

Education for Social Equity: Singapore's Competitive Advantage in the Global Economy

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Abstract

Singapore's economic miracle is waning. The tiny republic located in Southeast Asia is losing its competitive edge in attracting direct foreign investments and good-paying jobs have diminished following the aftermath of 9-11. Its economic vigor has declined in the past few years due to high business operating costs and China's low-cost attraction as a manufacturing hub. Increasingly, the republic's well-educated and talented human resources (so-called "quitters") have been lured to western countries such as Australia, Canada, and the United States. The country's political leadership recently confessed that Singapore faces a tough and challenging long-term prospect. The economy will not experience high growth. The better-educated and entrepreneurial citizens will migrate. The few talented elites with political connections will flourish and prosper. Devoid of any natural resources, Singapore's long-term future rests on creating an entrepreneurship base and a highly skilled and educated workforce capable of "exporting" their services in the global economy. An educational reform recently implemented attempts to create a global human resource base of "creative know-brainers" The key focus is to transform Singapore into a global knowledge economy grounded on life sciences, telecommunication, educational services and information technology.

The paper endeavors to explore the interrelationship of curriculum, purpose and outcomes of education and training in Singapore from a functionalist perspective - human capital theory. It posits that the curriculum (used in broad singular sense) of education and training is intended to ensure

that what is being taught and/or learned within an educational setting embodies an element of social control, and that what is learned should result in conformity, responsibility, citizenship and a better quality of life. However, the approach taken to achieve social engineering and control of human resources is no longer effective. Globalization has provided avenues for human capital mobility. Geocentric staffing policy pursued by many countries and business organizations have lured many Singaporeans abroad.

The paper is divided into three sections. Immediately following the introduction, a conceptual framework for analyzing education and training, its purpose and outcomes will be examined. In the second section, productivity curriculum of education and training will be elaborated, and the final section will focus discussion on policy implications of such a curriculum. Data from published sources will be extensively used and analyzed.

Education for Social Equity: An Alternative to the Human Capital Approach

Choon Hian Chan

Introduction

The paper endeavors to explore the interrelationship of curriculum, purpose and outcomes of education and training in Singapore from a functionalist perspective - human capital theory. It posits that the curriculum (used in broad singular sense) of education and training is intended to ensure that what is being taught and/or learned within an educational setting embodies an element of social control, and that what is learned should result in conformity, responsibility, citizenship and a better quality of life. The paper is divided into three sections. Immediately following the introduction, a conceptual framework for analyzing education and training, its purpose and outcomes will be examined. In the second section, productivity curriculum of education and training will be elaborated, and the final section will focus discussion on policy implications of such a curriculum. Throughout the discussion, education and training are assumed to be synonymous, and no attempt is made to distinguish the two terms.

A Conceptual Framework

Any conceptual framework must be analyzed from some theoretical or philosophical perspective. In this paper, a conceptual framework for analyzing education and training in Singapore is based on and informed by the dominant structural-functionalist (functionalism) paradigm. More specifically, the national education/training policy is framed within a paradigm based on the human capital theory.

Paulston (1983) considers structural-functionalism as a twentieth-century version of evolutionary theory. But where the evolutionists place primary emphasis on linked stages of socioeconomic and cultural

developments, the structural-functionalists focus on the homeostatic or balancing mechanisms by which societies maintain a uniform state. Both theories view societies as essentially stable, yet highly complex and differentiated. Evolution implies adaptive changes without affecting its structural status quo. As a social paradigm, functionalism seeks to provide rational explanations of social affairs in the 'real world'. Functionalists are pragmatic and seek to provide practical solutions to practical problems. Its philosophical approach to social change is based on the application of 'social engineering'. Social engineering is a mode of operation whereby the State or hierarchially-structured system deliberately intervenes in the social patterns and private lives of individuals in society. Functionalist approach also emphasizes the importance of understanding order, equilibrium, and stability in society and the way in which these can be maintained. Functionalism is concerned with the effective 'regulation' and control of social affairs (Burrell and Morgan, 1979). The epistemology of functionalism tends to be positivist, determinist, and nomothetic (Boshier, 1990, Paulston, 1991). Social control is exercised through ideological hegemony, and structures are basically created and institutionalized to reinforce this hegemony.

