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**Davison M. Mupinga  
Editor**

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Even though space does not permit us to include the names of many others who contributed their valuable time and talent in service to the *Journal*, we do thank them as well. Since 1993, they have served as associate editors; co-editors; guest, style, copy, and managing editors; managing reviewers; members of the editorial board; regional editors; and publishers.

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Articles do not necessarily reflect the position or policy of the International Vocational Education and Training Association or the *Journal's* editorial staff, and no endorsement by the association or editorial staff should be inferred.

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## Message From the Editor

As many economies face challenges from such issues as global competition, changes in production systems, rising unemployment, aging and diversified workforce, and the impact of information and communication, issues of workforce development are once again taking center stage. At the forefront, is the desire to have workers who can function effectively in today's workplace! Today's work environment is characterized by workers from different backgrounds, socially, racially, demographically, and therefore, there is a need for workers who understand the dynamics of the present workplace. Unfortunately, technical and vocational education programs have the burden to produce the right workers for such dynamic and ever changing workplace environments. As with other past issues of the *International Journal of Vocational Education and Training (IJVET)*, this issue highlights some recent research studies pertaining to technical and vocational education and training, namely lifelong learning, high school vocational education culture, perceptions toward high school vocational education and career behaviors of minority students in TVET programs. Furthermore, for the first time, this issue of *IJVET* includes a non-refereed section on perspectives from practitioners. This section presents practical ideas on implementing TVET programs across the globe.

In the refereed research section of the journal, the first article explores the socio-economic challenges that accompany lifelong workforce education and workforce development. With specific reference to Botswana, Nigeria, and the United States, the authors critique the strengths and weaknesses of these nations' workforce development efforts. In the second article, issues of higher vocational education within the context of China are examined. The author examines how the school culture has changed overtime, what those changes have been, and why they have occurred. The third article presents findings from a study conducted in Swaziland in which guidance counselors' beliefs and opinions of high school vocational education were explored. While the counselors hold positive attitudes toward vocational education, they believe that improvements can be made to enhance vocational education experience for both students and teachers. The fourth article examines the career development process for minority college students in STEM disciplines and the career challenges faced by these students. The authors discuss entrepreneurial and opportunity identification strategies along with career-behaviour enhancing strategies for college students enrolled in STEM disciplines.

In the non-refereed practitioners' perspectives section, the first article provides information about the United States' Department of Labor Job Corps

program and its success with at-risk youth. The second article focuses on access to education in rural areas. With reference to the EDUSAT, a satellite initiative in Indian, the authors discuss the problems associated with this divide in education while also highlighting the impact of information and communication technologies in TVET. The last article describes a culinary arts program within the context of the Operation Brotherhood Montessori Center in the Philippines. The design and development of this center is based on a scientific Montessori system that conditions children from preschool, to elementary and high school to love work in a prepared “work” environment. Please note that articles in this section do not strictly adhere to APA publication guidelines.

Readers are reminded that articles published in *IJVET* come from across the world and as such some authors do not speak English as their first language. While great care has been taken to correct verbiage, there may be some errors that went unnoticed. Like in the past, once again *IJVET* touches on issues that are timely and relevant to TVET. Sincere thanks to reviewers, authors, and editorial staff. Please note that the articles in the journal do not reflect the position of the journal’s editorial staff, reviewers, or policy of IVETA.

Davison M. Mupinga  
*IJVET* Editor

# Lifelong Workforce Education in Botswana, Nigeria, and the United States

Benjamin A. Ogwo

Edgar I. Farmer

## Abstract

Lifelong workforce education is a socio-economic challenge that countries adopt various programs to tackle. Thus, this study reviewed the workforce development context of lifelong education programs of Botswana, Nigeria, and the United States in order to critique their inherent strengths and weaknesses. Two research questions guided the study. The study adopted mixed research methods. Secondary data were used in quantitative analysis while the qualitative analyses entailed: key informant interview, focus discussion groups, and document reviews. Results of the study show among other things: conscientious efforts made by these countries and inadequate use of information communication technology, rapid acceleration of occupational changes as well as poor infrastructure as adversely affecting these programs in these three countries.

*Keywords: lifelong education, workforce, Botswana, Nigeria, United States*

## Introduction

Globally there is a direct relationship between the educational level of the workforce and the technology development of any nation. The more educated the workforce is the higher the chances of sustaining sophisticated technological developments. Worse still in today's international work situation, illiteracy is worse than the plague of AIDS, which in certain cases is delimited to social stigma since the dimension of illiteracy is expanding steadily towards other classifications such as e-illiteracy. Every nation is using varying approaches to ensuring that lifelong education of its illiterate population is catered for. The challenge is being able to cope with the rapidity in skills demanded in the workplace and this is made more critical if the workforce is illiterate. Thus,



different lifelong education programs have been promoted by international organizations and different governments to address illiteracy resulting from school drop-out or dwindling interest in a traditional school system.

The Nigerian and Botswana economies are transforming from purely agrarian economy to industrialized types derived from more local national investments as well as indirect investment in manufacturing, construction, and distributive ventures. The transformation has necessitated different workforce development needs and varying degrees of skills in these areas of intense economic activities. The major difference in both economies is that Nigeria is considered as low-income country saddled with corruption and has petroleum as its major source of foreign exchange earner while Botswana is a middle-income country that has diamond as its foreign exchange earner but ranks as Africa's least corrupt country (World Bank, 2008a).

Measuring both nations' standard of living, like all others, is difficult because it entails combined interpretation of many possible indicators; however, using Hobijn and Franses' (2008) three different econometric techniques confirmed that what is true for real GDP per capita also applies to alternative measures of living standards and that Nigeria having high GDP has high living standards than Botswana (namely life expectancy, infant mortality, daily calorie supply and daily protein supply). On the other hand, the quality of life indexes constructed by the Economic Intelligence Unit (2007) gave 4.505 and 4.810 coefficients to Nigeria and Botswana in the equation are used to forecast a quality-of-life index for 2005. In arriving at the coefficient, the four indicators are forecast for 2005 (gdp, life expectancy, unemployment rate, political stability); one (geography) is fixed and the remaining four (maternal wellbeing, Health, family/community life and gender equality), which represent slow-changing factors, are based on the latest available data. In the final analysis, Botswana has a higher quality of life than Nigerians even when quantitatively Nigerians have higher living standards.

Literature is replete with factors accounting for the diminishing regard for the Nigerian educational system that has been amplified in the eastern states, to the extent that males have staged a walk-out protest from the formal school system. These factors include: poor acquisition of saleable skills by graduates for the formal school system (Aina, 1991), poorly motivated teachers (Tahir, Umah, & Junaid, 1991), low level of funding (Jaji, 2002) and high unemployment rate of graduates (Oranu, 1994). Poor remunerations and indecent treatment in the public service against the background of emerging capitalist Nigerian economy and the Igbo society's emphasis on wealth acquisition as a mark of progress and honor result in the walkout of the males from the South eastern State schools. In the long run however, the prognosis of an illiterate workforce both at the public and private sectors promises socio-economic stagnation of Nigeria. The economy will be as strong as the quality of its workforce. Worse

still, the supposed short-term economic prosperity achieved by illiterate businessmen can hardly be sustainable in the context of a sophisticated national and international economic landscape. This realization justified the establishment of the Market/Mechanic Village schools in the South eastern Nigeria to provide basic literacy and numeracy skills for traders/artisans.

Some examples of lifelong education programs in more developed countries like Botswana and United States show higher rate of literacy (UIS, 2006; World Bank, 2008b). These countries show at least sufficient policy provision towards improved literacy of the populace. For example, the General Education Development (GED) program, which was launched during the early years of World War II for veterans who returned from the war without a high school diploma but had the abilities to be able to use the postsecondary education benefits provided in the GI Bill (Tyler, 2003), has remained relevant to this day and their comparability to high school diploma (Ou, 2008) is still being debated. As a predominately immigrant nation, the United States are still using the GED program to provide literacy/numeracy education to migrants from non-English speaking countries. The case of Botswana is marked by the Brigade program for school dropouts who in some instance had gone for mining jobs exploits in South Africa and now have full realization on the gains of literacy and numeracy.

