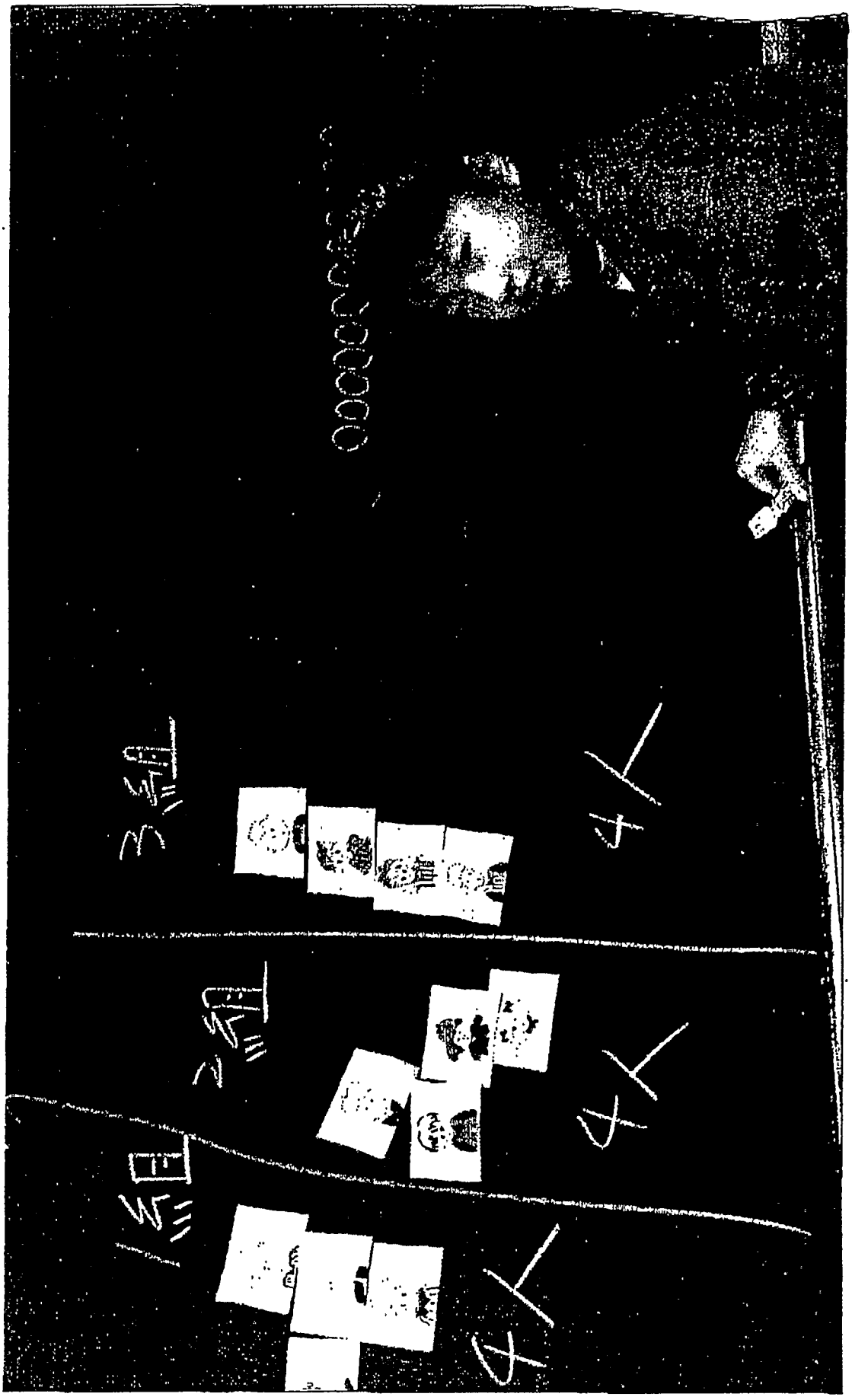
駐奧克蘭辦事處新聞剪報

日期：　　報紙名稱：The New Zealand Herald　　版



EARLY START: With one of the highest rates of maths, science, engineering and technology graduates, Taiwan begins preparing children early for its future needs.

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駐奧克蘭辦事處新聞剪報

日期：　　報紙名稱：The New Zealand Herald　　版

TRENDS: In Taiwan, the Council for Economic Planning and Development estimates how many technology professionals are needed.

PLAN AHEAD: Because of a predicted skill shortage, Taiwan is planning more courses in information technology.