For a functionalist, societies are systems which operate within the established regulations, explicit and implicit, social norms, and institutionalized shared values. In functionalist societies, emphases are placed on the achievement of social integration, maintenance of stability and harmony, pragmatism, and a low tolerance for deviance. Functionalist societies conceive their existence within the real and objective world, and their interaction with the world is moulded and motivated by the need for survival. By fostering social integration, cohesion and equilibrium, societies are in better position to survive in the harsh world. Bureaucratic structures or institutions are deemed necessary to provide directions and to ensure congruency of expected and actual social actions and conduct.

Functionalism as a social paradigm fits perfectly into the political and cultural contexts of Singapore society. It is consistent with the progressive virtues as well as Confucian values of an eastern society. It permits State manipulation (so called social engineering) of all aspects of social life on the pretext of national interest or survival. It legitimatizes social intervention and justifies its policies as being benevolent and for the good of the society and its people.

Functionalism thus becomes a priori or a prerequisite for ensuring the stability and viability of Singapore society. The elements that emanate from this paradigm provide the ideological *raison detre* for implementing all forms of social policies including those which pertain to nonformal education. Functionalism further expresses a need for society to maintain social order and integration. In an effort to bring about a Singapore identity, the government recently presented a White Paper on Shared Values in early 1991. This action further exemplifies the mode of social engineering employed by the State to impose ideological hegemony over a multi-racial and multi-religious society. The five shared values proposed in the White Paper have all the facets and epistemological foundations of functionalism. The five shared values include: (1) Putting interests of nation before community and society above the individual; (2) Family as the basic unit of society; (3) Regard and community support for the individual; (4) Consensus instead of contention as a way of resolving issues, and (5) Racial and religious harmony in a multi-racial and multi-religious society. This set of shared values is deliberately engineered to maintain social order and consensus as well as to promote 'contextual pragmatism' - an ideology or philosophy combined with paternalism and Confucian tradition (Boshier, 1988). The objective of the shared values is to provide the bases for the various ethnic groups to develop a Singapore identity and to counter the growing influence of western values (Straits Times, Jan 12, 1991). Another interpretation is that these values are designed and imposed to create a congenial and coherent society based on strict compliance and consensus. As Lee and Newby (1984, p 264) point out ' The central core of shared values provides the means whereby the social conduct of actual individuals is regulated and integrated.' The development of these values is to preserve and legitimize the state's control of social affairs. Functionalism and its related notions of social equilibrium provide the fundamental prerequisites for shaping the productivity curriculum of Worker Education and Training (WET).

Societal constraints provide another source of influence in determining the curriculum of WET. The first constraint relates to the geographical size and position of Singapore. It is an island city-state located on the southern tip of continental Southeast Asia, and occupies 610 square kilometers of land. It was a former British colony (1819-1959) and attained its present status of political independence in 1965 after an uneasy two years as part of the newly created nation of Malaysia. Singapore is devoid of natural resources. The country has a population of 3.2 million in 2002. A second constraint relates to its heavy dependency on world trade and markets to

support its fragile economic base. Singapore relies heavily upon foreign capital investments as well as western technology in all spheres of economic activities.

Chan (1990) observes that investment in human resource is of paramount importance to Singapore for the following reasons:

1. Singapore's chief resource is its human resource, and the entire economy is dependent on the proper management and utilization of this resource.
2. Singapore is a small export-based economy which depends on its efficient and effective utilization of input resources to produce goods and services (such as banking and tourism) that are competitive on the international market.
3. Singapore is constrained by a relatively small workforce (1.6 million in 2002), and must increasingly rely on technology to bring about higher labor productivity. The economic restructuring policy introduced in 1979 was, and still is, directed at reducing dependence on labor-intensive industries.

Singapore's strategy of developing its human resource has been guided by the modernisation-human capital theory. Proponents of human capital generally held the assumption that more educated workers are more productive, and that there is a positive correlation between education and earnings. The task of educational reform thus is to facilitate investment in personal development and to produce better educated and trained workers within the context of the existing educational and moral systems. Human capital theory which fits well within a functionalist society focuses primarily on the objective of socializing young people in the skills and moral commitment necessary for them to take over adult roles within the social system. The goal is to ensure the continuity of the system. Functionalists define equality of opportunity primarily in terms of meritocracy. In these terms, the desired outcome of education is that the more able and motivated students are allocated to the more difficult and important social roles (Hale, 1990). Singapore is a meritocratic society. Its free market economy system rewards individuals according to their contributions. State policies often emphasize rationality and economic efficiency, and require the population to make uncomfortable adjustments which bring results only in the long run. Such an ideology is consistent with the human-capital theory which generally assumes social consensus concerning the national ideology, the legitimacy