The urgency of sustaining lifelong education programs can hardly be overstated since the need for highly educated workforce is now more obvious in the private and public sector economics. For example, The National US Association of Manufacturers 2001 members' survey asked employers about the most serious skill deficiencies of current hourly production employees. They found that: 32.4% poor reading/writing skills; 26.2% inadequate math skills; 25.0% an inability to communicate; 23.7% poor English language skills (National Institute for Literacy, 2008). This statistics cannot be limited to the United States but is similar across the global economies especially against the backdrop of globalization and its concomitant massive migration of economic refugees. It is the duty of various governments to sustain their lifelong education programs in order to provide citizens with up-to-date work/life skills. When these programs are effectively run, financed, they provide the economy with the relevant workforce to operate all sectors of the economy. Any country undermining the candor in facilitating the effectiveness of these programs does so at its peril.

### **Purpose and Research Questions**

The purpose to this paper was to review the workforce development perspective of some lifelong education programs of Botswana, Nigeria, and the United States in order to critique their inherent strengths and weaknesses. Two research questions were used to guide the study:

1. What are the lifelong educational issues and growth indicators of Botswana, Nigeria, and United States that could affect the context of their workforce development?
2. What is the nature of some of these lifelong education programs in Botswana, Nigeria, and United States and the context of their workforce development potentials?

## Procedure

The survey research design was adopted for the study. However, portions of qualitative and quantitative methods were employed in both data collection and analyses. This design was considered appropriate because it involved the best blend between the gains of both methods (Osuala, 2001). The quantitative method essentially entails using secondary data supplied by the World Bank-World Development Indicators. The qualitative method entailed the use of key informant interview, participant observation, focus discussion, and policy document reviews. The gain of the qualitative research method is its focus on finding meaning through studying the process rather than outcomes and within naturalistic settings (Gall, Gall, & Borg, 2007). Portions of mixed design methods were chosen in order to ensure that any variance in the collected data was reflecting from the issues under investigation in these countries and not resulting from shortcomings associated with sole use of either qualitative or quantitative methods.

Purposive sampling technique was adopted in selecting the Tlokweg Brigade Centre (Rural Development Centre), Botswana College of Distance and Open Learning (BOCODOL), the Market and Mechanic Village schools in Nigeria and the GED schools in United States of America. These schools met all the characteristics of lifelong education programs as well as suiting the condition of establishing the effects of these programs on the workforce development.

The use of purposive sampling limited the study's result because the study team focused on the Brigade center within the radius of Gaborone, Botswana capital and the study's findings are not generalizable to centers in more remote communities where conditions/subjects of study are quite different. The choice of Botswana, a middle-income country and Nigeria, low-income and United States of America, a high-level income country is to examine the trends in these economically heterogeneous nations and review any likely trend in global workforce development patterns.

The secondary quantitative data was collect from: *The little data book on Africa* (World Bank, 2008b) and the UNESCO Institute for Statistics website. The instruments for data collection include focus group discussion (FGD) guides, and interview schedules. In consultation with the ministries of education, one week in respective countries (Nigeria and Botswana), was spent on study tours of the sampled schools namely Nnewi Market school, Ariaria Shoe Plaza and Tlokweg Brigade Centre, Ministry of education, Gaborone. This entailed visit to the relevant government offices, and the classrooms, workshops, for observing students and teachers under instructional conditions using the validate instruments. e qualitative data from the key informant interview entailed visiting the institutions to interview the administrators, teachers, students. In order to guarantee higher rate of accuracy, the interview was conducted using audiotape and transcription. The schools were visited in order to have first hand observation of the activities and to interact with the students, teachers, and the administrators in their natural settings and as such to reconcile what is found in literature. For example, some local terminology as mechanic/market school was vividly explained by the nature of the location of these schools within large market settings.

The qualitative data collected from the FGDs/key informant interviews were analyzed by identification of key concepts/categories, establishment of categories for structuring the data, coding the data into the categories and integration. Policy documents were analyzed by content analysis technique. The technique involves: delineation of the universe of content, unit analysis (words, phrases, themes, issues, etc.), establishment of code categories, and coding of information (manifest and latent content). The last data analysis stage entailed integrating the qualitative data into a descriptive form elucidating the factors affecting the programs.

## Findings

e ndings of the study are presented according to the research questions:

What are the lifelong educational issues and growth indicators of Botswana, Nigeria, and United States that could affect the context of their workforce development?

Table 1

*World Bank's Growth Indicators of Botswana, Nigeria and Sub-Sahara Africa That is Contextual to Workforce Development and Lifelong Education*

S/n	Indicators	Botswana (middle- level income)	Sub-Sahara Africa	Nigeria (low- level income)
1.	Rigidity of employment index (0 least rigid to 100 most rigid)	20	————	21
2.	Policy uncertainty as major constraint (% of firms)	1	————	————
3.	Labour skills a amjor constraints (% of firms)	9	————	————
4.	Primary School completion rate, total (% of relevant age group)	92	————	82
5.	Labor force participation rate, total (% of age 15 and older)	56	74	64
6.	Youth literacy, total (% of ages 15–24)	94	————	84

Source: *The little data book on Africa 2007*, World Bank Publication

According to the UNESCO Institute for Statistics (2006), the North America lifelong education related indicators include: Total number of children out-of-school (000) (2001) 2 310 girls (%) (2001) 45, Adult literacy rate (15 yrs+) (%) Male (2005) 99.2, Female (2005) 98.8 Youth literacy (15-24 yrs) rate (%) Male (2005) 99.5, Female (2005) 99.4 Note: The study was limited by unavailability of exact data descriptor of United States' indicators as found on table one for the African countries.

The data above shows that there is high positive relationship between the rate of youth literacy and World Bank assessment of the income level of the countries studied, such that the United States, a high-income country had almost 100 % youth literacy while Nigeria had 84 %. There is equally high rate of adult literacy and school completion rate in more developed economies.

What is the nature of some of these lifelong education programs in Botswana, Nigeria, and United States and the context of their workforce development potentials?

Key officials of the Department of Vocational Education and Training were interviewed and the Tlokweng Brigade Centre (Rural Development Centre) and Botswana College of Distance and Open Learning (BOCODOL) were studied.

Government policy documents and publications were studied to explain some salient government positions and policy positions on the prosecution of the Brigade programs. The ministry officials gave the team the hindsight on the historical bases for establishing the Brigades and the trends on their activities.

Brigades are independent, community-based organizations engaged in local development by providing training and employment opportunities and offering services to the local community. The programs targeted the out-of-school youths who would not enroll into the formal education system. The basic operating principle/education concept underlining the brigades' instructional endeavor is "training with production" (TWP). This is a concept that integrates the financial advantages of production into instructional training. The idea is to produce while training. Goods and services produced during training are sold to generate revenue, which are then ploughed back into training. In this regard TWP is a financial strategy. This mode of financing was adopted initially by the Brigades and has recently been adapted to a limited extent by some of the government vocational training institutions. The application of the TWP principles by the Brigades enables learners to draw closer link between learning and returns on education.

There are 41 Brigades Centers in Botswana – at least one in every district. They offer about 6000 Botswana, training in 17 different trades. With the application of TWP concept, the Brigades' programs offer the trainees an all round package of the theoretical lessons, practical and on-the-job training or in other words, productive training. The "productive" has proven to be successful due to the graduates' higher degree of employability. The Brigades' production units operate on a commercial basis. They manufacture goods and provide commercial services as well as formal employment opportunities to the local community. Commercial and manufacturing activities are conducted in the areas of construction and mechanical trades, agriculture, textiles, milling, draughty, and administrative services. Brigades offer three types of training programs. Each program consists of different trades with various levels of certification: Trade Certificate Training, Skills Certificate Training, and Informal Training. Conclusively, it was noted that since the reclassification of Botswana as middle-level income country and the concomitant reduction of external assistance, the brigades have experienced dwindling fortunes.

Botswana College of Distance and Open Learning (BOCODOL) were established by Act No. 20 of parliament in December 1998. Its creation marked a milestone in catering for the needs of school dropouts and those who cannot benefit from the provisions of formal school system. BOCODOL was established to provide high quality learning nation-wide to out-of-school young people and adults using methods of distance and open learning. This approach seeks to break barriers to personal development by enabling learners to study what

is relevant to their needs, at a time and place convenient to them. The vision of the college is to be internationally recognized as an institution of excellence in distance and open learning. Its mission is to empower Botswana with education and skills through open access to quality, innovative distance learning programs and the promotion of a culture of lifelong learning. In its quest for progress and excellence in open learning, the college is guided by the following principles:

- Equitable opportunities nationwide.
- Serving learners and meeting their varied needs.
- Inclusiveness, particularly for the disadvantaged.
- Range and choice of high quality courses and services.
- Emphasis on employability, skills and experiential learning.
- Recognition and reduction of barriers to learning.
- Cultural and gender sensitivity.
- Learning linked to nationally recognized standards and qualifications.
- Responsiveness to the needs of employers and employees.
- Efficient, effective services and value for money.
- Flexibility in services to maximize access.
- Development of a culture of collaboration and partnership.
- Optimum use and integration of information and communication technology.

