

Short Time Schooling in US, Life Long Contribution to China

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Background

Half a century ago, in 1953, as a mechanical engineering officer in Taiwan, I was invited by the US government to receive six-month Installations Engineering (IE) training in the US Air Force Institute of Technology (USAFIT), Wright Patterson AFB, Dayton Ohio. Today, retired and residing in Los Angeles since 1985, I look back this pivotal event that changed my life. The training in US equipped me with the technical know-how, management mind-set, and can-do confidence to tackle challenging engineering projects in my ensuing career. Now I find all these valuable qualities I gained from my short time US educational experience also become merits in my retirement as an amateur writer. In Los Angeles, my wife always asks me a question: “You had worked so hard in the past; you really deserve a rest now. Why do you still toil yourself about writing?” I murmur my reply as: “This is just what I like to do. Doing such makes me feel better and sleep better in the night...” This article will recount my experience of my schooling in USAFIT, its impact on my career, and the effort in my retirement.

USAFIT Training

My schooling in US was a consequence of the Korean War (1950-1954). Shortly after the outbreak of this war, the US government offered Taiwan a significant number of training opportunities for some urgently needed professionals. I passed the examinations on the program of IE training with another two trainees in November 1952. A month later, the three of us embarked on a trip to USAFIT, taking an air flight from Taipei to Travis AFB California stopped in Tokyo and Hawaii and then on train from Travis to Dayton Ohio.

About a week before our departure, President Chiang Kai Shek summoned us a batch of 20 trainees in different programs for a final exhortation. After giving the standard instruction of enforcing good discipline and behavior etc, he suddenly raised his tone to ask us to search in America the answer to a question that had been haunting him: “Why could Americans accomplish a job with only a few workers, while we couldn’t complete the same even with many more people?” That remark greatly impressed me. I recalled having similar observations when I was conscripted in the wartime to serve as an interpreter worked with both Americans and our own military personnel.

Wright Patterson Air Force Base in Dayton, Ohio was the major research-and-development and training center of the US Air Force. USAFIT was to carry out all the training programs in all fields related to the Air Force, including that of IE, which was defined in the Catalogue Issue 1952-1952 as “...The position of Installations Engineer is one that requires the full energy of exceptionally capable, especially trained and experienced officers in order that the Air Force base facilities may be planned, built, and maintained to provide maximum support for air operations in efficient and economical manner...”

The six-month IE training covered almost all courses of a college of conventional engineering, plus some specific military engineering courses. The core curriculum including over 50 short courses consisted of: allied sciences (including: mathematics, critical path method, master planning, contracting, procurement, preventative maintenance, economic analysis, etc.); management engineering (including: personnel, organization, administration, instruction,

methods improvement, industry engineering, etc.); mechanical engineering (including: heating, ventilation, air-conditioning, refrigeration, constructional equipment, petroleum oil lubricant handling systems, etc.); architectural and structural engineering (including: building design, structure design, landscaping, etc.); civil engineering (including: roads and runways, pavements, railways, soil mechanics, concrete engineering, etc.); electrical engineering; fire protection engineering; and aviation engineering.

The above curricular were taught three to five courses a week, from Monday to Friday. Each day, we had four hours of classroom learning in the morning, and four hours of field trip or design exercises in the afternoon. Every week there was a bag issued to every student to carry the specific handouts and engineering manuals for home study. The classes did not involve much lecturing by the instructor duplicating what had been covered already in the handouts and manuals; only discussions and some needed clarifications were given. For the difficult technical points, slides or movies were shown for detailing. Our first lesson taught was the course of Personnel Management and Administration, from which I found the answer to President Chiang's question. The important point I got from the course is that, even for a technical project, the success depends 85% on management while only 15% on technical competence.

We had many field trips to reinforce the classroom learning. One trip was to a sewage treatment plant. I recall the scene of a sewage inlet sedimentation pool full of floating condoms. The treated water after sludge separation, aeration, filtration and chlorination were discharged to a river. Gas produced was utilized to generate electricity and sludge was collected, dried, ground, and shipped out in bags as fertilizer. To demonstrate the effectiveness of the process, the official leading the tour took a sip out of the treated water in a cup. I was amazed by the demonstration.

One of the most memorable events in USAFIT was a visit to the Wright Patterson AFB, a major RD center of USAF consisting of installations like runways, hangars, fire fighting equipment, control tower and many RD facilities including a 20-foot diameter supersonic wind tunnel all very impressive to me. Near the wind tunnel, there was a prominently displayed plaque commemorating the wind tunnel designers. We also had a chance to visit the US Military Academy at West Point arranged by a schoolmate who had been graduated there from, where we had a tour to see the facilities led by an officer and were invited to attend two courses in their classrooms; one on "Bridge Design" the other "History of the Second World War". I was impressed by the curriculum that covered all the courses of an engineering school in addition to the military courses.

The six-month schooling was intensive and passed quickly. On July 5, 1953, we embarked on the trip back to Taiwan at Fort Mason in San Francisco, to which we had spent two days on train from Dayton. Before the journey, I packed up all my handouts, books, and manuals received and trusted the military transport group to ship for me to Taiwan. It took us 20 days on the 18000 ton Gen. Cannon vessel.

Impact of Training at USAFIT

This trip had both a professional and a personal impact to me. Prior to the trip, I had been working in the field of metallurgy and foundry in a military industry. As a result of the training received, I had a bird's-eye view on a broad set of professional engineering knowledge, which has been essential to construction engineering design and management. I also changed my career

track because of my US educational experience. I added to what I learned in USAFIT, with what I lately learned from books, cooperation with U.S. experts and engineering design practicing.

The US military publications, including relevant engineering manuals, standards, criteria, specifications, regulations, technical orders, definitive drawings, typical drawings etc., were a treasure for me to carry out the feat. In addition to those mentioned above, sample drawings sometime were available to carry out major design projects such as the complete mechanical systems in an air force base in Taiwan. In addition to engineering design, I had the opportunity to practice the key lessons about management learned on the manufacturing field as well. I was once appointed as the plant general manager of a manufacturing factory for three years, produced the first Made-in-Taiwan air conditioners and refrigerators and retired from military engineering service.

On the personal front, after leaving the military service, I worked with two Asia based American engineering firms and a Singapore newly founded engineering firm for a time one after another. After that, I founded a firm of my own. My wife and I eventually sent all our children to the United States for their higher education and we followed them settle here in 1985. Reminisce on the past and envisaging the contemporary rouse my interest to write. Since settled in Los Angeles I have written and published some books and articles and sent proposals to Beijing and Taipei. In 1990 I was awarded a 3-month invitation of visiting and lecturing in China by the Bureau of Foreign Experts of the State Department PRC in rewarding to my contribution recognized.

FOOTNOTES:

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