of the social hierarchy, and the allocation of rewards and resources. The objective of Singapore education thus reflects facets of functionalism and human capital theory. The former Prime Minister of Singapore, Lee Kuan Yew (1979; pp iii) articulated that the objective of education 'is to educate a child to bring out his greatest potential, so that he will grow up into a good man and a useful citizen' (Report of the Ministry of Education). Embodied in this broad objective are the progressive-instrumentalist notions and Confucian values of education. The ideology of progressivism stresses the needs, aspirations, and development of either individuals or communities. Instrumentalism stresses utility and relevance to the existing social and economic order, which may itself be static or changing. Finally, Confucianism stresses moral development and citizenship. These ideological tenets are also consistent with the rationale and assumption of human capital theory.

Tay (1989) outlined three concepts arising from Lee's educational objective. The first key notion deals with the developmental aspect of education, that is, to bring out the full potential of an individual. As Singapore is devoid of any natural resources, education becomes one of the means to prepare people for the labor market, that is, employment.

The second concept pertains to the moral characterization and development of the individual. The notion of a 'good man' implies a state of moral dignity, responsibility, civic-mindedness and social conformity. These moral qualities or standards are deemed necessary for individuals to play their parts in society and to be responsible members. Through the collective action of 'good men' society is more disciplined and stability can be maintained.

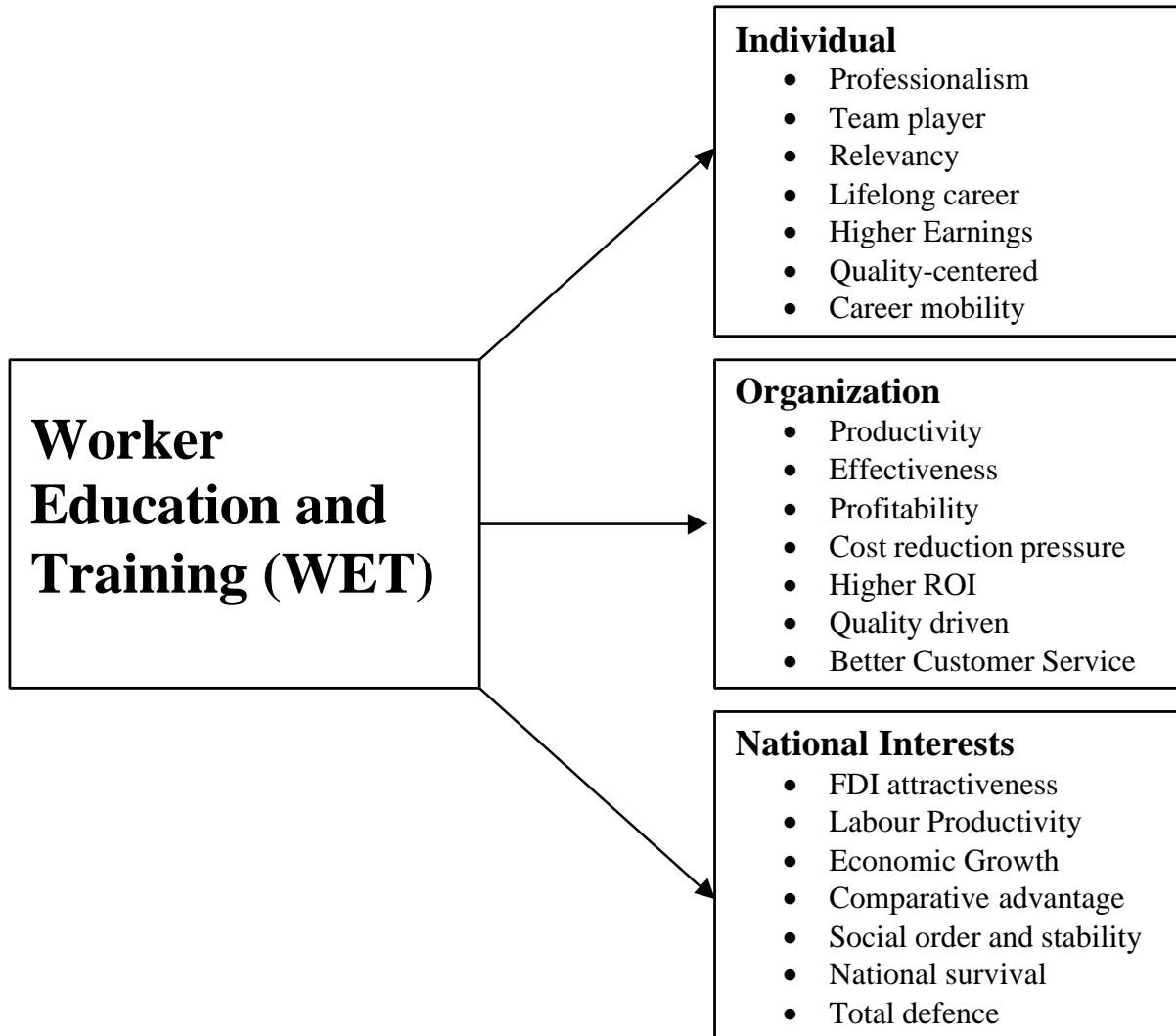
The third and last concept which stems from the notion of 'good man' is citizenship. The key word here is 'useful' which implies utility and functionability. Here, the aim of education is to produce a useful citizen who has the ability to contribute financially and economically to himself, the family, his employer and thereby to the nation (Tay, 1989).

