

**The Impact of Globalization on Career and Technical Education
in Taiwan, Republic of China**

by

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Abstract

The purpose of this paper is to explore the impact of globalization on career and technical education in Taiwan, Republic of China. Globalization has been characterized as a fundamental process of change. Especially after our country joined the WTO in 2001, the effects of globalization and the WTO regulations compelled career and technical education to change and face new and bold challenges. This paper addresses the essence of globalization, the features of Taiwan's career and technical education context, the impact of globalization on career and technical education and the corresponding strategies, and conclusion.

Keywords: *globalization, career and technical education*

Globalization is a contemporary term that has attracted considerable attention of educators throughout most of the world. It is a set of processes to integrate the world into one economic space through increased international trade, the internationalization of production, and telecommunication system (Stromquist & Monkman, 2000). Although this definition is made from an economic view, globalization is increasingly connected to political, cultural, and educational influences. Recently, its relationship to education and culture has become important issues because information and innovation are the basic momentum of globalization.

Career and technical education in Taiwan has experienced a series of change in its mission, objectives, and curriculum. Especially when globalization is factored into the reform of career and technical education, several topics have become important in the agenda, such as training, higher education, culture, the environment, industrialization strategies, information management, migration, labor, international affairs, and rural and agricultural development. Minimally, schools need to respond effectively the call for innovation and information technology brought about by globalization. Possible major changes include decentralization, restructuring curricula, and the role of schools.

To forestall upheavals on career and technical education in Taiwan, and to facilitate smooth transition, career and technical education in Taiwan requires some fundamental adjustments in both concept and practice. This paper elaborates on the essence of globalization, the features of Taiwan's career and technical education context, the impact of globalization on career and technical education and the corresponding strategies, and conclusion.

The Essence of Globalization

Globalization is a phenomenon that comprises multiple and drastic change in all aspects of social life, especially in economics and culture (Stromquist & Monkman,

2000). Basically, it is discussed in economic, political, and cultural terms. Most of the debates focus on convergence/divergence, homogenization/heterogenization, and local/global issues from neoliberal economic perspectives. Nonetheless, globalization may not affect the lives of every person in every country, but increasingly all the groups and nations will be conform to the structure and commodity of a globalized society in the global village.

Based on the concepts and definitions provided by many scholars, globalization can be classified into two categories. The first is the support of intensified interconnection and interdependence among countries. The whole world is moving towards conformity in structure, values, and even life styles. Held, McGraw, Goldblatt, and Perraton (1999) maintained that globalization is a set of transformation processes in politics, economics, and cultures to facilitate interconnection and network among nations and areas, and can be evaluated by its depth, width, speed, and influences. The second category falls in a time-space transition, which causes global movement. Rapid transportation and telecommunication speed up the implosion effect, which in turn infuses space and function, and unite center-periphery structure to form the integral mechanism of global village (Dai, 2001; McLuhan, 1964). With the implosion concept in mind, globalization is defined as the intensification of relationships among different places and nations, and the simultaneous influences of remote incidents in other nations (Giddens, 1990). Although the definition of globalization varies among different scholars, these two schools of thoughts are in essence complementary to each other in making its meaning more applicable to economics and other fields.

Workforce in The Global Context

Decreasing costs and rapid speed of transportation and telecommunication, information technology, new political structure, economic alliance, and homogenization of life styles are major factors contributing to the evolving global economy. These economic and social changes create new market standards (productivity, quality, variety, customization, convenience, timeliness), and integrate producers, and customers into networks for delivery goods and services. Thus, in the global competition, organizations need to change their structures, skills needs, and jobs.

The new economy requires a broader set of skills including “hard” and “soft” skills (Carrievale, 1991). Hard skills usually refer to technical skills while soft skills are interpersonal, communication, and learning skills, and basic skills (reading, writing, and computation). In the stream of globalization, these skills should comprise intercultural communication, teamwork, negotiation, conflict resolution, foreign language skills, and the strive for continuous change and self-development.

Globalization and Career and Technical Education

Globalization has existed since the sixteenth century (Braudel, 1979). However, the recent rapid development of industrializing economics in Asia and new information technologies has contributed to the emergence of a true global economy. It is an economy involving innovation, finance, and corporate management, and functions on a planetary scale in real time (Carnoy, 1993; Castells, 1997). Specifically, the globality is supported by technological infrastructure composed of telecommunications, information systems, microelectronic machinery, and computer-based transportation.

