A Comparison between the Training Systems of Malaysia and Singapore

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LOYOLA UNIVERSITY OF CHICAGO

A COMPARISON BETWEEN THE TRAINING SYSTEMS OF MALAYSIA AND SINGAPORE

A THESIS SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL IN CANDIDACY FOR THE DEGREE OF MASTER OF SCIENCE IN INDUSTRIAL RELATIONS

INSTITUTE OF HUMAN RESOURCES AND INDUSTRIAL RELATIONS

BY

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CHICAGO, ILLINOIS

JANUARY 1996
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CHAPTER 1
INTRODUCTION

Human Capital

Manpower. Human Capital. These terms describe the human work force of a society. Since every country has humans, every country has human capital. Where most countries differ is in regard to how they utilize these assets; some countries tap their human capital resources better than others. For example, Singapore was rated number one in terms of having the most qualified or trained workforce in the world by the world competitiveness report.¹ The United States was sixth, behind Denmark, Germany, Japan, and Norway. Why are there discrepancies between workforces in various countries? What differences are there between these countries? Are Singaporean citizens smarter than Americans? Or, do they have a more sophisticated training and educational system than we do in America? Why are their training systems better or more effective? Answering these questions is much tougher than a simple yes or no. One must understand the type of training that is being offered and the type of culture that supports these training systems. This paper will examine the training systems of two Southeast Asian countries, Singapore and Malaysia, and analyze the similarities and differences between these two nations.

Why Singapore and Malaysia?

First, we may ask why should we analyze Singapore and Malaysia, why not Germany and Japan? First, as aforementioned, Singapore was rated as having the most qualified workforce in the world. This ranking is reason enough to study this small island nation. In addition, Singapore has a unique training system that is inherent in its educational system. Singaporean students are placed on educational tracks. While studying, they obtain job skills training that they need. Although Singapore achieved number one status last year in terms of a trained workforce, this does not mean they will rest, as we will see in the following chapters.

The reason to examine the Malaysian training system is to obtain the training perspective from a country that is not yet industrialized. In addition, it is interesting to examine the training systems of two countries that were once unified, and to understand why one moved forward with modernization before the other. Currently, Malaysia is moving toward industrialization and is training its workforce to become compatible with this goal. Malaysia provides an excellent example of how a country begins a training system, and what it needs to improve the future of its training.

By studying these two countries, Singapore which has the number one rated workforce, and Malaysia which has an up-and-coming workforce, we can understand what types of training systems are presently being used and what the future holds for training.

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2 During the course of my research project, I touched upon individuals who had information related to my study. I inserted such persons and such information as "personal communications."

Why Should We (Americans) Be Concerned about Training in Southeast Asia?

What exactly is job skills training and why should American business and society be concerned? The answers are complex, but we first need a definition of training. There are two types of training that companies or governments provide: general and specific. If employees receive general training, their new skills are applicable industry wide. As a result, employees can command higher wages. On the other hand, specific training is applicable only to employees that are trained for company specific skills, i.e., skills only applicable to one company. In this case, employees usually does not receive a significant raise. An additional downside for employees is that these skills are often not transferable or useful outside the company.

A successful training program would begin with basic or general training, and work toward specific training within the industry. To have a well trained workforce, a society must have a good solid training structure. If a society can not meet its most basic training needs, how can it expect to build?

There are numerous reasons why we, as Americans, should care that our workforce may not be as well trained as Singapore's or Malaysia's. Although, we are still a respectable sixth in the most trained workforce, there are many other countries, like Malaysia, that are working to become industrialized, and will train their workforce to be competitive with America's. In the growing global economy, American business and society can not stand back and assume that we have the smartest and the brightest. While this may be true, if left untrained, this workforce will be useless or outdated. American society needs to prepare for a changing economy and more competition from developing countries.
Current Training Problems in America

Currently, America is not preparing for the changing workforce. We offer many opportunities to people who want to obtain university degrees, but what opportunities are provided to the population that does not attend college? The outlook is not bright for people who do not have an education or skills. Business Week recently reported that high wage occupations will grow in the future, creating jobs for those with skills and education.4 In another article, Census figures showed a decline in household income, and that this decline was most pronounced in those with the least education.5 Donald Barlett and James Steele6 provide the hypothesis that America is becoming a two tiered society—the upper class and the poor class. They state that America is losing its middle class. We are creating a society with an educated class, or those who can afford an expensive college tuition, and another class of low paid workers who do not have many skills and can not obtain an education or training.

As we have seen, most of the higher paying jobs are going to workers who have certain skills. This makes sense, but what if the worker can not obtain these skills? If it is too expensive for the worker to attend training classes, then how can the worker ever improve his or her skills? It is a vicious circle; not only does the worker lose out, but society does as well.


6Donald Barlett and James Steele, America: What Went Wrong? (Kansas City: Andrews and McMeel, 1992.)
The American government needs to analyze what the workers of America need to keep competitive in this global economy. We need to train all our workers to compete in the 21st century. We can begin to understand what we need to do to upgrade the skills of our workforce by comparing our programs with other countries, like Singapore and Malaysia. In the following chapters, this paper will analyze and review the training systems of Singapore and Malaysia, and provide insight as to what is happening in the world of job skills training.
CHAPTER TWO
THE SHARED HISTORY OF MALAYSIA AND SINGAPORE

Why do we need to know the history of these countries?

One of the reasons for comparing the training systems of Malaysia and Singapore is that their history together is so very interesting and so very recent! To analyze the training systems in two countries that were once joined as one, albeit a short time, and to hypothesize why one training system may be further along than the other is fascinating. However, before I delve into the comparison, it is necessary to understand this shared history of Malaysia and Singapore. It is necessary to understand the ties that bind these two cultures and why some of the ties unraveled. From understanding the history, we can then move into the present and make intelligent comparisons and contrasts.

Since Malaysia and Singapore share a common beginning, it is difficult to describe the histories of these countries independently. Instead of dredging up the entire history of this region, I will only concentrate on the recent history of the past fifty-five years. It this in this time period that Malaysia became an independent country and Singapore seceded.

The Malayan Union

After the years of the Japanese occupation during World War II, Malaya was under British rule. In 1946 the Malayan Union was formed and
was comprised of nine peninsular states, including Malacca and Penang; however, Singapore remained a crown colony.\textsuperscript{1} Under the British rule, all Indians and Chinese inhabitants of Malaysia were made citizens. In addition, Britain stripped the sultans of each state of their power. These new rules were not readily accepted by some Malays. In fact, in reaction to these rules a new political party, United Malays National Organization (UMNO), was formed. This party included the royals who were stripped of their power, aristocrats and commoners concerned with the granting of citizenship to the non-Malays. The UMNO created problems for the British and finally in 1948 British had to dismantle the Malayan Union. Out went the Malayan Union, in came the Federation of Malaya!

\textbf{The Federation of Malaya}

Under the new rules of the Federation of Malaya, the sultans received sovereignty, Malays received special privileges and citizenship was granted to a certain minority of Indians and Chinese. Like the Malayan Union, the Federation of Malaya only enjoyed a few moments of tranquillity. Within a few months, the Chinese Communists emerged and declared war, although the British deemed it an emergency. This emergency began in June of 1948 and finally ended in 1960.\textsuperscript{2} The Communists employed terrorist tactics in order to destroy the economy of the Federation of Malaya. However, there were two main reasons why their attack was not successful, 1) Britain supported the Malays and 2) the general Chinese population did not join the fighting ranks.\textsuperscript{3} There was at least one residual from this emergency, the


\textsuperscript{2}Ibid., p. 223.