Lee's educational objective has influenced the educational planning and policies, including nonformal education. What emerged from this objective is that curricula for schools and training institutions tend to follow the classical model. The classical model of curriculum according to Lawson (1973) is characterized by elements of subject-centered, skills, transmittal

instruction, banking concept of knowledge, obedience, conformity and discipline. The objective of the curriculum is to acquire knowledge, and the content focuses on subject matter to be learned. Teaching method tends to be teacher-centered, and evaluation is strictly based on examinations administered by a publicly approved agency. To ensure uniformity of standard, public examinations are conducted. Such a curriculum model is also used for WET. A further analysis of the curriculum of WET will be made in the next section.

As shown in Figure 1, the overall goal of WET is to promote productivity, and is manifest on three levels. On the individual level, WET is directed at human efficiency and effectiveness as an input of the production process. The second is the organizational or institutional level where WET is conducted to enhance individual performance as a means toward increasing organizational effectiveness and profitability. In-house training, Basic Education for Skills Training (BEST), quality circle training, and apprenticeship, are some of the examples.

Figure 1: Worker Educational and Training (WET) and Its intended outcomes



Worker education and training is also used to promote productivity at the societal or national level to further national interests. At this level, human capital theory comes to the fore and is used to justify public subsidy of WET programs that enhance the productivity of the general economy (Beder, 1990). The logic of human capital theory is that human skills and knowledge attained through training and education are vital to economic growth and higher standard of living. A proponent of human capital, Harbinson (1973) argues that development of human resource should focus on a two-pronged strategy designed to maximize the skill and knowledge (through training) and

the effective utilization (through the creation of jobs) of this resource. Harbinson (1973) claims that if these goals are pursued, then others such as economic growth, higher levels of living, and more equitable distribution of income are thought to be the likely consequences. Clearly, Singapore's WET programs and policies are directed towards these goals. Duke (1989) in his survey analysis of continuing education in Southeast Asian countries observes that the provision of adult education in Singapore has a strong emphasis on the functional and on acquiring knowledge and skills for employment.

The outcomes shown in Figure 1 arise from broad sets of societal expectations that create a need for worker education and training. The expectations can be operationalized as 'characteristics' adults should possess if they are to be part of and participate in a functionalist society that is orderly, productive and attractive to its members. WET is an instrument that helps working individuals acquire characteristics that help satisfy societal expectations. The outcomes of WET can be categorized into four headings:

Social Integration. The outcome of WET is to ensure that every Singaporean worker can see himself or herself the opportunity to contribute to the economic and social well-being of the society, and that they have a stake in the success of the nation.

Social Responsibility. This outcome is concerned with citizenship and is promoted as an awareness of consequences that flow from his or her behavior whether undertaken as an individual or as part of a group or community.