Carnoy (2000) found that the main bases of globalization are information and innovation, which are highly knowledge intensive. Therefore, globalization should have a profound impact on the transmission of knowledge. He further explored the question of how globalization and its “ideological package” affect the overall delivery of education by stating three effects of globalization: (1) the pressure to reduce the growth of public spending on education; (2) the expansion of higher education to supply highly skilled labors and upper secondary education; and (3) the emphasis on math and science curricula, standards, testing, and achieving standards by changing the delivery of education. These effects all point to a focus of quality.

Career and technical education is an important part of educational systems to prepare highly skilled workers for the technological infrastructure in an information-based society. Globalization implies changes in program planning, curricula, standards, testing, and pedagogy in career and technical education in order to assure effective delivery of the education. Moreover, education, including career and technical education is now at the crossroad of globalization and internationalism. Globalization focuses on global economic integration through processes related to free market while internationalism promotes global peace and understanding through international cooperation. The role of career and technical education is not only limited to strengthening its capability in cultivating world-class skilled workers in global competition. It also involves facilitating cooperation between domestic and foreign schools to provide quality educational services.

Features of Taiwan’s Career and Technical Education Context

Career and technical education is a pragmatic new vocationalism. Originally, it stemmed from pragmatism and the SCANS (The Secretary’s Commission on

Achieving Necessary Skills) competencies and foundations, and encompassed a notion that career and technical education should contribute to making places of work and society more democratic and humane as well as productive. As career and technical education in Taiwan has experienced rigorous changes caused by political, economic, and societal factors, it has moved towards the direction of serving social and industrial purposes. Therefore, career and technical education in our country can largely represent career and technical education.

The career and technical education system in Taiwan consists of three levels: senior vocational high schools and comprehensive high schools, junior colleges, and institutes/universities of technology. Senior vocational high schools offer daytime and evening programs, cooperative education programs, practical skill programs, special vocational education programs, and supplementary programs. On the other hand, comprehensive high schools have both academic and vocational programs in the same school. Junior colleges offer two-year and four-year programs. Institutes/universities of technology have undergraduate, master's, and doctorate programs. The undergraduate programs are two-year and four-year programs. The former programs enroll junior college graduates while the latter programs admit graduates from secondary schools (Wu, 2000).

In the 2002 academic year in Taiwan, there were 71 institutes/universities of technology with 282,990 students, 69 junior colleges and associate degree programs with 406,041 students, and 170 senior vocational schools and 143 comprehensive high schools with 463,756 students (Ministry of Education, 2003a). In total, students of career and technical education accounted for more than half of the student population in upper-secondary and postsecondary schools.

The development of career and technical education in Taiwan has resulted in quality human resources that have created the brilliant economic growth in the past. Yet some problems have recently emerged because of the rapid change. The function and orientation of career and technical education have become indistinct from the viewpoint of career development and manpower needs. The quick expansion of career and technical institutions has hampered the quality of students. Recently, the recruitment of students to higher education level has become a serious problem because of low birth rates. Public spending per student on career and technical education is much less than that for high schools and regular colleges and universities. Another important issue is the lack of qualified and competent career and technical education teachers for some occupations. Last of all, the collaboration linkages between schools and industries are insufficient, resulting in the inadequate preparation of students for work (Ministry of Education, 2003b).

Some of the above problems are mostly related to globalization. The need for

knowledge economics, information technology, intercultural learning, foreign language, and humanity all require career and technical schools to respond by revising curricula, assessing existing programs, and reengineering organizational structures. Namely, career and technical education should focus on the implementation of strategies to concurrently meet the requirements of economic competition and internationalism.

The Impact of Globalization and The Corresponding Strategies

Globalization has been conceptualized as a “fundamental process of change” that integrates the global economy through trade, financial flows, exchange of technology and information, and movement of people throughout the world (Chottepanda, 1998). In the economic sense, Castells (1996) delineates four sources of competitiveness in the global economy. These sources of competitiveness include: (1) the technology capability of a country or the articulation of science, technology, management, and production; (2) access to large markets such as the European Union, North American Free Trade Agreement, and Asia Pacific Economic Council; (3) a profitable differential between production costs at the production site and prices at the market of destination; and (4) the political capacity of national and transnational institutions to guide the growth strategies of the affected countries. His statement shows clearly that knowledge and technology are important components in attaining competitiveness.

In their delivery of education, career and technical education institutions have the responsibility to react to the changes brought by globalization. Knowledge economics, information technology, intercultural learning, foreign language, and humanity are areas that career and technical education can focus on to increase national competitiveness abilities.