\textsuperscript{3}Ibid., p. 223.
formation of the Malayan Chinese Association (MCA). The thrust of this party was to include Chinese as citizens of the Federation of Malaya. Shortly thereafter, the Malayan Indian Congress (MIC) formed to serve the interests of the Indians in the Federation of Malaya.

The Alliance Comes Into Power

In 1952, the three major parties in the Federation of Malaya, UMNO, MCA and MIC joined together to form the Alliance. The Alliance won control of Kuala Lumpur--this victory foreshadowed the coming change in the country. In 1955, the Federation of Malaya held its first general elections to select members of its national parliament. The Alliance won 51 of the 52 open seats.4 Within the Alliance the parties had their unique roles, UMNO ran the country, MCA ran the economy and the MIC had job security. However, the Alliance wanted more than just majority in the parliament, they wanted a free Malaya. The head of the Alliance, Prince Abdul Rahman, told the British that if the Federation had its independence that it in turn would destroy the Communists. The British were persuaded and in August of 1957, the Federation of Malaya became a sovereign state.

At this point, Singapore was still a crown colony and not a part of the Federation of Malaya. The UMNO was hesitant to join the two countries together because Singapore was three-quarters Chinese and that would tip the balance of the population and thereby tip the balance of power to the Chinese. Although, Prince Rahman did not agree with the UMNO and decided that Singapore would be a great addition to the Federation of Malaya. Lee Kuam Yew, the administrative authority of Singapore, agreed with this union. In

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4 Ibid., p.226.
1963, the marriage of Singapore and the Federation of Malaya was complete; however, there was a caveat--the Malays would have protected parliamentary strength.

The Creation of Modern Day Malaysia

The creation of Malaysia (which included Singapore, Sarawak and Sabah, two states on the island of Borneo) took place in August of 1963. The UMNO goals in Malaysia were to have the Malays catch up economically with the Chinese and for the Malayaization of the non-Malays (i.e., to change the Indians and Chinese lifestyles into the Malay lifestyle). Unfortunately, like most marriages where one party wants to change the other, the union between Malaya and Singapore was on the rocks.

In 1965, Lee Kuan Yew called for a Malaysia that served the interests of all citizens and treated them equally. The Prince did not want this to happen. He was scared that leaders would bolt from the UMNO and shatter the Alliance which would translate into no power for him. The Prince agreed to the divorce.

Conclusion

Obviously, the path to independence has been a rocky road for Malaysia and Singapore. In the upcoming chapters, we will see how far each country has gone in terms of training, but also we will examine the different cultures of each country and how these cultural maps help or hinder the training systems.
Malaysian Statistics

Malaysia is a country with 17.9 million residents and covers over 127,000 square miles.¹ Eleven states are on mainland Malaya and two states are considered to be East Malaysia. East Malaysia is across the South China Sea and shares the island with Indonesia and Brunei.

Malaysia is as diverse and separate as its land. For example, city goers will enjoy the hustle and bustle of Kuala Lumpur and the country or jungle goers can enjoy the relaxation of Eastern Malaysia. The people are also diverse. Malays, Chinese, Indians, Ibans, and Kadazans and others make up the Malay population.²

Malaysia After the Divorce

The previous chapter gave us a mere glimpse of the politics that are so pervasive in Malaysia. But all still was not calm after the split between Singapore and Malaysia. There was continuing racial disharmony and the problem of non-Malays (i.e., Chinese and Indians) being treated like aliens within their own country. In addition, the ever widening economic gap between the Chinese and the Malays did not enhance community relations.

²Ibid.
This racial unrest cumulated in May 13, 1969, riots. The spark that began this fire was simple. After the May elections, the Chinese party (who had some victories) wanted a parade through Kuala Lumpur commemorating their wins. On May 12, the Chinese had their parade and the Malays began to boo and shout anti-Chinese statements during the parade. The Malays demanded a counter-demonstration and the police obliged. Unfortunately, that was probably one of the worst things to do. What began as a demonstration ended in the some of the worst riots Malaysia has ever experienced. In addition to the riots in 1969, a book The Malay Dilemma was published that same year. The most interesting fact about this book is the author, Dr. Mahathir bin Mohammad. In 1969, Dr. Mahathir was ousted from the UMNO because it was said that his book produced racial disharmony. But times change--he is currently the Prime Minister of Malaysia--this election says volumes about the shift in Malaysian politics and the value placed on being a Malay and the advancement of the Malays and only the Malays. We will see this manifestation later in the chapter. Let us turn to what is currently happening in Malaysia.

Vision 2020

The current manifesto in Malaysia is to become one cohesive nation and the leader behind this idea is Dr. Mahathir. He is committed to driving Malaysia into the 21st century as a developed nation. This industrialization is known in Malaysia as Vision 2020. This vision is to lead Malaysia to industrialization by the year 2020. The principles of 2020 are as follows: 1) Develop a strong science and technology base to enhance industrial

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competence and competitiveness, 2) Develop indigenous technology by increasing the nation's capability to adopt, adapt, and improve technology through R&D, 3) Ensure that environmental conservation and protection are built into the overall economics development process, 4) Develop a positive culture based on integrity, discipline, and diligence to equip Malaysians for high productivity and commitment to quality. 4

Vision 2020 is propelling the Malaysian society into the fast lane in regard to training workers and luring foreign investment into the country. However, in order to become a strong economic power and developed country, they must have educated residents and skilled workers. These skilled workers, who are far less expensive as compared to US, also help attract foreign investment. With this foreign money, Malaysia can push their training and development further and their industrialization plans faster.

Gaining Acceptance for Vision 2020

The government's push for Vision 2020 is omnipresent. Wherever one might visit in Malaysia, one can not miss the signs for Vision 2020. There are billboards reminding citizens about Vision 2020 and museums display information about Vision 2020. This push for industrialization closes, or begins to close, the economic gap between Malays and Chinese, which is the agenda for UMNO, the controlling political party. The more money and wealth the Malays can accumulate the less "inferior" they are or feel of the Chinese. Most importantly, we can not forget that this is a society that does rarely speaks or is given the forum to speak out against the government. This is showcased in the following act; the Universities and University College Act

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4Ibid, 16.
of 1975, prohibited students from supporting or becoming members of parties, trade union or other bodies without university approval. In addition the government controls the information in the newspapers, television and radio. One does not see editorials on the evening news. Moreover, most citizens do not want a reoccurrence of the May riots, so they do speak about any issues that might involve racial themes. Keeping these issues in mind, it is understandable how the government can enforce the Vision 2020 without much debate from the citizens.

Influences on Training Systems

How do Vision 2020 and culture influence Malaysian training systems? First let us look at Vision 2020. Vision 2020 is pushing the citizens of Malaysia into the economic future. The citizens must be prepared to accept this new industrialization and must be properly trained. Companies must update training systems for their employees and the government must adequately train school leavers and enhance their current training systems. To become part of Vision 2020, all factions, government, industry and citizens have to upgrade themselves! They have to education, re-educate and train their citizens, their employees and themselves. Vision 2020 rests in the hands of Malaysia citizens and their abilities.

Let's look more into this racial disharmony between Malays and Chinese and how this relates to training. First, in Malaysia, as in most countries, ethnicity is easy to spot (i.e., Chinese, Malays, and Indians do not look alike) which often times promotes stereotypes and in/out group fighting. Secondly, modernization exacerbated the racial problems because it turned the fight into economic instead of regional and cultural. The more and more wealth that one group had (Chinese) the more unsatisfied the other
group (Malays) became. Through Vision 2020 Malays can economically "catch up" to the Chinese, which is the goal of the UMNO. In fact, in Malaysia there are laws to protect the Malays--a type of affirmative action for the majority. While the goal of Vision 2020 is to bring all of Malaysia into the 21st century, its focus is to bring all Malays up to speed with their Chinese counterparts.