Technical competence. This outcome is concerned with intellectual and psychomotor skills. The building of technical competence is to facilitate the creation of new and value-added goods and services.

Economic materialism This outcome is related to workers' earnings. By raising the skills level of individuals, higher productivity can be achieved, and this in turn is manifest in higher incomes of individual workers. The practice of meritocracy within a capitalist system further permits social mobility and attainment of higher social status.

Productivity Curriculum of WET

This section focus specifically on the broad curriculum of WET and to highlight the key features of such a curriculum. It is not the intention in this section to describe all WET programs, but the key ones are highlighted for purpose of illustration.

The heart of any educational enterprise is the curriculum. The term 'curriculum' has many and varied meanings and interpretations to different people. It can mean simply a course of study, or broadly defined, it includes everything that occurs under the auspices of the school. Sometimes, the term is viewed as an interaction between students and teachers that is designed to achieve specific educational goals. Saylor and Alexander (1974) define curriculum as a plan for providing sets of learning opportunities to achieve broad goals and related specific objectives for an identifiable population served by a single school center. The identifiable population could be adult learners. Tanner and Tanner (1980) regard curriculum as the reconstruction of knowledge and experience systematically developed under the auspices of the school (or university) to enable the learner to increase his or her control of knowledge and experience. Miller and Seller (1990; pp 3) view curriculum as 'an explicitly and implicitly intentional set of interaction designed to facilitate learning and development and to impose meaning on experience. According to Miller and Seller (1990), the explicit intentions are expressed in the written curriculum and in courses of study, and the implicit intentions are found in the 'hidden curriculum'. Using this distinction, the explicit curriculum of WET is to enhance the knowledge and skills, and the hidden curriculum influences and indoctrinates the individual to think in terms of his or her contribution to the society's social and economic well-being. Each Singaporean worker must regard himself or herself as a 'productivity-conscious being'.

In adult and continuing education, there is some controversy whether there is a curriculum for adult education enterprise. Some authors would prefer to call curriculum as program, since the former is very much related to formal schooling. The notion of curriculum as a content of a teaching program has been enlarged to include the entire learning situation. There has been a move away from regarding curriculum as instructional content to recognizing it to include all that is learned during the teaching and learning transaction. In the words of Griffin (1978; pp 5). 'the entire range of

educational practices or learning experiences'. Jarvis (1990) builds on this definition, and defines curriculum as the entire range of learning experiences provided by an educational institution, including the hidden curriculum. From a broad scale perspective, curriculum of any adult education enterprise should cater to the specific, occupational, national, and social conditions.

Schwab (1973) offers a conceptual approach to defining the elements of a curriculum, of which he claims there are four, namely the student, the teacher, the subject matter, and the milieu. These are commonplaces of educational curricula. In adult education these elements might be thought of as program elements; the participant, the instructor, the topic area, and the context.

Participants of WET programs in Singapore comprise of working adults ranging from age of 17 to 50. The bulk of these participants are in the active labor force. The Vocational Industrial Training Board (VITB) is the main provider of continuing worker education and training in Singapore. It offers a spectrum of programs including industrial skills, business studies, academic education, adult basic literacy and numeracy programs (BEST) and other ad hoc skills courses. Figure 2 shows the intake of participants in various education and training programs provided by the VITB in 1987 and 1988. The contents of the programs are designed and developed by the Curriculum Department of the VITB. The instructors are drawn from the full-time VITB teaching staff as well as trained part-time instructors from the industries. As pointed out in the previous section, the curriculum model developed for the education and training is a classical model. The elements of the curriculum are subject or content-centered, the instructor is the transmitter of knowledge and information, strict adherence to time/class schedule, mandatory attendance, and periodic evaluation of class assignments. The objective of curriculum is to acquire the knowledge and skills stipulated in each of the WET program, and behavioral objectives are set for all class lessons. At the end of a program, participants are required to take a publicly administered examination to determine their learning outcome. For example, in BEST program, participants are required to take an examination at the end of each module. Figure 3 presents statistics of the number of participants registered for the BEST examinations and the pass rates in 1987 and 1988.

Although the content of education and training may vary from one program to another, the focus of BEST and MOST (Modular Skills Training Schemes) tends to be problem solving in nature, and learning experiences

are constructed within the working situations. For example, in BEST English and Mathematics module workbooks, words and mathematical problems are set within the contexts of work or daily working life. The contents of these programs include elements of efficiency and other related concepts to bring about an understanding of productivity and its advantages. Productivity messages are also introduced into the contents to reinforce the importance of productivity to the individual, employer and society.