There were about 22,000 students currently enrolled in the college's different programs. The college operates through study centers located in various places across the country and managed through regional offices in Gaborone, Francistown, Maun, Palapye, and Kang. The support services provided by the College to the students include:

- Organized tutorials in the evenings conducted in community study centers.
- Timely and constructive feedback on assignments.
- Access to sufficient learning materials including audiotapes.
- Guidance and counseling.
- Advice on examination related issues.
- Weekend courses.

The fees for the College programs were cheap (15 Pula for junior certificate and 25 Pula for secondary certificate program) and there is an admission quota of 4000 students per year. Courses offered by the College include: Botswana General Certificate of Secondary Education (BGCSE), Junior Certificate (JC), and Vocational/Management Courses.

The Market/Mechanic Village schools were initiated by the United Nation Children's Fund (UNICEF) as an intervention to mitigate the adverse educational

effects of male drop-out in South Eastern Nigeria. These schools are located inside the market and the massive work area (mechanic village) allocated to auto mechanics, allied trades, and artisans some of whom had no formal education or dropped out of primary school without having acquired basic literacy and numeracy. The traders/mechanics in Ochanga market at Onitsha, spare parts dealer at Nkwo Nnewi, shoe/bag maker at Ariaria market in Aba or the Coal Camp Spare part Market at Enugu are patrons to these schools. These schools were part of UNICEF's initiative to address the problem of male dropout in five south eastern states of Nigeria wherein the Igbo people have shown practical dissatisfaction in the rate of return-on-invest on formal education which manifested in low enrolling males in formal education (UNICEF, 1999). These out-of-school programs that run free-of-charge outside the formal school system have suffered serious set back because of the rigid formal education structure that requires the learners to attend school thrice per week from 12:00 noon to 2:00pm in some instances while others attend from 4:00pm to 6:00pm.

In addition to these schools, there are adult learning centers run by Agency for Mass Literacy that organize programs for adults which are organized in the evenings. However, the sticking difference between the adult literacy programs and the market schools is that the later is meant specifically for youths who dropped out of school. The original UNICEF intervention was specifically for literacy and numeracy without any formal certification. The lack of formal certification has hampered the sustainability of these schools since Nigeria is a certificate conscious society as such the students would want to have the certificate to show for going to school beyond acquiring literacy and numeracy skills. The subjects offered in some of these schools included mathematics, English, and social studies. However, in some other centers, the subjects have been extended to include all primary school subjects. Recently, the Education Trust Fund commissioned the Skills for Life's Seasons Educational and Health Centre to improve on the programs offered in these schools. When the proposed intervention is completed, more vocational subjects will be introduced and the senior secondary subjects would be introduced.

According to the Alliance for Excellent Education, more than a million of the students who enter the ninth grade do not graduate from high school four years later (2009). Many of these school leavers or dropouts typically enroll into a GED program. Moreover, the tests of General Educational Development (GED) are organized state-wide in the United States and have been used by school dropouts/economically disadvantaged as credentials to further their education. Every State has its policy on implementation of the GED but they are structurally



the same across the United States. However, it is controvertible whether the GED is equivalent to high school diploma but obviously remains an alternative means of completing high school. e programs are run in the evening and frequently use the facilities of the regular formal education schools.

The GED serves young and older adults who for any reason could not obtain the regular high school diploma. It is evident that the GED serves both workforce development and continuing education purposes of providing life-long education opportunities for those who would not have done so otherwise. Employers accept it and community colleges as well, accept the GED for admission purposes. Many community colleges actively recruit students for the purpose of providing assistance to complete the battery of GED tests. For example, in Pennsylvania, community colleges have website advertisements that invited potential GED candidates to come to their institutions to get a better job and opportunities to obtain a college degree.

In 2004, national data indicated that 1.7 million students between the ages of 18 to 24 years passed the GED examination in the United States. The 1.7 million students represented about 6.3 percent of the persons in this age range who were no longer in elementary, middle or high school. More importantly, the dropout rates in the United States is shocking because in 2003, approximately 3.6 million persons between the ages of 16 through 24 were not enrolled in high school and had not earned a GED. Finally, in the spirit of humanity, the GED programs should be available to all residents in the United States because everyone benefits from a well-educated community.

### **Conclusions, Discussion, and Final Thoughts**

A responsive workforce is indispensable in this era of globalizing economy which is increasingly dynamic and unpredictable. Indeed findings from studying Botswana, Nigeria, and United States implicated some vital workforce development issues that are worthy of closer examination such as the paucity or lack of information communication technology (ICT) in program implementation. For the BOCODOL in Botswana, there is planned attempt to incorporate ICT and for the GED programs run in regular facilities in the United States, this problem is not acute but for the Brigades and the Market/Mechanic Village schools there is need to do more in using ICT for instruction. The importance of ICT skills in the workplace is very evident which explains why the International Bureau of Education (IBE) (2001) insisted that lifelong learning should integrate information communication technologies into different life-long educational programs. Communication is a vital 21<sup>st</sup> century skill important for both academic achievement and workplace success (Harris & Wake-lynn, 2007) which no lifelong education program can afford to ignore. The use

of ICT should be incorporated in curriculum structure, delivery mode, and evaluation mechanism in order to make them more flexible and adaptable.

The implication of more ICT use in these programs is that the curriculum will be compliant to regular reviews and exchange of experiences on international best practices. It means that such good practices like open learning principles could be applied that enables the learner to learn at his/her own pace, time, place and style. It equips the learners with skills of productive work and prepares productive workers to actively participate in the development of the society. When open learning is applied in designing instruction (Dean, 1994) to the specific needs of learners, they will be more motivated and interested in achieving the objectives of the program. Internationally, World Bank, UNESCO, and ILO (2002) have extolled the use of open learning for basic education and vocational training while UNESCO (1998) stated that in today's knowledge based society, those who obtain a good basic education through open learning will continue to learn throughout their lives and will remain economically viable while those lacking a solid educational foundation are destined to lag further behind.

Dean, Murk, and Prete (2000) documented several best practices on how to effectively organize adult and community education in order to resolving the specific community dilemma. This dilemma means different things in different countries but one thing is common in most lifelong education programs, most of them are for working adults and economically disadvantaged. As much as possible, just as in the Market/Mechanic Village schools, let there be free tuition and other material assistance provided to these programs by national and international organizations. The idea of reducing or withdrawing grants and support for the Brigades because Botswana was reclassified to middle-level income country is counterproductive. It is also important that more workplace skills be introduced into these programs rather than just limiting them to literacy and numeracy skills. When students graduate from these programs, employer/educational institutions should recognize the certificates awarded to them so as to encourage currently enrolled and prospective students. In this regards, the United States employers and institutions are commended for according adequate recognition to the GED program (Fass, Garner, & Barry, 2006; Zafft, Kallenbach, & Spohn, 2006).

Finally, policymakers and educational leaders in Botswana and Nigeria might consider reviewing the workforce education models in the United States to enhance their understanding of preparing the workers with global technical skill competencies. It may be beneficial to review the Penn State University model for workforce education and development as a useful example that possesses proven validity and global recognition as one of the top programs of its kind in the United States (Farmer, Walter, & Paryono, 2004). Workforce

development programs in many of the industrial countries, especially those in the G-8 would be very helpful prototypes for the Botswana and Nigeria. Using collaborative measures, it can be concluded that technical skill programs would continue to serve a useful function of equipping citizens with employability skills for adapting to both societal and workforce situations. By mutual international cooperation among these programs, the global workforce will be beneficial to the entire international community.

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# Shanghai's Higher Vocational School Culture in the Age of Globalization

Molin Wang

## Abstract

In China, higher vocational education (HVE) is a specific educational form in terms of its educational goals, management structure, and close relationship with the economy. Since 1978, China has experienced not only a substantial increase in economic progress but also the influence of globalization on its political, socio-economic, and educational development. Simultaneously, that was the time when globalization began to influence China in the educational and economic domains. This paper is written on the basis of a case study conducted in the Vocational College of Shanghai Jiaotong University (VCSJTU). This paper examines how the school culture has changed since 1978 and also explains why the changes have happened as they have and what the nature of the changes is.