The Influence of Other Cultures

Another reason why Vision 2020 is successful is that the Western and other Eastern (Japan and Singapore) cultures influence much of Malaysia, residents hear of the new and emerging technologies in the States or Japan and they want to own this technology or being involved with its development. For example, computer technology is interesting to some of the younger generation in Malaysia but they will need proper training to become knowledgeable in this field. There is a sort of pressure to keep up with the "Jones" meaning that if Japan or America has the latest technology, we better have it or at least know how it works. This influence from other cultures puts pressure on the Malaysian government to push forward in moving the country toward industrialization.

Lastly, Malaysia's natural resources are not in high demand as they once were. Malaysia does still rely on some natural resources, such as palm oil and petroleum, but this does not generate as much income as in the past. In order to stay competitive, Malaysia needs to turn from natural resources to human resources--human capital. The country is focusing on utilizing their human capital and producing highly skilled workers to stay competitive in the world market.

\[5\text{Ibid, 11.}\]
Conclusions

The citizens of Malaysia are being pushed forward with Vision 2020. Although, in the 1960's Malaysia had jobs skills training institutes, the big boom has come with Vision 2020. As stated above, there are many various reasons that weave this tapestry of success, or acceptance, of Vision 2020. First, the Malaysian government has a great influence over the citizens of this country and it has been instrumental in luring foreign investment and moving the country ahead. But, that is not the only reason for Vision 2020's acceptance. There is racial tension within Malaysia especially between the Malays and the Chinese and this tension has contributed to Malays wanting to improve economically and "catch up" with the Chinese and with Singapore. We can not forget that these two countries live side by side and Singapore's success puts pressure on its Malaysian neighbor to achieve. In the next chapter, we will see what exactly is happening in the Malaysian training systems.

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6Che Puteh Zakaria, interview by the author, 23 August 1994, Kuala Lumpur, Malaysia, written recording, Manpower Department, Kuala Lumpur, Malaysia.
CHAPTER FOUR

MALAYSIAN TRAINING SYSTEMS

Introduction

During the 1960's the Malaysian government began to realize that more than just universities were necessary to train the human capital in their country.1 What about the people who did not attend universities? How do these people become trained and become productive within the society? The Malaysian government needed to optimize the workforce. They needed to train the school leavers and the skilled workers whose skills might not be "up to date." They needed to push forward to become a stronger country and develop financially. In addition, the government wanted foreign investments in Malaysia and skilled workers would entice investors. Therefore, it was necessary to train these populations of citizens. It was necessary to have an outlet for the students who did not attend the university. The Malaysian government needed to tap this underutilized human potential. The government subsequently decided to set up Industrial Training Institutes. These institutes have specific objectives, which are: 1) To produce a skilled workforce to fulfill the needs of the industrial sector; 2) To upgrade skill of industrial workers to enable them to contribute effectively towards national

1Che Puteh Zakaria, interview by the author, 23 August 1994, Kuala Lumpur, Malaysia, written recording, Manpower Department, Kuala Lumpur, Malaysia.
development; and 3) To provide opportunity for school leavers to get jobs through systematic industrial skill training.²

**Government Training Programs**

There are ten Industrial Training Institutes from which students may choose. Nine of these are on mainland Malaya and one on East Malaysia. However, each institute offers different courses and certifications.

The government pays for the cost of these programs. Terms of schooling can be as short as six months or one and half years, the latter being the average range of schooling.³ The courses are free to the students, unless they drop out, then students must pay the government for all costs incurred.

As aforementioned, these institutes focus on training skilled workers, not management or other "higher" level training. There are three main departments from which students can choose areas to study: the Mechanical Department, the Electrical Department, and the Construction Department. Within each department a student can "major" in a certain area and obtain a certificate stating the mastery of such field. Lastly, there are two departments that only offer one certificate, the Printing Department and the Nonmetallic Department (See Appendix One).

The Industrial Training Institutes have the major skilled labor fields covered! Yet, the government is experiencing problems. The foremost one is difficulty in keeping up with the new technology.⁴ The students must be

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²Manpower Department, Prospectus: Industrial Training Institute (Kuala Lumpur), 1.

³Che Puteh Zakaria, interview by the author, 23 August 1994, Kuala Lumpur, Malaysia, written recording, Manpower Department, Kuala Lumpur, Malaysia.

⁴Che Puteh Zakaria, interview by the author, 23 August 1994, Kuala Lumpur, Malaysia, written recording, Manpower Department, Kuala Lumpur, Malaysia.
trained on the latest machines and understand the newest technology to obtain jobs in the private sector, but since technology is changing so rapidly, it is necessary to buy the newest version! The government acknowledges the problems of technology, but they also acknowledge the problem of continuing finding more money to fund this program.⁵

Presently, the students of these institutes do not have any problems finding employment after graduation. As aforementioned, as the dependency on new and updated technology rises--how well trained will the institute workforce be and will companies want the graduates? We are not sure what will happen in the future but we can look at what is happening right now. Most corporations that employ skilled labor in Malaysia rely on the general training that the government provides. They expect this training and usually base their training with the knowledge that the employees already have a general body of knowledge. Two such corporations that rely on this general training and hire students from the institutes are Keretapi Tanah Melayu (KTM) the Malaysian railroad system, and Sistem Transit Aliran Ringan (STAR) the Malaysian rapid transit system.

Private Corporation Training--Keretapi Tanah Melayu (KTM)

KTM is responsible for the railroad system throughout Malaysia. The railroad industry has a great need for trained workers in many areas, e.g., signaling, construction of tracks, electrical work, etc. In the past, KTM did all the training themselves--general and specific. For most employees, this consisted of general training for one year and two to three more years of specific training. Currently, KTM relies on the government for the general

⁵Ibid.
training and KTM offers conversion courses or specific training courses. This method saves time and money for KTM. When KTM begins their specific training for railroads, they can assume a knowledge base that all employees have from the Industrial Training Institutes.

Due to the government training programs, KTM saves time and money on their employees, since they do not have to give them general training. Since KTM does not have to focus all their time, energy, and planning into training skilled workers, they can plan for the future. KTM can move to the next level of training for managers and administrators. They can now plan for the future industrialization of Malaysia, without sacrificing well developed skilled labor. In fact, according to KTM’s 1993 annual budget, a total of 1,829 trainees took 104 courses. What is unusual about this figure is that fifty-three percent of those trained were from management and one-fifth from their computing division. KTM recognized this as a shift in management style, as evident by this statement:

These two areas (Management and Information Technology) represent a departure from the usual technical field related to railway operations. This signifies the emphasis on management skills which are particularly requires to manage a corporatised railway.

KTM is focusing on emerging technologies and training employees on how to better use computers. They are also focusing on better management. We can see these varying needs being met by glancing at KTM’s 1994 training offerings (See Appendix One). Malaysian government training systems are meeting more than just one need in the case of KTM. While the government is servicing the general training needs of workers, KTM can concentrate on

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7Ibid.
building on the specific skills and other skills that are not being met by the government training institutes.