Policy Implications

Education is the handmaiden of industrialism and economic growth for Singapore. It is regarded as the means to ensure the survival of the nation as well as its economic well-being. Singaporeans are constantly exhorted by their political leaders to upgrade their skills and improve their education in order for them to stay ahead in their professions and to maintain Singapore's competitive edge in the international economy. The point was succinctly expressed by the Prime Minister Goh Chok Tong in the following words: 'Anyone who stops learning after school or graduating is committing occupational suicide'. (Straits Times, January 29, 1986).

The primary concern of manpower policy has been the creation of a skilled and adaptable workforce capable of absorbing new knowledge and skills and applying them as efficiently as possible in the production and delivery of goods and services. The goal to make Singapore an efficient economy capable of attaining high economic performance has profoundly influenced formal and nonformal education. Education ideology and policy-making are biased by the progressivism, Confucianism and human capitalism. These ideological elements reconcile perfectly well with a functionalist society with its emphasis on development, order and harmony.

Since 1959, Singapore has a integrated manpower policy which is tied directly to the educational and vocational planning. In the initial years of political independence, Singapore educational planners had primarily focussed on the formal education of the children. As these children become adults in the last decade, the emphasis is towards better education and training of adults in the workforce. In May 1987, the State initiated a series of policy initiative aimed at improving the educational and skill levels of the workforce. These initiatives were detailed in a report prepared by then National Productivity Board, and are summarized below:

1. Further development of a national certification system for trade skills.
2. Promotion of transferable skills training such as quality, quality control circles (QCCs), computers, and attitudinal skills (such as productivity consciousness, teamwork, etc.).
3. Building up an extensive training infrastructure which includes more trainers, resource materials and training administration systems.
4. Introduction of a pilot scheme to telecast educational program via television for workers.
5. Introduction of double tax deduction scheme to encourage companies to expand their training activities.
6. Setting up an agency to conduct studies, and to provide information on the supply and demand of skills to help training providers, employers and workers adjust to the rapidly changing industrial and occupational structure of the economy.
7. Setting up a network of training information centers to provide information and advice on training easily accessible to workers.
8. Promotion of a respect for skills.

In 1985-86, when the Singapore economy was in recession, the focus of the productivity movement was worker education and training. It was a time to reinforce the notion of human resource investment and development, and public subsidy was meted out in large amount to employers and trade unions by the Skills Development Fund to upgrade the unemployed and workers. Such a policy reflects the State's commitment to upgrading despite an economic slowdown. Education and training budgets were increased rather than reduced to prepare workers for the next phase of economic development.

The Singapore workforce has for a number of years been rated as world's No 1 by BERI, a US Economic Research Consulting agency on the criteria that Singapore workers are disciplined and skilled. As the Singapore economy achieves the status of an industrialized country, the emphasis on education and training becomes more crucial. Singapore needs a pool of educated, trained and dedicated manpower to compete effectively with other more established Western economies. The State has to provide more places in the vocational institutes, polytechnics and universities to meet the growing education appetite. Such a demand will inevitably push the educational cost upwards, and the State will have to balance between accessibility and affordability. Already, some tension and frustration have been expressed by some adults wanting to improve their technical

competence. They are demanding that the State provide more places in the polytechnics and universities to allow working adults to upgrade their education. To meet the growing demand for higher education and training, the State is presently studying the feasibility of setting up an open university. However, one concern is that such a system should not compromise on the quality of education and training. A policy to enlarge the higher and continuing education base reflects the State's commitment to create a large reservoir of professionals to meet the ever-changing demands of a modern technological society.

Some critics have questioned the utilitarian and mechanistic nature of education and training. English and mathematics have been overemphasized, resulting in cultural erosion of the indigenous cultural values. Emphasis on the hard sciences such as engineering, business, and economics at the expense of liberal curricula have produced a nation of rational robots, efficient, hardworking, dedicated and knowledgeable, but lacking in humane, weak in cultural identity, socially insensitive, and devoid of historical tradition. Singapore is fast losing its cultural traditions and in their place western values and beliefs have crept in. Education policy-makers now have an insurmountable task to give education a balance between cultural identity and technological knowledge. In the coming years, human resource development strategy will continue to focus on the following main areas:

1. Provide Maximum formal education and training opportunities to the young before they join the workforce.
2. Upgrade those already in the workforce, usually in skills which are relevant to the industries.
3. Ensure that the workforce possesses more flexible, creative and high value-added skills.