**Keywords:** *globalization, higher vocational education (HVE), case study, Shanghai, Vocational College of Shanghai Jiaotong University (VCSJTU)*

## Introduction

In China, higher vocational education (HVE) is a specific, post-secondary education in terms of its educational goals, management structure, and most importantly, its close relationship with the economy. According to the Cambridge Advanced Learner's Dictionary (2006), "vocational" means "providing skills and education that prepare you for a job." In most people's mind, "vocational" suggests some lower-level technical skill such as welding, carpentry, or agricultural expertise (Luan, Fang, & Gu, 2002). However, in China today, the employment and labor market have changed tremendously as a result of the development of the national economy, thus the "vocational" skills mainly refer to technical skills including computer science, business negotiation, translation and interpretation, communications, and transportation. "HVE"

is a Chinese term, equivalent to “technical-professional higher education” in Western countries (Shi, 2001). HVE has dual characteristics of both vocational and higher education. That is, vocational education refers to cultivating students’ practical and specialized skills, while higher education refers to the need to satisfy a post-secondary academic standard (Zhong, 2002). This definition suggests that HVE is not merely training workers for the labor market but is also educating intellectuals to help develop a prosperous nation.

### **Globalization: Definitions**

Globalization is a relatively new and evolving concept (Currie & Newson, 1998). Many researchers have tried to define the term, but no comprehensive definition has been offered. Recent literature highlights the complexity of globalization, and different scholars focus on different – political, cultural, economic – aspects of it. However, the most widely accepted definition of globalization is the economic perspective (Clayton, 2004; Ghosh, 2004; Luke & Luke, 2000). Weisbrot (2001) offers “the simplest, most commonly accepted definition of globalization: an increase in international trade and investment” (p. 38).

This variety of suggestions demonstrates that globalization is a complex concept. Many researchers observe that globalization is both a useful and slippery concept (DeAngelis, 1998; Jordan & Yeomans, 2003). The term “globalization” is being used with increasing frequency, but often with different interpretations by different commentators who may be focusing on different perspectives. The definition that frames this paper is the one that emphasizes three dimensions and with special emphasis on cultural domain due to the fact that value and culture are key issues that deserve careful investigation.

### **China: Economic Transformation**

During the past thirty years, tremendous changes occurred within China and outside of China. China had experienced an economic transformation which contributed to its substantial economic growth. That is, in 1992, China’s economic system changed dramatically from a socialist-planned economy (SPE) to a socialist market economy (SME). The main difference between the two systems is that the former is a centrally controlled economy, while the later is a more market-oriented economy. To support this economy, China’s educational system has been restructured to provide the nation with manpower and brainpower, i.e., both labor workers and intellectuals. Outside of China, the influence of globalization on China’s political, socio-economic, and educational development is more and more significant. To summarize, in the past thirty years, economic development within China and globalization’s impact beyond China

have dramatically contributed to the corresponding reforms and development of China's HVE.

### **Orientation of the VCSJTU Case Study**

What kind of a new educational environment have these HVE reforms created? What are the forces driving these reforms? Answers to these two questions are complex. First, an examination of the literature reveals little research has been conducted to investigate how HVE is evolving to match a national economic development that is aimed to satisfy international requirements driven by globalization. Second, few studies have investigated HVE's evolution politically, ideologically, structurally, and functionally in terms of the actual changes in the vocational schools. To answer these questions and better understand the current situation of HVE in China, this paper showcases a portion of research conducted at the Vocational College of Shanghai Jiaotong University, which came from a much larger study entitled, "Globalization and Higher Vocational Education (HVE) in China: A Case Study in Shanghai". The purpose of this case study was: 1) to the broad background of globalization and the economic and educational contexts in China, to explore and interpret the actual changes in HVE as represented at VCSJTU, politically, ideologically, structurally, functionally, and operationally; and 2) to also investigate why the changes happen as they do by specifically examining the relationship between globalization and HVE in China, with a particular emphasis on explaining how HVE has been shaped and initiated by the emergence of SME and globalization. The VCSJTU case study lasted from August 2003 till January 2004. The subjects of the case study included the administrators, teachers, and students of VCSJTU. A qualitative research methodology using a case study approach was employed.

This paper is written on the basis of the VCSJTU case study. The purpose of this paper is to examine the culture and values in VCSJTU by trying to answer the research questions: "What are the main cultural and core values of the school and how have these values been determined; and what other factors have contributed to the building of the institution's culture"?

An overview of the setting, Shanghai and VCSJTU, is described in order to situate the case study and provide necessary background information. Shanghai is located in Eastern China at the mouth of the Yangtze River where it empties into the Pacific Ocean. As a whole, China is still a poor country, yet Shanghai, its richest city, has a per capita income that runs well within, and even surpasses, the range of Southern European middle-income economies (Lofstedt & Zhao,

2002). On the economical level, Shanghai is the driving engine of China's economic modernization in this new century (Lien, Lee, Choo, & NG, 1996). On the cultural level, Shanghai's cultural dynamics such as modern versus traditional, occidental versus oriental, and vigorous versus modest, not only provide a broad background for this case study, but are also keys to understanding the school culture at VCSJTU.

Since the late 1970s, China has introduced a series of educational reforms, and HVE has assumed an increasingly important role in Chinese education (Ma, 2002; Xun & Chen, 2002). In the 1990s, to set up an HVE college within a university is in accordance with the tendency of international higher education. In Shanghai, many HVE schools have been set up since then and VCSJTU was one of them.

VCSJTU is a subordinate college of Shanghai Jiaotong University. One of the oldest universities in China, Shanghai Jiaotong University was founded in 1896. It is ranked as one of China's top ten universities and has five campuses. VCSJTU is located in Shangzhong campus. VCSJTU enjoys its autonomy and reports to the local Shanghai government, not to the central Beijing government. By 2003, VCSJTU had five departments: Business Management, Business English, Electrical Engineering, Naval Watercraft, and Tele-Communication. From 1999 to 2003, VCSJTU graduates received a diploma of education after their three years of studies. Since the fall semester of 2003, VCSJTU has been entitled to deliver Bachelor's degrees in four departments, the only exception being the Naval Watercraft Department. VCSJTU has a reputation of having selective faculty and students. It recruits teachers throughout the whole nation. By 2002, 83.3% teachers were from the whole country, and only 16.6% were from Shanghai.

As for the students, without a doubt, the students in VCSJTU are top students in terms of the HVE field in Shanghai. From 2000 to 2003, their entrance examination records have always placed them first over other such applicants, and VCSJTU graduates are very much welcomed in the labor market. VCSJTU students have their field work in their last school year. For the Naval Architecture Department, the field work takes over six months. For the other departments, at least three months are required. As for students' job-hunting practices, they are very similar to those in Western countries. Students in their last school year will prepare their CV, make copies of their various certificates, and mail the application kit to the companies or enterprises where they wish to be employed.

## Methodology

There were two reasons that pushed me to choose case study as the research method. First, there is a need for such a case study in the field of HVE. A review of the literature concerning HVE in China during the past decade indicates



that few researchers had tried to interpret the relationship among globalization, SME and HVE in terms of actual changes in HVE schools (Cheng, 1997).

**e lack of such research may lead to distorted information and false conclusions in HVE policy formulation, implementation, and evaluation process.**

Second, whether or not the case study is the most appropriate method for the research at VCSJTU can be measured against the criteria established by Yin in 1994. The criteria are composed of three conditions: 1) Research questions must be more exploratory than explanatory and descriptive. Yin (1994) suggested that the case study is most effective in searching for causes i.e., in answering “why” and “how” questions; and this describes my research question type; 2) The control an investigator has over actual behavioral events. At VCSJTU, the researcher did not have control over events she will studied e.g., the learning and teaching activities of the school; and 3) The degree of focus on contemporary as historical events. The research at VCSJTU is about globalization, which is a generally new topic. According to these criteria, the case study is the most suitable and feasible method for the research at VCSJTU. The aims are to examine the continuous events occurring at the school within a specific time frame and to focus on insight, discovery, and interpretation rather than hypothesis testing (Farmer, 2000; Yin, 1994).