Private Corporation Training--Sistem Transit Aliran Ringan (STAR)

The situation at Sistem Transit Aliran Ringan (STAR) is similar to that of KTM's, but STAR is in the beginning phases. In February of 1996, STAR will be opening Malaysia's first light rapid transit (LRT) system, or subway/train system as we might call it in the United States. Since this is the first of its kind in the country, STAR has to specifically train workers on how to operate the cars, electrical work, etc. Currently, STAR plans on beginning training three months before the scheduled opening date. STAR is assuming that all their workers will come from the government training program. However, if STAR had to hire workers with no experience or training, STAR's training time would increase greatly, as well as, the cost of training. By having a knowledge base that STAR can draw from they can save money and time.

One has to wonder though, if STAR's foreign investors (British, Australian, and Belgium) knew that they would have to train workers from the beginning, i.e., no experience at all, would they have invested? We do not know this answer for sure; however, having a skilled workforce helped the Malaysian package look good for foreign investors. The Malaysian government was correct in assuming if they do not have a skilled workforce, it would be more difficult to get foreigners to invest. One of Malaysia's selling points to foreign investors is their skilled labor force. The government

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training program promotes skills training for workers that sometimes can translate into promoting country investment.

Centre for Instructor and Advanced Skill Training (CIAS)

However, the Malaysian government did not stop at servicing the need for training unskilled workers to be skilled workers. The government began to build on the currently trained workforce. In 1984, the Malaysian government, along with Japan, developed the Centre for Instructor and Advanced Skill Training (CIAS). CIAS has very different objectives than the Industrial Training Institutes. CIAS’s objectives are: 1) Preparing and conducting training courses in pedagogy and development of training materials for future vocational training instructors, 2) Preparing and conducting skill training courses for vocational instructors, supervisors and skilled workers who are in service, and 3) Preparing and conducting training courses in training methodology, supervisory skill and development of training materials for in service instructors and supervisors.\(^9\) The purpose of CIAS is to ensure that the trainer and instructors are properly trained and to further educate skilled workers.\(^10\) Whereas the objectives of the Industrial Training Institutes were to provide training for school leavers and unskilled workers, CIAS is fulfilling the need to successfully procuring a skilled workforce.

At the CIAS, there are seven departments that courses are divided into. The seven are Instructor and Supervisory Department, Automotive Department, Machine Operation and Die Making Department, Fabrication Department, and Electronics Department.


\(^10\)Ibid, 2.
Department, Heavyshop Department, Electrical and Electronic Department and the Instrument and Automatic Control Department. Unlike the Industrial Training Institutes, students usually required to have a certain minimum of years (usually 2 years) working before they can take courses. These courses are short, anywhere from one week to one month. Instead of individual citizens applying to this center, it is more likely that a business will send their employees to a regular class or custom make their own training sessions.

Why would a company in Malaysia send their employees to CIAST when they could train them in house? CIAST understands that most larger companies, like KTM, train their employees on-site, but CIAST's market is small and medium industries (SMI) who do not have the abilities to train in house. They have found the small and medium size firms have difficulty competing with the larger firms concerning training. SMI's have less capital for training, but they still need to keep their workers up to date. CIAST fills this needs and ensures that SMI's do not fall behind the industry because of their size.

CIAST faces the same problems that the Industrial Training Institutes have--changing technology! With current technology always moving forward, it is difficult to buy the newest model. In fact, CIAST does not offer computer courses for this reason! In fact, the government is not sponsoring computer training because it would cost too much money to keep up with the


13 Ibid.

14 Ibid.
technology. This might have grave repercussions in the future. This problem of keeping up with technology might illuminate somewhat short sightedness of the Malaysian government. Computers, whether we like it or not, are a dominant force in corporation and all employees need to understand how to work with computers. Not training on computers may save money in the short run but what about workers' skills in the long run? If CIAST is not training the instructors on computers, how can the instructors train their employees on computers?

Albeit there are problems with some of the institutes, the Malaysian government has moved jobs skills training toward the future. They have instituted the first level of training, Industrial Training Institutes, where school leavers and unskilled workers can become skilled. Next, the government found they needed more training to keep up with technology (or as much as they can afford), so they developed the CIAST. This center allows skilled workers in small and medium companies to update their skills. In addition, the center teaches students how to become more effective supervisors and instructors. It is obvious that Malaysia is moving forward, so then the question becomes--what is the next step in jobs skills training? The answer might be--privatization--a blend of corporations coming together in order to produce a highly skilled workforce. At Penang Skills Development Centre (PSDC), they are doing just that!

Penang Skills Development Centre (PSDC)

In December 1987, the Penang Development Centre held discussions with various private companies regarding starting a skills development center on the island of Penang. Their vision was to "establish Penang and the
Northern Region as the Asia-Pacific Manufacturing Centre.\textsuperscript{15} Although the idea came from a government agency, it took shape with the input and finances of private companies. One year later, twenty-five companies pledged to become a part of the PSDC. Among the founding members are Intel Technology, Motorola, Baxter Healthcare, Sony Electronics, Siemens Semiconductors, Hewlett-Packard, and Otis Manufacturing.\textsuperscript{16} To date, there have been an additional twenty-seven more companies that have become members.

Since opening its doors for business in May 1989, PSDC's number of courses and participants have increased dramatically. Within four years, PSDC went from less than one thousand participants in 1989-1990, to almost 4000 at the end of 1993.\textsuperscript{17} The number of courses went from less than 50 in 1989-1990 to almost 250 at the end of 1993.\textsuperscript{18} Obviously, this success would not be true if the companies did not value the training that their employees received at PSDC. Tan Bain Ee of Hewlett-Packard, stated the following regarding the value of PSDC.

PSDC saves industry money, space and time. By providing the critical mass necessary to provide quality training to many, PSDC alleviates the duplicating of expensive training resources - training room, PC's, equipment, professional instructors, quality courseware, etc.\textsuperscript{19}

\textsuperscript{15}Penang Skills Development Centre, \textit{Hands On} (Penang, Malaysia, June 1994), 8.

\textsuperscript{16}Penang Skills Development Centre, \textit{PSDC Update as at 31 May 1994} (Penang, Malaysia, May 1994), Appendix A.

\textsuperscript{17}Penang Skills Development Centre, \textit{Hands On} (Penang, Malaysia, June 1994), 1.

\textsuperscript{18}Ibid.

\textsuperscript{19}Penang Skills Development Centre, \textit{Training Today for Tomorrow} (Penang, Malaysia)
The objectives of PSDC are somewhat different from the Industrial Training Institutes and CIAST. PSDC's objectives include training workers but also to develop jobs, to become a leading training institute, and they even have long and short term objectives. Their short-term objectives are as follows: 1) To meet the immediate training needs of its Members 2) Establish a mechanism to coordinate and utilize resources available from industry and institutions 3) Position the PSDC as the leading training institution in Penang and to be self-sufficient financially 4) To work closely with the State Government and Federal Government on the implementation of the Human Resource Development Fund (HRDF).20 Their long-term objectives are: 1) provide pre-employment training for school leavers 2) promote blue collar jobs and training 3) position the PSDC as the leading training institution in the Northern Region.21

Since PSDC is not funded by the Malaysian government, the question is how do they receive funds? They receive money from the memberships of the private corporations.22 The first tier of membership is Founder Members. These are companies that are incorporated in Malaysia, pay a one time fee of RM 15,000, and receive benefits such as the company's members can be elected to the Management Council, lower course fees, and preference for employees to attend courses and utilize the facilities. However, PSDC is no longer accepting founder membership. Instead they only accept full memberships. Full members receive the same benefits as the founding members but pay RM 20,000. Finally there is ordinary membership that is

21 Ibid, 4.
22 Ibid, 10.
divided into three groups: companies with less than 500 employees, 500-1499 employees, and over 1500. Costs are RM 5,000, RM 10,000, and RM 20,000, respectively. Benefits are the same as other members, except that ordinary members can only nominate and vote on members on Management council.