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Our turn: We have a dream

07.07.2001 New Zealand can and must learn from successful overseas models, report SIMON COLLINS and photographer PAUL ESTCOURT. But we should also take advantage of our own assets - our people and lifestyle.

When Eric Lean came home to Taiwan nine years ago, he took a 50 per cent cut in salary. He tossed in 25 years with IBM's research team in the United States to return to what was then a raw "science city," Hsinchu, to head the Industrial Technology Research Institute's Opto-Electronics Laboratories.

He had been wooed gradually. Several years before, the Taiwan Government had asked him to serve on its international advisory panel for information technology, an unpaid body that met two or three times a year. So when he was asked to head the new opto-electronics labs, he accepted.

"When I came back, my parents were still here. That was one of the reasons for me to come back," he explains.

"We only pay 40 to 50 per cent of a US salary. But that is not the only reason to keep a person. The important thing is to create an environment for them, which is more complicated than salary alone. Taiwanese engineers love to be their own boss. They will find ways to open up other companies, even for two or three people.

"The experience of being in such a research environment [as his labs] also provides a stepping- stone to go into local industry, and that's one of the reasons we attract people."

Ta Jung Lu, a chemistry professor at National Chung Hsing University in central Taiwan, came back partly because of a promise to his wife, and partly because he could not get a job in a first-class American university, having started his scientific career seven years later than his contemporaries.

"My wife grew up in Indonesia and saw [anti-Chinese] race riots. She was afraid to live in a foreign country," he says.

Paul Wang, in contrast, had a meteoric career as a top executive with IBM before he was also lured back to Taiwan after 26 years away. Like Lean, he was first tapped to serve on an unpaid advisory committee - in his case a group of business leaders working directly with Taiwan's premier at the time, K.T. Lee.

"Mr Lee asked me to organise a group of elite Chinese-Americans across different technology fields as his adviser to help him look after their high-tech policies," he says.

"We came to Taiwan twice a year, even more. We looked at many of the activities of Taiwan - technology, education, infrastructure and so forth. I expected that the high-tech development in the Asia-Pacific region would take off."

He talked to his colleagues at IBM and suggested that the company should participate in the region, or it would be left out.

"They didn't pay any attention to my suggestions," he says. "Therefore I resigned from IBM in 1989 and said I'd like to do something for myself."

He returned to Taiwan and founded a venture capital company.

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Stories like these are everywhere in Taiwan, where an American university education seems to be the equivalent of a New Zealander's OE.

Taiwan has done two things to achieve what it calls a reverse brain drain. It has used its networks to actively woo back its expatriates, and it has created a "buzz" at home to attract them.

Networks, of course, have always been at the heart of business. For a while, during the period of mass production associated with the name of Henry Ford, economists suggest that external networks became less important, as the whole production chain was brought into a single company.

But in Taiwan, as in New Zealand, big companies have never dominated. Even computers and consumer goods have been produced by networks of external subcontractors, each making parts of products that are eventually marketed under what are often American or Japanese brand names.

And in the era of software and the internet, networks of small companies have come into their own again everywhere. They are the essence of Silicon Valley, where most people stay in a job less than four years before either being headhunted by a rival firm or leaving to launch a start-up.

"Silicon Valley is a state of mind," says Berkeley business professor David Teece, a New Zealander who has set up a venture capital fund in New Zealand and will speak at Auckland University's Catching the Knowledge Wave conference in August.

"This is a tremendously dynamic environment," he says. "People are thinking constantly about change, new business formation, new opportunities. It's a bubbling cauldron of new technological ideas and new business concepts.

"New Zealand is a somewhat more ordered society, despite the fact that New Zealand thinks of itself as being rough and ready. Around here, mavericks become heroes much more rapidly than in New Zealand."

Teece believes that New Zealand could also be using its own network of expatriates.

"There is no country that has a greater percentage of skilled expatriates than New Zealand," he says. "Yet that expatriate community is neither used, nor frequently aware of opportunities in New Zealand. If that resource could be tapped, I think it would have significant benefits for New Zealand.

"Kiwis are not going to go back until there is a clear momentum established. There are a lot of Kiwis out of New Zealand who would love to go back if there was an opportunity for them."

The second thing Taiwan has done is build that momentum and create the opportunities for its people to contribute something worthwhile in Taiwan, rather than just overseas.

Again, that has been no accident. As this series has reported, the Industrial Technology Research Institute (Itri) has put together a series of consortiums to develop products from notebook computers to DVDs.

Robert Wade, another expatriate New Zealand economist, has

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pointed out in Governing the Market (Princetown University Press, 1990) that these consortiums were in line with a long tradition of "state-led industrialisation" in Taiwan, which started with state-owned companies in the 1950s and led on to actively soliciting foreign investment in local production, and then to the present system of research-led development.