## **Data Analysis**

Data analysis is time consuming and involves organizing data, breaking it into manageable units, coding it, synthesizing it, and searching for themes. In this long process, three things were always in the first priority: research questions, phenomenological framework, and alternative interpretation.

The research questions came first. The four research questions were taped on the table so I could read them whenever my eyes fell on them. This was a very useful strategy because it kept me merged with the sea of material and also helped me to maintain my sense of direction.

The phenomenological framework came second. As Patton (1990) observed, “The analysis will be heavily shaped by the theoretical framework within which the study is conducted” (p. 373). When I did my data analysis, I often turned to my phenomenological framework and consulted related readings on phenomenology. I kept asking myself: “What is your own sense/feeling about the content?” “What questions were generated during the interview process?” “What personal insights/truths emerged?” “What kind of interpretation can you make?” I found that analysis is a process of inductive reasoning, reflecting, searching, and theorizing. Within the phenomenological framework, pattern matching is another thing to keep in mind. The case study at VCSJTU

is a descriptive case study, and it tries in every possible way to work within a phenomenological framework, so as to establish its internal validity.

Alternative interpretation came third. I carefully considered alternative interpretations when I had read sufficient evidence. I particularly noticed, for example, the frequency of different events and any possible means and variances that Miles and Huberman (1994) as well as Yin (2003) suggested.

Here the analysis of transcribed interviews, which were the major source of data, is used as an example to show how data analysis was done. The entire interview transcriptions were read through twice first quickly, then slowly. The quick reading was meant to catch certain words, phrases, patterns of behavior, and the subject's way of thinking. The repeated events that stood out within the categories of the interview schedule were given special attention. For example, personal understanding of globalization, comments on the HVE program at VCSJTU, personal experience of globalization, school culture, etc. Different colored marker pens were used to indicate different topics and codes and reorganized them into different files. This was a means of sorting the descriptive data so that the material bearing on a given topic could be separated physically from other data. Following the suggestion made by Taylor and Bogdan (1998), the coding scheme was constructed on the base of the case study purpose – the phenomenological framework that was to shape the case study. In this way, the coding data was constructed with a clear objective. Therefore, the coding scheme was clear and coherent, which tremendously eased the later analysis work. After the first quick reading, a slow reading was done, looking for possible relationships between key words and school documents to find the materials that supported the data analysis. The two readings were meant to help to develop ideas about the findings and relate them to the literature. They are also helpful to elaborate on key concerns and concepts.

School culture and value was one of the research questions for the VCSJTU case study. The VCSJTU case study has sought to examine those cultural factors that impact upon people's motivation and behavior. It is worth noting that VCSJTU has quite a few obvious values related to its organization, management, and school culture. In this section, openness, democracy, individualism, and collectivism will be examined one by one.

In China, the term “openness” addresses a frame of mind, open to new ideas, being active, and not being isolated from the outer world. Over time, VCSJTU has shown an openness to new ideas beyond the school itself and to the democracy that it tries hard to establish. Together, these two characteristics of openness have greatly contributed to the atmosphere of the school.

One professor, who was born in Shanghai and lived in that city for over 70 years, explained: “I believe the flexibility of the curriculum and the open air in the vocational schools of Shanghai contribute to their success.” The “open air” he mentioned also exists in VCSJTU. In my interviews and observations at VCSJTU, what impressed me most was the administrators’ open-mindedness and their calm, confident attitude towards the challenges set by the market economy and globalization. For example, President Kong said, “We must update our information on both the current educational and economical development situation in China.” (Kong, personal interview, November 24, 2003). In order to help the students to access to the latest information, VCSJTU tries to set up sufficient Internet sites for students. The students have their computer lab, but “having access to the Internet in each dormitory” is one of the goals that the school needs to accomplish in the near future.

Additionally, VCSJTU tries very hard to create a high level of democracy, letting each member of the school participate in decision-making. “Democracy” in China means the breaking up of the bureaucratic, up-to-down decision making process, and setting up the new “transparent” (meaning everybody can see it) decision making process. President Kong has been at the school for over 18 years. He and the other administrators created several procedures to help them learn about the teachers’ and students’ concerns. For example, a students’ meeting was created for student representatives to express their views on pedagogy, atmosphere in the classroom, curriculum, cafeteria food, and many other aspects of school life.

Besides this meeting, at the end of each semester, all VCSJTU students receive an evaluation questionnaire to rate and comment on each course. An evaluation or comments report for assessing the efficiency of the administrative body is also used. Kong noted:

The emphasis of our reforms, which involve the restructuring of school management and policies, is on creating the spirit of team building, collaborative decision making, and flexibility when faced with changing circumstances, those within China and beyond. I believe these are more conducive to HVE than the traditional, bureaucratic school structure with its emphasis on hierarchy. (Kong, personal interview, November 24, 2003)

Decision making was once a “top-down” process, by which the top authorities or stakeholders determined any new school policy. Now, student and faculty meetings are both factors in breaking down the school’s hierarchy. In this way, emphasis is placed on values like academic capability and a cutting-edge intercultural understanding. These changes will enable students to operate successfully not only in school, but also in the larger contexts of China and the global arena.

However, calls for more democracy can still be heard. Many VCSJTU people realize that the responses to their suggestions are also part of democracy. Their suggestions are not mere suggestions rather they are factors that must be responded to, even if the response is one of resistance. Professor G said:

Yes, it is pretty good for us to express our real concerns and then we can face the school’s problems together. However, what are the solutions to these problems? And what are the effects? I hope we can learn more about the outcomes. (G, personal interview, November 13, 2003)

To summarize, if an HVE program is adopted in a school in a hierarchical way, the risk is that it will not be fully embraced by the staff and student body. Moreover, if the HVE program at VCSJTU is imposed on staff who then feel powerless, they may not wrestle with and solve the difficult issues that arise from school-wide changes in curriculum, staffing, assessment, and instructional practices.

The traditional Chinese way of thinking emphasizes each person’s role in his/her family, community, and society, rather than the more indeterminate, spontaneous ways of thinking and acting within society. In China, everybody is recognized as part of this collective group and each individual is responsible for the prosperity and demise of the collective group first, and then the whole nation. The benefits of the collective community are much more honored than the individual and the common good is considered more important than it is in capitalist countries. This is what the Chinese describe as “collectivism”. In the 1900s, China’s defeat in the Opium War brought humiliation and self-reflection to the Chinese people. Since then, collectivism has been raised up to a higher level as nationalism, and the “Chinese may consider the common good and the economic and political status of their country more important than certain elements of their individual freedom and individual rights” (Chow, 2002, p. 374).

Since 1978, a rise of new market economy and liberty has intensified the ideology of individualism in China. It has been gradually recognized, and the individual person can relate to the nation directly. Thus, “the collective group

had to contend with a newly individualistic consumerism” (Fairbank & Reischauer, 1989, p. 537). At VCSJTU, this “individualism” refers to students’ increasing awareness of their participation in decision making concerning the many options in their life, whether residential, occupational, intellectual, political, or moral. Shi, a female graduate of VCSJTU, commented: “Individualism is no longer the synonym of ‘selfishness.’ It emphasizes that each person should think independently and not just echo what others have said. Isn’t it good?” (Shi, personal interview, November 22, 2003).