Along with training, PSDC is concentrating on research and development. An example of this is PSDC in collaboration with Motorola has set up a Programmable Automation Literacy (PAL) program that teaches workers how to meet the challenges of factory automation. In fact, PAL is the first of its kind in Malaysia and in the Asia Pacific region.

**Tax Incentives for Private Corporations**

According to Malaysian law, each corporation with over 50 employees must contribute 1% of their payroll to the Human Resources Development Fund. These companies can then send their employees to training facilitate like CIAST. This 1% contribution is used to pay for training for their employees, it is like a credit at a store. It is in the corporation's best interest to use the 1% contribution to the fullest and send employees to training. Corporations under 50 employees can take the double tax deduction for in house training with approval form the Malaysian Industrial Development Authority.

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23 Ibid, 5-6.


Conclusion

Malaysia's jobs skills training programs are constantly evolving, as we can see from the previous examples. From the basic needs of the school leavers at the Industrial Training Institutes to the advanced research and development at the Penang Development Skills Centre, the Malaysian government does not stop at having a skilled workforce; they are pushing forward to have an advanced workforce.
CHAPTER FIVE
SINGAPOREAN CULTURE AND SOCIETY

Singaporean Statistics

Singapore has about 2.7 million residents in an area of about 244 square miles.\(^1\) Singapore is almost all hustle and bustle of city life. On an island that used to be all jungle, only 11 square miles of jungle now exist. Although, citizens and visitors know call it the concrete jungle! Singapore is currently the busiest port in the world and its citizens are just as busy.

The population of Singapore is mostly Chinese with some Malaysian, Indians, etc. The official languages of Singapore are Mandarin Chinese, Tamil, Bahasa Malaysia and English.\(^2\) In August of 1994, the Singaporean government was using the media to promote the use of Mandarin Chinese as the national language. Since there are so many dialects of Chinese, the government wanted everyone to understand the same dialect--Mandarin.

Singapore's Training Beginnings

Singapore does not have many natural resources but they do have human resources. In the beginning of developing their workforce it was a tough road, Singapore had low skilled workers and most foreign trading

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\(^1\) The New York Public Library Desk Reference (New York: Prentice Hall [1993]), 867.

partners did not view merchandise coming from Singapore as high quality. However, this bad image did not adhere for long. The government methodically planned how to better educate their workforce and improve their skills. Government worked with industry, and still does, to spot trends in the workforce and help corporation upgrade their employees' skills. This plan has worked as proven by their number one status in trained workers.

Singapore's Schooling Systems

Unlike Malaysia, Singapore's jobs skills training are inherent in their school system. This system is complicated to the outsider and test laden. First, all students have six years of primary education. At the end of the six years, students take tests, depending on how well they do, they will begin on different tracks. These tracks are as follows, highest to lowest: Secondary Special, Secondary Express, Secondary Normal (Academic), and Secondary Normal (Technical). Students are on the Secondary tracks for about four years. At the end of the four years there is another battery of tests and application procedures. The Secondary Specials usually go on to the Junior college for two years, the Secondary Express go on to the Polytechnic Institutes and the Secondary Normals go to the Institute of Technical Education or other training centers. The post secondary education can last two to three years. If the student wants to go further, he or she can apply to the two universities that Singapore has, National University of Singapore and the Nanyang Technological University. However, the student needs to go through either the Junior Colleges or the Polytechnic schools. If the student is on the Institute for Technical Education track, he or she may apply to the Polytechnic after completing the Technical Education and obtain a degree at
the Polytechnic and then go to one of the universities. Although, in theory a student could do this, it is rarely accomplished.³

Singapore's Success

Why has Singapore been so successful at training their citizens? One advantage of their training system is that is of low cost to the resident of Singapore, usually the government pays for schooling.⁴ There is ample opportunity for everyone to become educated and skilled. Education is not for the just the upper class or the rich. Also, since Singapore is a small country, they need all the citizens to be skilled and educated.

Another reason for Singapore's training success is the Economic Development Board (EDB). The EDB pays special attention to different industries and "keeps on top" of what types of skills the industry needs. For example, the EDB noticed that there was a shortage of nursing and that nurses had a negative reputation. The EDB then went into action! They had a job fair that heavily promoted nursing in a positive light and promoted the Diploma in Nursing at the Nanyang Polytechnic Institutes. The government also keeps a close eye on the make up of the student population. Recently, the government noticed a high increase of female students. Unfortunately, this meant that these females were having a hard time getting married.⁵ The government was not fond of this and consequently set up a dating service for


⁴Mrs. Penny Goh of Nanyang Polytechnic, interview by the author, 7 September 1994, Singapore, written recording, Nanyang Polytechnic, Singapore.

females enrolled in university. Interestingly, one of the Ministers of Education said he would not have given equal access to university for females if he knew this "marrying" problem would exist.6

Conclusion

Singapore out of necessity developed its human resources. The reasons for its success are twofold, one, the government keeps a close eye on the needs of industry, and secondly, the educational systems of Singapore is excellent. The educational systems ensures that no one citizen can fall through the cracks and be left uneducated or unskilled. Singapore is utilizing their human resources—their only resource—to the utmost level! In the next chapter, we will review the post-secondary training systems in Singapore.

6Ibid.
CHAPTER SIX
SINGAPOREAN TRAINING SYSTEMS

Introduction

Singapore is more advanced than Malaysia in regard to its workforce training. In fact, as the competitiveness report stated Singapore was rated number one in worker skills. So how does a country become so dominate in a skilled workforce, especially since just a few decades ago, "Made in Singapore" on an item was not something to brag about? One reason is the Singaporean government created a the Economic Development Board (EDB) to monitor the employers training needs. Another reason is the educational system of Singapore, as discussed in the previous chapter. This educational system runs on "tracks." The three tracks end with different schooling; university, polytechnic and technical education. This chapter will look only at the latter two, or the tracks that focus more on skills training.

Polytechnic Track

The polytechnic--or second track. These institutes train the students who did not gain acceptance from the universities and who want a diploma or certificate. In the following quote, we can catch a glimpse of what makes Singapore excel in training its workers--its constant pushing forward. "We must continually update and upgrade ourselves out of obsolescence," written by the principal of Nanyang Polytechnic, Mr. Lin Cheny Ton. He continued, "The skills and knowledge required in the workplace today are very different
from 10 years ago and definitely will be very different 10 years down the road. This is more than gaining new know-how, but a frame of mind that we must adopt to continually adapt to new environments and changing circumstances."

The above is one of the reasons that Singapore added a new Polytechnic in 1992. Singapore needed to keep up with the changing technology and the changing skills that Singapore’s workers need. The latest addition to the Polytechnics is Nanyang Polytechnic (NYP)--their slogan is Education for the Next Lap. Nanyang Polytechnic has 4 campuses on the island of Singapore. However, in 1997-1998 NYP will consolidate its four campuses into one permanent center. Tuition, which is nominal, is paid by the Singapore government.

Nanyang Polytechnic

Nanyang Polytechnic has six basic strategic thrusts, they are as follows: 1) Market oriented planning, 2) Adaptive training systems, 3) Capabilities development, 4) Transnational cooperation partnerships, 5) Practice and application oriented training, and 6) Regional and international orientation.