Conclusion

This paper presents a case study of Singapore's policy of worker education and training. The highlights the interrelationships between societal constraint and prerequisites and curriculum of worker education and training, productivity and social outcomes. The ideological foundations of Worker education and training stemmed from progressivism, Confucianism and human capitalism. The curriculum of worker education and training is informed by the classical model, which focuses on gaining knowledge and

skills through discipline, obedience, subject-centered, and vigorous evaluation by public examinations. Worker education as an adult education enterprise is directed at promoting productivity and economic growth. There is little room in adult education which promotes individual or personal enlightenment.

Singapore's main priority in the 1990s is to create a skilled, productive and flexible workforce which can respond readily to the rapid technological developments and ever-changing sophistication of industries. Workers at all levels need to possess skills and knowledge that can assist them to adapt to new technologies and to be able to use advanced machinery and equipment. However in the zealous pursuit of economic excellence, the educational system should be created to allow greater accessibility to all forms of learning by majority of its population, irrespective of their ages. Furthermore, more higher education opportunities should be provided for older adults, women and other minority groups. Hitherto, the education policy has neglected the older generation of adults in their 40s and 50s. While it is applaudable for education policy to pursue academic and skill excellence, it should not be intensively over-emphasized. Indeed, the call is for a more balanced approach, whereby humanity, creativity, and critical thinking can prevailed within a population, in which docility has been the order of the day. It is time for educational leaders to advocate a more humanistic approach to education.

References

- Beder, H. (1990). Purposes and Philosophies of Adult Education. In Merriam, S. B. and Cunningham, P.M. (Eds). *Handbook of Adult and Continuing Education*. San Francisco, Jossey-Bass.
- Chan, C. H. (1990). Industrial Strategy and Worker Training: A Singapore perspective. *Adult Education and Development*. No 35, 43-52.
- Duke, C. (1989). Provision in Southeast Asia. In Titmus, C. J. (Ed). *Lifelong Education for Adults: An International Handbook*. Oxford, Pergamon Press, 442-446.
- Boshier, R. (1990). Epistemological Foundations of International AIDS Education Programs. *A Paper Presented at the Annual Conference of the Comparative International Education Society*. Anahelm, California.
- Hale, S. M. (1990). *Controversies in Sociology: A Canadian Introduction*. Copp Clark Pitman, Toronto.
- Harbinson, F. H. (1973). *Human Resources As the Wealth of Nations*. New York, Oxford University Press.
- Jarvis, P. (1989). Content, Purpose, and Practice. In Titmus, C. J. (ed). *Lifelong Education for Adults: An International Handbook*. Oxford, Pergamon Press.
- Initiatives for Reskilling the Workforce*. (1987). Singapore, `National Productivity Board.
- Lawson (1973). Cited in Jarvis, P. (1983). *Adult and Continuing Education: Theory and Practice*. London, Croom Helm.
- Lee, D. and Newby, H. (1984). *The Problem of Sociology*. London, Hutchison.
- Miller, J. P. and Seller, W. (1990). *Curriculum: Perspectives and Practice*. Toronto, Capp Clark Pitman.

Paulston, R. G. (1983). Conflicting Theories of Educational Reform. in Simmons, J (Ed) *Better Schools: International Lessons for Reform*. New York, Praeger.

Paulston, R. G. (1991). Comparing Ways of Knowing Across Inquiry Communities: Implications for Comparative Education. *A Paper Presented at the Comparative and International Education Society Annual Meeting*. Pittsburgh.

Report on the Ministry of Education 1978. Singapore, Ministry of Education.

Schwab (1973). Cited in Grotelueschen A. D. (1980). Program Evaluation. in Knox, A. B. and Associates. *Developing, Administering, and Evaluating Adult Education*. San Francisco, Jossey-Bass, 75-123.

Tay, E. S. (1989). The Means and Ends of Education. *Commentary*. No 1 & 2, 4-12.

White Paper on Shared Values. Singapore, January 2, 1991.