However, the VCSJTU administration views the phenomenon of rising individualism in a different way. Some administrators complained that school management is increasingly difficult due to the more individualized students. “School activity and school management is more and more challenging,” according to Z, an officer in the student affairs office (Z, personal interview, July 1, 2002). The administrators’ concern does make sense in terms of the fact that some students no longer take VCSJTU’s issues as their own. For example, Wang, a female student in the Business English Department, did her cicerone courses at another university and spent many hours on the course work. The teachers knew that these students were doing their courses at other colleges, and even though they were not satisfied with this, could not stop it. Professor L admitted:

When you enter the classroom, and find some students are missing, you cannot feel good. Yes, I understand that they are studying elsewhere, yet still I don’t feel good. This is a class. If everyone is doing his/her own business elsewhere, what kind of class will it be? (L, personal interview, December 1, 2003)

For these students who doing their courses elsewhere, they appear indifferent to the class/school activities. However, for the students remaining at VCSJTU, when asked about their attitude toward school activities, the usual response was: “The school activities are really naïve.” Fang, a female student, spoke out:

I read from the newspaper that 111 Nanjing University students organized an investigation group to investigate the Huai River after its environmental protection plan had been in practice for a decade. I was so happy when I read it. That was the kind of thing college students should do! Yes, this is a time emphasizing “individualism” and “personality,” but what is individualism? I do not think that means the bizarre dress you wear, but what you do! I think these 111 Nanjing University students are really smart and cool, and that is “individualism”! A real college student must first be a real Chinese citizen; and a real Chinese citizen must first be responsible for his/her own society! (Fang, June 1, 2004)

values that benefit the students. For example, the students are taught to give up self-interest for the common good, which is patriotic in Chinese terms. The students also are taught to respect the teachers and the teachers' work, which is a typical Confucian value. At the same time, believing in the market values and practices also promote the believing in efficiency and the economy. Li, who has worked at VCSJTU for over 18 years, commented:

When SME was established, definitely, the values accompanying it will come to our country. These values are becoming apparent not only in the economic field, but also in other aspects of our social life, e.g., education. You know that Shanghai has made serious attempts to demolish the old ideological bulwarks and to establish a 'competitive city' in response to the challenges generated by globalization and SME. There must be something lost, and new values have emerged in this process. (Li, personal interview, August 26, 2003).

The significance of this idea of the administrative body is obvious: their value system is governed by market realities. However, some VCSJTU people admit that the school value system is already beyond their understanding. I would use the term "vacuum" to describe this kind of "everything exists, but nothing essential" situation. Shi, a female graduate of VCSJTU, commented:

You want to learn the value system of our school? I think you can see it from the student union members or student leaders. Can you tell they are Chinese students if you don't know their identities? Are they diligent, smart, wise, quiet Chinese young people? Or are they restless, aggressive, know nothing, but think they have understood the whole world? When they claim that 'We have English mottos in campus.' I really don't want to argue with them. Well, good, I mean, if that is all to learn a foreign language, then learning a foreign language is really easy! (Shi, personal interview, November 22, 2003)

Shi's classmates echoed her comments. These findings lead me to conclude that at VCSJTU, the school culture is no longer Eastern, nor is it Western; it is not modern, nor is it very traditional. It is everything, including contradictions. This is not a surprise because the roots of culture/values are not like mechanical accessories which can be easily assembled together to produce the best result. For example, Confucianism emphasizes the harmony of individual self-interest and the welfare of society, but this is contradictory to the idea of a free market system in which everyone can pursue their own self-interest.

Even though some VCSJTU people are beginning to recognize the real essence of Western civilization, many still have a long way to go towards understanding. Therefore, to a large extent, the new value hybridity at VCSJTU is merely superficial and would disappear when broad concepts such as democracy and national development are analyzed more closely for their specific meanings. This is understandable, because many apparently universalistic values such as equity or justice are not understood or ranked the same way in different societies, and the preferences between different cultures are too obvious and too complex to summarize within only one short paragraph. Therefore, although all these values joined together at VCSJTU, may give the impression of a co-working system which is co-supervised and co-restricted to benefit most people, a lack of harmony and a value vacuum are inherent in its ideology and culture. For instance, authoritarianism is eliminated, but sadly, respect for authority needs to be recultivated. Such subtleties, however, are integral to a healthy academic school life, and, presumably, dealing with them is mainly a matter of value orientation.

### **Concluding Thoughts**

The implication of VCSJTU's value synthesis – transversing the boundaries of different cultures – is a new kind of value system that applies as much within as between cultures, and as much to scientific as to moral reactions. This conclusion was unavoidable because the problems China faces as a practitioner of many kinds of cultures are, after all at bottom, the same as those faced by every HVE college and every person in this country. Perhaps it is precisely at the level of each person's case where both the obstacles to, and the achievements of, understanding are so conspicuous. However, when considering a HVE college, things are far more complex. As long as HVE wants to develop in a rational and healthy way in the long run, the tradition out of which it grew cannot be ignored. Therefore, VCSJTU needs to develop an understanding of the importance of reflecting on its own Chinese culture at this time, given its achievements in the past decade. Such reflection will help VCSJTU to gain a more insightful perspective of various problems that arise in the school, and to find a more rational, suitable orientation for the future. This suggestion has as much to do with promoting a more supportive background for HVE to develop, as they do to make it more widely recognized and to function properly in China.



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# Guidance Counselors' Perceptions of High School Vocational Education: Sub-Saharan Experience from Swaziland

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## Abstract

Given the importance of guidance counselors in the enrollment of students in subjects and programs and the declining enrollment in vocational education, it was necessary to conduct a study to determine the beliefs and opinions of career guidance counselors towards the vocational education program. The population of study was career guidance counselors in sixteen vocational high schools in Swaziland. Findings revealed that career guidance counselors in the vocational schools had a positive attitude towards vocational education. Additionally, business skills and career orientation are taught to students. Guidance counselors observed that students and teachers needed more time for the projects and recommendations were: 1) providing adequate time for projects, and 2) orienting non-vocational teachers adequately to the vocational education program

*Keywords:* guidance counselors, counselors' opinions, high school vocational education, Swaziland

## Introduction and Conceptual Framework

In the delivery of a vocational curriculum, career guidance counseling plays a vital role in the transition of students to the world of work resulting in a direct bearing on the labor market economy. The high school vocational education program is designed to respond to the many challenges of an evolving society, in particular the labor or job market demand. The vocational education curriculum promotes student achievement by establishing clear expectations and recognizing demonstrated success.

Vocational education subjects are regarded by the public as being more career-promising. In Mndebele and Dlamini (2008) school-to-work transition programmes are initiated on the assumption that vocational education

and training contributes to the economic development of a country; the major goal of school-to-work transition programmes is to provide students with a seamless transition from high school education to the workplace, wage employment, or self-employment. As a result, talented young students are counseled or attracted into such subjects in pursuit of economic security and status (Thompson & Russell, 1990). Thompson and Russell (1990) found that vocational programs at the high school level are experiencing an enrollment decline. A similar trend of declining enrollment in vocational programs is present in the case Swaziland (Xaba, 2003).

Guidance counselors in the schools encounter many student-related challenges, namely: family violence and child abuse, substance abuse, chronic absenteeism, conflicting values between home and school, angry and disruptive students, and underachieving students (Musheno & Talbert, 2002). These challenges cut across cultures, ethnicities, and nation states. Guidance counselors carry a caseload of students with serious problems and sometimes see the same students repeatedly. On another front, guidance counselors are facing challenges arising from the involvement of parents in their children's learning as well as locating community resources to assist students and families. In addition, more often than not, teachers do not see school counselors as relevant to the school's mission (Musheno & Talbert, 2002).

Vocational education offers all students important learning opportunities to develop the confidence they need as they move into adult roles by assuming increased responsibility for their learning regardless of their particular chosen study area. For example, students in the vocational program: 1) develop skills to be applied now and in the future endeavors, 2) refine career-planning skills, 3) improve entrepreneurial potential, 4) acquire technology-related competence, 5) demonstrate increased self-confidence and independence and, 6) apply and reinforce competencies developed in other study areas (Ministry of Education, 1999).

Some of the major challenges faced by the Swazi Nation include high population growth and high drop-out rate and repeating students (Ministry of Education, 1999). The specific objectives of the vocational education program in the sixteen high schools are to implement a program of practical skills education in agriculture, business, hospitality/home economics and technical studies for students in grades eleventh and twelfth in sixteen high schools and to determine if this new practical skills education program is successful in meeting the overall objectives stated above in order to assess the appropriateness and viability of implementing this curriculum model across the secondary school system in Swaziland (Ministry of Education, 1999).

Students may choose to enroll in a program of study through motivation and cognitive theories which suggest that a person's tendency to participate

in an activity can be redirected based on knowledge, observation, or other information about the activity (Mndebele & Xaba, 2006). For one reason or the other, students may enroll in a program of study and later drop, and such students may be difficult to recruit into the same or related program. Major difficulties in successfully retaining students in the program were identified by Mndebele and Xaba (2006) which included: 1) scheduling difficulties, 2) lack of guidance counselors, 3) competition from other school activities, 4) image of the program, and 5) quality of instruction. In developing countries of Southern Africa, Swaziland in particular, the literature is devoid of the influence that career guidance counselors may have on students' selecting or not selecting vocational education subjects yet governments are placing an increasing effort on a vocational secondary curriculum to address youth and school-leaver unemployment problems. Students may enroll in vocational education due to the influence of their career guidance counselors in the school.