At each campus there are different departments of study. The Yishun campus has the School of Engineering and the School of Information Technology. A diploma requires theory training for two years and practical--on the job--training for the final year. The School of Information Technology,

2Nanyang Polytechnic, Nanyang Polytechnic and Its Pioneers (Singapore), 9.
3Ibid, 11.
which began in 1993, offers a Diploma in Information Technology. This school began due to the enormous importance of computers in the workforce. Again, we see how Singapore was on top of emerging technologies and offered a diploma in Information Technology (See Appendix Two).

The Jurong campus has the School of Engineering, where students study at the French-Singapore Institute (FSI). The French-Singapore Institute opened in 1983. This institute was a project between the governments of France and Singapore. Like the Penang Development Skills Centre in Malaysia, most of the equipment in the institute is donating by companies. The French-Singapore Institute has a teaching factory, which means that students learn "hands on" with the machinery. Like the Yishun campus, FSI students are studying for three years, with the last year being a full time student project. The French-Singapore Institute tends to focus on developing technologies with specialist training in electronic design, factory automation and information technology.\(^5\)

In addition to FSI, the Jurong campus also has the German-Singapore Institute (GSI). Students here can receive a diploma in Manufacturing Engineering. Like FSI, the German Singapore Institute was developed in cooperation with the German and Singapore governments in 1982. Their focus is mainly on advanced manufacturing, automation, and technology training.\(^6\)

The Tiong Bahru campus heads the admissions office and the School of Business Management. The Outram campus has the School of Health Sciences. The School of Health offers an advanced Nursing degree. This


\(^6\)Nanyang Polytechnic. German-Singapore Institute. Singapore.
advanced degree was created to keep up with the changing technologies and industry demands on the nursing profession.

Nanyang Polytechnics want to keep up with the changing needs of the workplace, therefore they will offer an Advanced Diploma in Consumer Electronics in the 1994-1995 school year.  

Institute for Technical Education

However, not all students are on, or want to be on, the polytechnic or university track. Most of these students on the third track will go to the Institute for Technical Education (ITE) track. This track is geared more toward the blue collar jobs; however, if students do well enough at ITE they can apply to one of the Polytechnic Institutes. There is a current problem at ITE, the problem of the low status of the blue collar workers in the country.  

Currently, the younger generation does not want to have blue collar jobs and sometimes the parents do not want them to have these jobs either, because by having a blue collar job, the daughter or son is not seen to be successful.  

Therefore, the Institute for Technical Education wants to stop this problem and wants to promote the image of their technical training and upgrade the status of the skilled workers. In addition, ITE wants to promote on-the-job training as a strategy to upgrade knowledge and the skills of the current workers.

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7Nanyang Polytechnic, Nanyang Polytechnic and Its Pioneers, (Singapore).


9Ibid.

10Ibid.
The Institute for Technical Education mission statement is "To maximize the human potential of Singaporeans through excellence in Technical Education so as to develop the quality of our workforce and enhance Singapore's global competitiveness." Singapore has all bases covered. They are training higher end jobs and skills at the universities and the Polytechnic institutes and fulfilling the need for blue collar jobs at the Institute for Technical Education.

The principal functions of ITE are 1) To promote and provide technical training and education courses for training of persons employed in or intending to the employed in commerce or industry, 2) To upgrade the technical skills of the workforce through continuing education and training, 3) To promote industry-based training and education in technical skills, 4) To maintain the certification and standards of technical and service skills, 5) To promote and provide consultancy services on technical skills training and education, and 6) To promote research on technical education and skills training.

The Institute for Technical Education runs eleven technical institutes and has twenty-five full time courses. Course fees are nominal and can be claimed as a deduction on the student's income tax.

Students can join the apprenticeship system. Ninety courses fall under this system with about 300 companies participating. These courses last from 1

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11 The Institute of Technical Education, Celebrating the Inauguration of ITE, (Singapore), 5.

12 ITE, 5.

1/2 years to three years. The range of companies is vast from Aerospace to Printing.\textsuperscript{14}

In addition to certification and apprenticeships, ITE has a Modular Skills Training (MOST) Scheme. This provides workers the education to acquire a specific skill that will increase efficiency and productivity. Employers can sponsor employees to take these courses. MOST certificates can be obtained in fields such as: Air Conditioning and Refrigeration, Architectural Drafting, Electronics Servicing (Video Technology), Mechanical Drafting, Mechanical Servicing, Motor vehicle Mechanics, Precision Machining, etc.\textsuperscript{15}

There is also a Training Initiative for Mature Employees (TIME) that the ITE sponsors. This program is geared for employees aged forty and above. It provided skills that perhaps they do not have because of changes in schooling since they attended. For example, TIME might have a program that teaches English to the older employees.\textsuperscript{16}

Conclusion

Singapore has an elaborate system to train workers and keep their skills updated. It does not appear that anyone can fall through the cracks and not be a skilled worker. Singapore has put training into all levels of education. In the future, the government of Singapore wants to make schooling mandatory for ten years. Currently, it is only six years. Singapore will keep pushing its citizens to become a more educated and trained society. They most likely will


\textsuperscript{16}Ibid.
accomplish these goals by staying in touch with industry needs and trying to reach and educate all populations of the citizens of Singapore.
Comparison of Singapore and Malaysian Training Systems

Funding

In Malaysia, all companies over 50 employees have to contribute money to the Human Resources Development Fund. Contribution to this fund ensures, or at least tries, sending workers to training or skills upgrading. It is in the corporations' best interest to use the contributed money on its employees.

In Singapore the Skills Development Fund (SDF) focuses on training for the blue collar workers earning up to S$750 a month. This funds is funded by a mandatory contribution by the employers of one percent of the monthly remuneration of each employee earning not more than S$750 per month. ¹

In addition, there is the Research and Development Assistance Scheme (RDAS) grant that provides private sector R&D activities in Singapore. The corporation pays back the grant over a certain period of time. This fund is administered by the National Science & Technology Board (NSTB). The NSTB offers financial assistance to companies in their R&D program from academic programs to on the job training.²

School Leavers

In this area, Singapore outshines Malaysia. If a student drops out of high school in Singapore, ITE receives his or her name and number and calls the parent of this school leaver. ITE then tries to persuade the parent to send the child to ITE for skills training so that he or she will have a job. It doesn't always work but the administration at ITE is trying. Malaysia doesn't have as developed a system as Singapore. It would be much easier for a school leaver in Malaysia to fall through the cracks and not receive skills training.

School leavers are a very important aspect of a training system. It is easy to educate or train people that want the knowledge, but what about the people who do not perform well in school and decide education is not for them? This is where training systems can fall down by ignoring this school leaver population. School leavers are a vital part of the labor force and need to be trained for specific jobs. Malaysia needs to analyze what can be done to train this population of their workforce in order to compete worldwide.

Current Workers

While both countries try to upgrade their current workers' skills, Malaysia is more inclined to offer upgrading classes to their workforce. The reason for this is that Malaysia is starting from further back than Singapore because of Singapore's educational system. The students educated by the Singaporean schooling system are more advanced than the Malaysians, therefore, there is not as much pressure on Singaporean industry to upgrade the skills of the current workers, since the workers began with so much more knowledge. Also, Malaysia is trying to "catch up" with Singapore and the workforce needs to upgrade their current skills. While Singapore is looking toward lengthening school time and what new career paths to develop,
Malaysia is trying to reach the point where it doesn't have to worry about what the educational systems is producing.

**Future Skills**

This domain correlates with current employees. Malaysia is looking to upgrade the current employees and can not fully turn all its attentions on building future skills with a future workforce. Malaysia has to focus on its primary educational systems and its current workers. Malaysian government and citizens have to concentrate on stabilizing the present before looking toward the future. On the other hand, Singapore has made it to the top in terms of training and can focus its energy on moving forward. As pointed out in the previous chapter, the government of Singapore noticed a nursing shortage and immediately set into action a plan to gain more nurses. It is that type of future planning that a country can only make when it has conquered the present.