In addition to focusing on the quality of education to increase competitiveness at the national level, Carnoy (2000) further postulated that national policies are influenced by economically driven reforms, which affect schooling and shift emphasis onto information technology and knowledge. Since career and technical education is an education for preparing people for work, it should thus actively respond to the effects brought by globalization by revising curricula, assessing programs, and restructuring organization structures. The following strategies are proposed:

1. Schools should develop uniqueness in their programs. Imitation of programs reduces the competitiveness abilities of schools. Globalization requires schools to offer fields of study that are directly market-related, such as programs concerning intercultural learning, foreign language, international trade, information technology, and knowledge economics. Moreover, due to

the notion that globalization is complicated in its content, career and technical education need to cultivate students to become competent workers with compound basic abilities in intercultural learning, English, and information and innovation.

2. The adjustment of programs and revision of curricula should become the core measures to cope with the effects of globalization. The World Trade Organization (WTO) recently accelerated the pace of globalization by stressing free trade through regulations. The need for professionals in finance, foreign trade, marketing, law, information technology, modern management, biotechnology, environmental protection, and new materials are evident; therefore a nation with such professionals can compete with other nations in the global economy. Based on the above fields needed for global competition, schools should adjust their existing programs, revise curricula, and accelerate the pace of educational reform.
3. Foreign language, especially English, should be a focus for students. In order to increase economic competitiveness both at national and individual levels, schools should emphasize the learning of foreign language to purport information flow as well as international trade.
4. Encouraging collaboration between schools and industries should be another strategy for increasing schools' competitiveness. To incorporate quality as a major component of the strategies, schools need to cooperate with industries in providing better learning environments, equipments, teaching quality, and curricula for students.
5. The restructuring of school administration is also crucial. Flexible administration is necessary to accommodate new learning needs of clientele, including e-learning, life-long education, and the integration of educational resources. Distant learning is becoming an unavoidable trend in career and technical education. Life-long education also plays an important role in the learning society. The mission of education is to satisfy multiple learning needs of people. Hence, the redesign of programs and deliveries should be the priority of school administration. The corresponding adjustment of organizational structures is also inevitable.
6. Finally, international cooperation among schools should be another strategy. According to the WTO service regulations, foreign educational institutions can cooperate with domestic educational institutions in providing educational services (Lin, 2002). Governments should encourage universities to cooperate with foreign universities in upgrading educational capabilities. However, before the cooperation can take place, domestic universities need to improve

their educational quality by adopting the total quality management approach.

In the long run, career and technical education will ultimately be capable of offering quality education to students, and providing world-class workers.

In summary, the impact of globalization affects career and technical education in many ways. Because globalization is a set of processes to integrate the world into one economic space through increased international trade, the internationalization of production, and telecommunication (Stromquist & Monkman, 2000), it is clearly a set of continuous evolving processes. Career and technical education needs to follow the pace of globalization by emphasizing information and innovation in the educational processes. The above strategies are proposed to career and technical education educators and teachers for better management of the changes imposed by globalization in the foreseeable future.

Conclusion

Career and technical education has been significantly affected by globalization, which has a profound impact on the transmission of knowledge. In fact, the ideological package of globalization affects the overall delivery of education. The pressure to reduce the growth of public spending on education, the expansion of higher education to supply highly skilled workforce and upper secondary education, the emphases on math and science curricula, standards, testing, and achieving standards by changing the delivery of education are examples of such effects.

However, career and technical education policies are informed by financially driven reforms, which redistribute schooling, thus accentuating a more unequal distribution of highly valued knowledge. Governments and schools can decide more ways to develop alternatives than the ideologies of globalization allow. The proposed strategies include development of unique school curricula, adjustment of programs and revision of curricula, promotion of English learning, encouraging collaborations between schools and industries, restructuring of school administration, and international cooperation among schools. Workforce educators need to pay more attention to the ideologies of globalization, yet wisely select appropriate strategies and alternatives, and plan and implement career and technical education programs by considering the equality and quality of career and technical education at the same time.

Because globalization is a set of continuous processes to integrate the world into one economic space, change is the only principle in a global economy. Career and technical education should constantly keep abreast with changes through redesigning of programs, revision of curricula, decentralization of educational system, and assessment of the role of schools. The current trends in implementing school-based

management and curriculum, adopting clustered and standard-based approach in curriculum planning, and collaborations between schools and industries all manifest the fact that while career and technical education is changing in accordance with the changes brought by globalization, it still preserves the right to maintain educational equality and quality.

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