The function of guidance counselors is to provide students with information about further training or responsibilities after high school education. Career guidance counselors also talk to students about their personal issues whenever they need some counseling on school, home, and personal problems. The major objectives of career orientation sessions are to provide students with: (a) career information and postsecondary school training opportunities, (b) an opportunity to discuss their personal career needs, (c) an opportunity to understand the factors involved in career decision making, and (d) an overview of the services and materials available at the employment centers (Busshoff & Schulz, 1993).

In Swaziland, school guidance and counseling is under the auspices of the Department of Educational Testing Guidance and Psychological Services (ETGPS) in the Ministry of Education (MOE). The ETGPS Department works collaboratively with the National Curriculum Centre (NCC), public schools, and teacher training colleges to provide career guidance, counseling, and testing services to the school system. The ETGPS functions are to coordinate guidance and counseling in the schools and colleges excluding the university, to provide occupational and educational information, and to train teachers and other cadres involved in guidance and counseling.

The ETGPS Department has stated its main objectives as: 1) to provide guidance and counseling in all schools and tertiary institutions, 2) to provide training to counselors through short courses, workshops, seminars, and publications, 3) to make parents aware of what guidance and counseling is and what role they can play, and 4) to disseminate health information. Since the year

2000, the ETGPS Department has been revamping the training of counselors through workshops and short courses. The renewal of the counselor education-training program has come with the rampant epidemic of HIV/AIDS and an increase in the number of orphan children and their open to vulnerability. The head teachers/school administrators participating in the workshops are sensitized on the role and qualities of guidance counselors.

The objectives of the in-service training workshops for guidance and counselors in Swaziland are to: 1) identify problems that affect children, 2) learn skills that can be used to help children cope with contemporary challenges, 3) learn about the role of guidance counselors in schools, 4) learn about how guidance counselors can establish a helping relationship and be able to provide assistance, 5) procure basic information about HIV/AIDS for school going children, 6) introduce the concept of gender, 7) learn and analyze issues of gender in the curriculum and sporting activities, 8) be informed about the Convention on the Right of the Child, 9) introduce the concept of life skills education, 10) be informed about road safety practices, and 11) discuss child protection rights and child abuse in view of the Convention on the Rights of the Child.

A major role in career guidance and counseling is played by the career counselors (Busshoff & Schulz, 1993). Busshoff and Schulz (1993) stated that the major responsibilities of career guidance counselors include helping in individual and group counseling, finding jobs, preparing career materials for students, parents and others, and presenting career orientation programs in the schools. The eminent role of guidance and counseling is to help people find solutions to their problems (Magagula, 2004).

In examining challenges faced by counselors, Paisley and McMahon (2001) came up with four most prevalent obstacles encountered by school counselors: 1) ambiguous role definition, 2) an increasing diverse student population, 3) increasing reliance on technology, and 4) calls for accountability within the education system. Makinde (1991) presented problems that might be encountered by counselors as national resistance to change, lack of clarity about the counselors' role, counseling program introduced in a disjointed manner, school community perceiving counselors to be invading the pupils' privacy, and lack of funding.

Gender disparities in educational settings are not merely the consequence of formal instruction but rather the culture of the school is involved in construct-

ing gender and sexuality through hidden curriculum teaching “in an implicit way meanings and behaviors associated with femaleness and maleness, with femininity and masculinity” (Mndebele,1995). Girls internalize their beliefs of boys’ masculinity and their femininity as women and thus perceive themselves as inferior.

There are gender differences in vocational education and occupational choices (Mndebele, 1995), the basic reasons for gender differentiation are values of society and working life. Mndebele (1995) stated that male teachers followed the patterns associated with gender-segregated division of labor, whereas females’ gender roles were more compatible with progressive equity legislation policies. Males consider career prospects and independent work important whereas females put emphases on the possibility to work with, and the desire to help people.

Women and men make traditional choices both in education and in the labor force (Mndebele 1995) and some barriers exist, which those who are interested in non-traditional occupations face. There are gender differences in vocational education and occupational choice. The motives for choosing an occupation appear to differ by sex (Mndebele, 1995). Men value the high status of an occupation whereas women value the opportunity to work with people.

The term *career identity* pertains where the individual links his/her own motivation, interests, and competencies with acceptable career roles. Strategies attempted to increase female participation in vocational education include increasing the number of appointments of women to high level and high profiled positions and enabling students to experience subject areas traditionally considered “off limits” for those of their sex.

## Statement of the Problem

The decision to choose any of the four vocational education programs/subjects (Agriculture, Business, Home economics, & Technical studies) is basically left with the student, but the program is experiencing a decline in enrolment of students each successive year (Mndebele & Xaba, 2006). Thus, students selecting vocational subjects constitute a very small proportion of the total enrolment. The research question: “What do the career guidance counselors have to do with this situation?”

## Purpose and Objectives

The purpose of the study was to determine the perceptions (beliefs and opinions) of career guidance counselors regarding the vocational education program in the sixteen vocational schools. The specific objectives of the study were to:

1. Determine the beliefs and opinions of career guidance counselors in respect of the vocational education program,
2. Describe the duties and responsibilities of career guidance teachers in respect of vocational education program,
3. Identify constraints on the vocational education program observed by career guidance counselors,
4. Determine perceived future challenges of vocational education for students upon graduating as reported by career guidance counselors, and
5. Ascertain positive, negative aspects, and possible improvements for the vocational education program.

## **Methodology**

The target population was 32 career guidance counselors in the sixteen vocational high schools. The career guidance counselors were selected on the basis that they are responsible for helping and guiding students in making career choices.

The study utilized a survey questionnaire for data collection developed from related literature review. Respondents, career guidance counselors, were requested to indicate their beliefs and perceptions of high school vocational education program. Career guidance counselors in the non-vocational high schools were used to validate the instrument and also experts in career guidance counseling at the Head Office, Ministry of Education. Reliability of 0.60 was computed using the Cronbach's Alpha formula.

Questionnaires and self-explanatory cover letter were delivered in person, with the permission of head teachers, to career guidance counselors for their completion. The rate of return was 100%. The data collected were analyzed using descriptive statistics. For objectives one to four, means and standard deviations were computed. Frequencies/frequency counts and percentages were computed to answer objective five.

## **Findings**

The findings from the survey have been organized around each research objective and thus will be reports by the objectives. Many of the tables to come will

report the mean (average) along with the standard deviation, which has been abbreviated as SD to save space within the tables.

Objective number one sought to determine the beliefs and opinions of career guidance counselors regarding vocational education. Table 1 below presents data regarding the beliefs and opinions of career guidance counselors. The three highest rated items were: (a) vocational education should be introduced in other schools; (b) vocational education is future focused; and (c) vocational education is a career program.

Table 1  
*Career Guidance Counselors' Beliefs and Opinions Regarding Vocational Education (N=34)*

Item	Mean	SD
1. Vocational education should be introduced to other schools	5.29*	0.84
2. Vocational education is future focused	5.26*	0.75
3. Vocational education is a career program	5.21*	0.77
4. There are good business opportunities for vocational students	5.12	1.04
5. Vocational education can produce skilled students	5.12	0.88
6. Vocational education reduces the unemployment problems	5.02	1.03
7. Students can pursue a career in vocational education	4.79	1.07
8. Vocational education has no negative impact on the environment	4.65	0.85
9. Vocational education has enough facilities to educate the students	4.56	1.23
10. All students must take vocational education	4.44	1.74
11. Vocational education was not meant for academically capable students	3.82	1.66
12. Vocational education is for academically weak students	3.76	1.83
13. Vocational education helps persons with HIV/AIDS	3.47	1.69
14. Vocational education is for only business minded students	2.44	1.63
15. Vocational education was designed for slow learners	2.35	1.45

Rating scale: 6 = Strongly Agree; 5 = Agree; 4 = Slightly Agree; 3 = Slightly Disagree; 2 = Disagree; 1 = Strongly Disagree

Objective number two sought to describe the duties and responsibilities of career guidance counselors in respect of vocational education. Table 2 below presents data regarding the duties and responsibilities of career guidance teachers in

respect of vocational education. The four highest rated included: 1) career guidance counselors guide vocational students to develop decision making skills; 2) career guidance counselors assess vocational student's aptitude/ ability for occupations available in Swaziland; and 3) career guidance counselors disseminate occupational/ career information to all vocational students; and 4) Career guidance counselors assist vocational students complete job application forms.