**Managerial Skills**

Both countries may have tendencies to forget about skilled labor and concentrate on managerial skills--we see this in our own country as well--but it appears that Malaysia would be more likely to fall into that trap than Singapore. The reasoning for this is that Singapore's skill base is inherent in the educational system, therefore, there will always be a firm skill base. Malaysia's educational system is not as advanced, they do not have the solid skill base. Malaysia relies on training on-the-job instead of in the educational system and, because of this, it may fall prey to the idea that management is
everything and forget that knowing the skills is part of succeed as well. As we see at KTM, where 53% of trained workers were management.³

Emerging Technologies

Both countries are concentrating on emerging technologies, as we see with Malaysia's PSDC and the new Information Technologies major at Nanyang Polytechic in Singapore. However, the EDB in Singapore keeps a closer eye on the current trends than does Malaysia. In addition, (and this is a constant reoccurrence) the educational system of Singapore is more advanced than the system of Malaysia and therefore, the students of the Singaporean system will be better prepared to integrate the emerging technologies into their arsenal of skills.

Differing Objectives

These two countries are at different stages of training and consequently have different objectives. Singapore is rated number one for jobs skills training, its objective is to stay number one and keep improving. Malaysia is obviously not number one and is striving to achieve equal status with other countries. Malaysia's objective is to enhance its own educational systems and to increase jobs skills of its current workers. In other words, most countries respect Singapore's training systems and Malaysia needs to reach that point.

Future of Singapore and Malaysia

What is the future for the training systems of Singapore and Malaysia? In the case of Malaysia, there is still much debate about the educational

system. For example, in a recent article, Royal Professor Ungku A. Aziz states that,

"The educational system should be reformed to produce trained and professional manpower in order for the country to become an industrialized nation by the year 2020."\(^4\)

However, it is this foreign money that might prove to be problematic for Malaysia. Foreign investment brings scrutiny to the laws and especially the human rights issues of the society, as evident by the problems the United States is having with China. Can Malaysia withstand the scrutiny? Some investors may not like the punishment of caning or the lack of rights for women and might voice their opinions. Malaysia, especially the Malaysian government, will have to learn to deal with the intense scrutiny they will start receiving as the push to become an Asian Tiger. For example, the Prime Minister recently removed the ban on British contracts.\(^5\) For seven months, all British contracts were banned because of an article written in a British paper about how easy it was to bribe Malaysian officials. The Prime Minister of Malaysia demanded to know where they received their information. When the British press refused to give him the information he retaliated and banned British business contracts with Malaysian industry.

In addition to more nosy neighbors, Malaysia also is becoming inundated with American or Western culture. (This paper does not debate the virtues of the Western culture, it is undeniably different from the South East Asian culture.) With this Western influence, more of the younger generation is into material possession and what stars or wealthy people are wearing or eating or driving. This quest for more money or material


possessions might affect what types of jobs the younger citizens may desire. They might want the higher paying jobs and not have the blue collar jobs— we also see this happening in Singapore.

The pressures for Singapore are different than the pressures on Malaysia. Singapore has to maintain its status as one of the world's most skilled workforce, which is difficult to do. In addition, like Malaysia, Singapore has to reconcile the Western influence with its Asian values. In the future both countries will have to deal with the inherent problems in becoming an industrialized society, e.g., more money, more material possessions, differing class status. They must also understand the new pressures that may come from its foreign trading partners.
CHAPTER EIGHT

CONCLUSION

Why analyze these training systems?

It is important to reiterate why we need to analyze the training systems of Singapore and Malaysia. In the case of Singapore, it was chosen because it was rated number one by the competitiveness report in terms of trained workers. Malaysia on the other hand is not rated number one, or even top ten, but it is a developing third world nation and it is necessary to understand what this nation and others like it are doing to re-train the skills of its workers.

Of course, the added bonus that Singapore and Malaysia were once joined and are now independent neighbors, adds complexity to our analysis. Instead of just understanding the training system of each country, it is necessary to understand the culture and history of the two nations as well.

Lastly, since we are in a global economy, it is imperative that we understand how other countries train their workers. If we are to employ workers from other countries or employ workers in a country outside the US, we must know how the foreign training systems work. Unfortunately, in this analysis, we have only scratched the surface of the various types of training systems offered in these two countries.

Why are the training systems in Malaysia and Singapore successful?

How does one country modernize faster than the other and what are some factors that contributed to the other country getting behind? We have
seen in the cases of Singapore and Malaysia that Singapore forged ahead, not only because of its excellent educational system, but also because Singapore only has one resource—humans. Since Singapore only has human as its "natural" resource, Singapore was forced to hone its training systems. Singapore is forced to develop its training systems faster and more efficiently than other countries with other resources. Whereas Malaysia is able to rely on other natural resources, and subsequently, there is not as much pressure on Malaysia to improve its training systems at a hurried pace. Currently, Malaysia is modernizing not only because of the global economy but also to "catch up" with the Chinese in Singapore.

In terms of school leavers, current workers, future skills, managerial skills and emerging technologies Singapore is vastly superior to Malaysia. However, this is not to imply that Malaysia cannot aspire to the same level, but that Singapore is at the top right now. Singapore dominates these comparisons with Malaysia because the Singaporean educational system is ahead of the Malaysian system. Since Singapore does not have any natural resources, they must capitalize on the human resources.

One item of caution for these countries; the more successful each country becomes in terms of training workers, the more foreign attention that country receives. This can sometimes be a blessing or an unwelcomed friend. With more foreign investment, each country has to answer to a foreign community. This scrutiny may cause problems in regard to human rights violations or restrictions on free speech in Singapore or Malaysia.

What can be learned from this comparison?

Two main points should be extrapolated from this thesis on what contributes to a successful training program. First, a training system cannot
only concentrate on the post-secondary educational years. It is of the utmost importance to prepare students in the secondary years for the skills that they will need in the job market. A solid educational base is key to building a successful training system. Secondly, a successful training system depends on the government and the private sector working together. The government has the resources to track different careers and spot trends, something the private sector can not do individually. These two units have to work together in order for a training program to be successful.

What are the implications of this success in the US?

The US does need to take notice as to what Singapore and Malaysia are doing in terms of training. In the previous section, the two main points on what a successful training program includes are not existing in the US. Our secondary educational system is passable, not excellent, and the government does not become as involved in tracking the current job trends as Singaporean government does. In regards to training, the US government usually states that it is up to the private sector to train the employees. Unfortunately, only larger companies have training programs and these are oftentimes specific programs. We, in the US, are wasting a lot of human potential. These successes in Singapore and Malaysia are a sign to America that we desperately need to take a long hard look at our skills training programs. What about the school leavers or the people who do not attend a college? What is America doing for them? If nothing is being done, we will begin to lose our edge in the global economy.
What the future holds for Singapore, Malaysia and the US

Both Singapore and Malaysia are moving ahead in the area of training human resources. Even though Singapore is rated number one in terms of training, the government is still moving ahead and trying to estimate what the job market will need in the upcoming years and plan for it. Malaysia is moving ahead toward Vision 2020 and becoming an industrialized nation.