We have seen in this series that Ireland is still "buying" foreign investment with grants that now average $13,200 a job. Australian states are doing the same. In December, Western Australia agreed to pay Motorola $127,500 a job for a 200-person research centre, and Victoria put up $136,000 a job to get a 550-person Holden car engine plant.

Every country visited for this series pours billions into Itri-style research centres, business "incubators" or technology parks. Taiwan, Australia and Israel also give companies grants, loans and/or tax incentives for research.

Many countries actively build business networks - both locally, through services such as Brisbane's Biolink breakfasts, at which researchers can meet potential investors, and internationally, through collaborations between local and foreign businesses and research centres. One example is Enterprise Ireland's outpost in Silicon Valley.

Undoubtedly New Zealand's model will be different. Although we can draw on the best of what other countries do, we can also build on our unique advantages.

We will always lose people who want to be rocket scientists or film stars or to make billions in business. Even within the US, people have to leave small towns and move to big cities or specialised centres if they want to do those jobs (although they may, like Lean or New Zealand's Peter Jackson, be able to go home when they've "made it").

But New Zealand looks like paradise to people who are sick of big-city stress, pollution, traffic jams and the pressure to work long hours.

Keith Phillips, a founder of the Auckland-based venture capital firm IT Capital, says he came here for "spiritual balance" after the crime-ridden societies of Zimbabwe and South Africa, followed by high-pressure jobs as managing director of Apple UK and marketing director at Apple's Silicon Valley headquarters.

"The Taiwanese miracle is based on Taiwanese going to the US, getting educated and being attracted back," he says. "There is a lot of that in the Israel miracle and the Irish one as well.

"So our people could be a great asset if we could attract them back. There is a need for greater targeting of people who really do want to come back - maybe Silicon Valley burnouts who want a place that has greater spiritual balance."

IT Capital has offices in Sydney, Singapore and the United States. Phillips said last year that the other directors were constantly telling him to invest in countries other than New Zealand. But he felt committed to this country because he wanted to live here. "We are a lifestyle node on the network."

He has now left IT Capital and plans to start his own company to grow and internationalise New Zealand technology businesses.

"There is a lot of creative innovation here," he says. "It would be nice for New Zealanders to participate in some of the wealth

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that is being generated here - getting them to believe that we do have the expertise to vision and grow these things.

"We have to make some heroes. This egalitarian idea that we can't support winners is not the right way to go. Three king-hit winners will do more for the other guys than any number of small successes."

He says New Zealand needs to focus on technology "clusters" where it has world-class products and ideas, target particular overseas markets for those products, and use our lifestyle to attract people to those clusters.

"If you take the Auckland area, we have that whole area of the harbour. That is not developed the right way," he says. "If we have to bring businesses here for lifestyle reasons, we should have centres of research excellence, training centres and office parks on the wharf itself, removing the second-hand Japanese cars and containers and tank wharves, and converting those into some of the world's best offices - a science park on the harbour.

"We should be concentrating on excellent schooling - that is one of the reasons why people migrate. We should be maintaining security levels.

"And then we should be focusing on attracting more research and development here from all the players who are part of the New Zealand economy today." Microsoft, for example.

"There needs to be a national plan to assemble what we can from overseas, offer some incentives as well, and get the thing going. I think it's going to roll."

This strategy is not just about economics; it is about creating a society in which we can live satisfying lives. It needs to combine the dynamism of Silicon Valley with the quality of life that New Zealanders value.

If you think about an older person and ask whether they have had a good life, the answer will not depend mainly on whether they were rich or poor. A person may die rich but miserable, or poor but happy.

What makes the difference, when you think about it, is whether the person was able to contribute something - to their children, the wider family, the community, sometimes to animals or the environment or the world.

If you apply that thought to a country, it implies encouraging everyone to dream of the contributions they can make - and then ensuring that everyone has the basic material living standards, the education and the opportunities for paid and unpaid work that will enable them to make their contributions.

It implies encouraging and preparing New Zealanders to go to wherever they can make their best contributions, within New Zealand or overseas. It implies encouraging people to consider all their opportunities to contribute - in business, and also in the family and in the community.

In a well-balanced society, only some of those contributions may earn lots of money. So New Zealand, if it chooses to remain a "lifestyle node" in the world network, may never match America in dollar incomes.

But, as Lean found, a good life is "more complicated than salary

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alone." If New Zealanders can find the right balance in life, that in itself may be one of the greatest contributions we can make.