But what does the future hold for America? America needs to start doing something to re-train its workforce. While Singapore and Malaysia are pro-active about training their human resources, America seems to not be able to get discussions regarding job training off the ground. It is imperative for the future success of the America workforce that they become better trained and have better skills. Perhaps, we can understand how to start this process by understanding the training systems of Singapore and Malaysia.
Industrial Training Institutes (Government Run Training Institutes)

There are three main departments from which students can choose areas to study. The department that offers the most certificates is the Mechanical Department. A student can obtain a certificate as a: General Mechanic, General Machinist, Engineering Inspection, Industrial Instrumentation Technician, Mold Maker, Tool and Die Maker, Foundry and Pattern Maker, Motor Vehicle Mechanic, Earth Moving Equipment and Construction Mechanic, Heavy Commercial Vehicle Mechanic, Welder, Sheet Metal Fabricator, Structural Metal Preparer and Erector, or Engineering Draftsman. This department offers courses such as: Applied Science, Metal Work, Welding, Introduction to Computers, Basic Electricity, Metallurgy, and Applied Mathematics. ¹

Another department is the Electrical Department that offers courses such as: Electrical Drawing, Applied Electronic, Technical Mathematics, and Physics. The student can then receive a certificate as a: Electrician, Radio and Television Servicing Technician, Industrial Electronic Technician, Refrigeration and Air-Conditioning Mechanic, Telecommunications Technician, or Electrical Chargeman.²

¹Manpower Department, Prospectus: Industrial Training Institute (Kuala Lumpur).
²Ibid, 19.
The third department is the Construction Department that offers courses such as: Technical Drawing, Carpentry, and Technical Mathematics. Students can obtain a certificate as a: Wood Working Machinist, Carpenter and Jointer, Furniture Maker, Bricklayer and Tile Setter, Plumber, or Architectural Draftsman.³

Lastly, there are two departments that only offer one certificate. The Printing Department, which offers a certificate as a Printing Technician and the Nonmetallic Department, which offers a certificate as a Plastic Technician.⁴

Courses offered by KTM

KTM’s 1994 training offerings included: The Management of Change, Counseling, The Effective Secretary, Written Communications, Negotiation for Results, Counseling and Labour Laws in Malaysia. The training of skilled labor continued in courses such as: Maintenance of Air Brake, Bogies, Suspension & Door Operating Systems of Hyundai Coaches, Electrical Systems on Locomotives, Bench Fitting and Machining, Advanced Welding and Breakdown and Recovery Work.⁵

Courses offered by CIAST

At the CIAST, there are seven departments in which courses are divided. The seven are: Instructor and Supervisory Department, Automotive Department, Machine Operation and Die Making Department, Fabrication

³Ibid, 27.
⁴Ibid, 35-37.
⁵Keretapi Tanah Melayu Berhad, Program Latihan (Kuala Lumpur: 1994).

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Degrees and Courses offered by Singaporean Training Systems

Degrees and Courses Offered by Nanyang Polytechnic

The Yishun campus has the School of Engineering and the School of Information Technology. At the School of Engineering students can receive a diploma in Electronics and Computer Engineering, or Mechatronics Engineering. The curriculum includes such classes as: Engineering Mathematics, Electrical Principles, Electric Circuits, Productivity, Communication Skills, Industrial Engineering, Data Communication, Computer Programming, Software Engineering, and Precision Tool & Fixture Design. The School of Information Technology, which began in 1993, offers a Diploma in Information Technology. Classes include: Computing Mathematics, Computer Applications, Productivity Management, Structured C Programming, Data Communications, and Database Management.¹


¹Nanyang Polytechnic, School of Engineering, (Singapore).
²Nanyang Polytechnic, School of Business Management, (Singapore).
The Outram campus has the School of Health Sciences, which offers diplomas in Nursing, Occupational Therapy, Physiotherapy, Radiography, and Advanced Diplomas in Nursing (Critical Care, Midwifery, Mental Health, and Operating Theaters). Students are enrolled for three years. Classes include: Nursing Science, Behavioral Science, Clinical Education, Patient Care, Physiology, Introduction to Research Methods, and Tumor Pathology. The advanced diplomas are for people who are Registered Nurses and who hold a diploma in Nursing. Classes include: Research Issues in Nursing, Ethical Issues in Clinical Nursing, Critical Care Nursing, Human Reproductive Biology, and Clinical Nursing Research Project.3

Nanyang Polytechnic is planning to offer an Advanced Diploma in Consumer Electronics in the 1994-1995 school year.

Degrees and courses offered by the French-Singapore Institute

The French-Singapore Institute offers two diploma courses. The first is a three year full time diploma in Electronic Engineering. The second is a two year part time Advanced diploma in Consumer Electronics.

Courses include: Engineering Mathematics, Engineering Science, Productivity, Communication Skills, Automatic Control, Computer & Programming, Electronic Communication and Data Communication.4

Degrees and courses offered by the German-Singapore Institute

The German-Singapore Institute offers a Diploma in Manufacturing Engineering. Courses include: Engineering Mathematics, Machining

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3Nanyang Polytechnic, School of Health Sciences, (Singapore).
4Nanyang Polytechnic, School of Engineering, (Singapore).
Technology & Practice, Materials Technology, Engineering Mechanics and Plastics Technology.⁵

Degrees and courses offered by Institute for Technical Education

Students at ITE can obtain an Industrial Technician Certificate (2 years), Certificate in Business Studies (2 years), Certificate in Office Skills (1 year), or a National Technical Certificate Grade 2 (2 years). Students may also join the apprenticeship system. Ninety courses fall under this system with about 300 companies participating. These courses last from 1 1/2 years to three years. The range of companies is vast, including: Aerospace, Automation, Automotive, Building/Drafting Services, Business Services, Catering, Chemicals, Electrical, Electronics, Garment and Textiles, Hairstyling, Health Care, Jewelry, Marine & Fabrication, Mechanical and Maintenance, precision Engineering, Printing, Retailing, Travel, and Wood based.⁶

In addition to certification and apprenticeships, ITE has a Modular Skills Training (MOST) Scheme. MOST certificates can be obtained in: Air Conditioning and Refrigeration, Architectural Drafting, Civil/Structural Drafting, Diesel Engine Mechanics, Electrical Installation and Servicing, Electrical Power and Machines, Electro-Mechanical Servicing, Electronics Servicing (Digital Equipment), Electronics Servicing (Electronics Instrumentation), Electronics Servicing (Video Technology), Mechanical Drafting, Mechanical Servicing, Motor vehicle Mechanics, Precision Machining, etc.⁷

⁵Nanyang Polytechnic, School of Engineering, (Singapore).


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________. Training Today for Tomorrow. Penang: PSDC.


VITA

My undergraduate studies began at Carnegie Mellon University, where I majored in Psychology and minored in Industrial Management. I was interested in the field of Industrial/Organizational Psychology, so after graduation, when I came back to my hometown of Chicago, I looked into graduate programs in this field of study. I began Loyola's program one year after my undergraduate graduation. During the course of the Loyola program, I became interested in the Global concentration. I spoke with a professor who specialized in the global field, and he arranged a trip to Southeast Asia for me to study training systems, hence the thesis! Since my trip and studies, I have become fascinated with International Relations, especially Peace Studies and Conflict Resolution. Currently, I am living in Zurich, Switzerland--albeit for a brief time--and soon will begin another Master's degree at The American University. This degree will be in Peace/Conflict Resolution, and afterwards I hope to obtain my Ph.D. in the same field.
THESIS APPROVAL SHEET

The thesis submitted by Keri Schoenborn has been read and approved by the following committee:

Linda Stroh, Ph.D., Director
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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the committee with reference to content and form.

The thesis is, therefore, accepted in partial fulfillment of the requirements for the degree of Master of Science in Industrial Relations.

12/6/95
Date

[Signature]
Director's Signature