Table 2

*Duties/Responsibilities of Career Guidance Counselors' with Respect to Vocational Education (N=34)*

Item	Mean	SD
1. Career guidance counselors guide vocational students to develop decision making skills	4.65*	0.73
2. Career guidance counselors assess vocational students aptitude/ability for occupations available in Swaziland	4.41*	0.86
3. Career guidance counselors disseminate occupational/ career information to all vocational technical students	4.38*	1.33
4. Career guidance counselors assist vocational students complete job application forms	4.38*	1.35
5. Career guidance counselors interpret occupational/ career information to vocational technical students	4.35	1.35
6. Career guidance counselors interpret occupational (career) test results to vocational students	4.26	1.05
7. Career guidance counselors write letters of recommendation on behalf of vocational students for jobs or future training	4.09	1.40
8. Career guidance counselors guide vocational students in discussing self-employment opportunities	4.06	1.10
9. Career guidance counselors direct vocational students to relevant career agencies outside the school that provide career information	4.00	1.04
10. Career guidance counselors conduct group conferences with vocational students on career aspirations	3.94	1.23
11. Career guidance counselors establish communication channels for information exchange on career/jobs/self-employment opportunities	3.94	1.32
12. Career guidance counselors provide services needed to assist vocational students in making a transition from high school to postsecondary institutions	3.65	1.30
13. Career guidance counselors conduct individual conferences with vocational students on career aspirations	3.44	0.96
14. Career guidance counselors write letters of recommendation for job/college placements for vocational students	3.24	0.96

*Rating scale:* 6 = Strongly Agree; 5 = Agree; 4 = Slightly Agree; 3 = Slightly Disagree; 2 = Disagree; 1 = Strongly Disagree



Objective number three sought to identify constraints on vocational education observed by career guidance counselors. Table 3 below presents data regarding the constraints encountered by vocational education. Items rated highest in this category included: (a) vocational education students do not have enough time to attend to their projects, (b) vocational education students' skills are not adequately marketed after finishing school, and (c) vocational education does not get support from other teachers.

Table 3  
*Constraints on Vocational Education (N=34)*

Item	Mean	SD
1. Vocational education students do not have adequate time to attend to projects	4.35*	1.50
2. Vocational education students' skills are not adequately marketed after finishing school	4.32*	1.37
3. Vocational education does not get support from other teachers	4.26*	1.19
4. Vocational education has no adequate practical equipment	4.00	1.09
5. Vocational periods allowed in the time table are not adequate	3.79	1.57
6. Vocational education lacks genuine interest in vocational teachers	3.76	1.44
7. Vocational education does not have adequate materials	3.06	1.41
8. Vocational teachers have large classes to teach	3.06	1.35
9. Vocational education students cannot come to school on weekends for their projects when there is need for it	2.47	1.05

*Rating scale:* 6 = Strongly Agree 5 = Agree; 4 = Slightly Agree; 3 = Slightly Disagree; 2 = Disagree; 1 = Strongly Disagree

Objective number four wanted to determine perceived future challenges of vocational education students upon graduating. Table 4 below presents the data regarding the perceived future challenges of high school vocational education graduates. Items rated highest in this category include: a) vocational education students lack business start-up capital, b) vocational education graduates will encounter constraints as regard equipment for business startup, and c) vocational education graduates will encounter problems in transporting inputs and products.

Table 4

*Possible Future Challenges for Vocational Education Graduates. (N=34)*

Item	Mean	SD
1. Vocational education students lack business start-up capital	4.91*	0.10
2. Vocational education graduates will encounter constraints as regard equipment for business start up	4.09*	1.31
3. Vocational education graduates will encounter problems in transporting inputs and products	3.94*	1.30
4. Vocational education graduates will not have adequate markets for their products	3.38	1.35
5. Vocational education graduates will be left to fend for themselves	3.35	1.55
6. Vocational education graduates will encounter challenges regarding roads	2.71	1.36

Rating scale: 6 = Strongly Agree; 5 = Agree; 4 = Slightly Agree; 3 = Slightly Disagree; 2 = Disagree; 1 = Strongly Disagree

Objective number five wanted to ascertain positive, negative aspects and possible improvements for the vocational education program as presented by career guidance counselors. In order to address objective five properly, it was comprised of are three separate components; thusly, three separate tables (a, b, c) are used to illustrate the findings. Objective 5a: career guidance counselors' positive aspects of high school vocational education. Similar thematic opinions were grouped and then a frequency count was done to rank the positive opinions on vocational education (Table 5a). The item with the highest frequency count was that vocational education teaches business skills. This item was followed by vocational education facilitates opportunities for self-employment.

Table 5a

*Opinions with Regard to Positive Aspects of Pre-Vocational Education*

Item	Frequency	Percentage
1. Teaches students business skills	12*	26.67
2. Enables self-employment to students	11	24.44
3. Prepare students for real world of work	8	17.78
4. Widens scope of career choices	7	15.56
5. Equip students with coping skills	7	15.56
Total	45	100

\* = Most frequently counted item

Objective 5b was career guidance counselors' negative aspects of high school vocational education. Opinions with a similar thematic content were

grouped and a frequency count made to rank the negative aspects of vocational education in the perceptions of career guidance counselors (Table 5b). The item with the highest frequency count was lack of business start up capital for vocational graduates.

Table 5b

*Career Guidance Counselors' Negative Aspects of Vocational Education*

Item	Frequency	Percentage
1. Lack of start-up capital to graduates	7*	17.01
2. Very limited facilities and equipment	6	14.63
3. Made available to slow learners	5	12.20
4. Expensive	5	12.20
5. Not in all schools	5	12.20
6. Less time for practical to both students and teachers	3	7.32
7. Stranded students after graduation from high school	2	4.88
8. No follow-ups by their teachers	2	4.88
9. Inferiority among students doing it	2	4.88
10. No opportunities for future education	2	4.88
11. No government scholarship after graduation	2	4.88
Total	41	100

\* = Most frequently counted item

Lastly, objective 5c was suggestions for the improvement of high school vocational education. The improvements suggested by counselors closely relate to negative aspects of vocational education, the financial and capital capacity for the vocational graduates to start their own enterprises is the major concern. There is need for external support such as from government and related entities.

Table 5c

*Suggestions for the Improvement of High School Vocational Education*

Suggestion	Frequency	Percentage
1. Start-up capital needed for start-up is needed	11*	28.21
2. Support from government	5	12.82
3. Avail in all schools	4	10.26
4. Has to be done by all students	4	10.26
5. Increase equipment	4	10.26
6. Increase number of teachers	4	10.26
7. Good healthy attitude by all teachers in the school	4	10.26
8. Pre-vocational schools be declared as vocational schools	3	7.69
Total	39	100

\*= Most frequently counted item

## Discussion of Findings

The purpose of the study was to determine the beliefs and opinions of career guidance counselors regarding the vocational education program in the sixteen vocational schools. Career guidance counselors play a vital role in counseling students to enroll or not to enroll in a program of study.

The top three items were reported by the study to be the beliefs and opinions of career guidance teachers regarding vocational education were: vocational education should be introduced to other schools, vocational education is future focused, and vocational education is a future program. The first item, vocational education should be introduced to other school, is supported by that vocational education is implemented in sixteen schools. The other items, vocational education is future focused and vocational education is a future focused program are supported by the literature, vocational education is expected to provide pupils with life skills and further education and training in accordance with identified social economic needs of the country (Mavuso, 2003).

The top three duties and responsibilities of career guidance teachers as revealed by the study are firstly, career guidance counselors guide vocational students to develop decision making skills. Secondly, career guidance counselors assess vocational students' aptitude/ability for occupations available in Swaziland. And lastly, career guidance counselors disseminate occupational/career information to all vocational students and guidance counselors assist vocational students complete job application forms. These are similar to Mndebele's (1998) findings of guiding vocational technical students to develop decision making skills and effective communication with employers/clients as well as instructing vocational technical students in completing applications for jobs and scholarships.

Top two constraints in the study included vocational education students do not have adequate time to attend to their projects and that their skills are not adequately marketed after completing school. The literature (Xaba, 2003) supports these constraints vocational education does not provide students with adequate time for their home based projects and it does not get support from

other teachers. This is supported by the literature in that there is a serious competition between general education and vocational education (Ginindza, 2007). Ginindza (2007) also found that programs that are related to the vocational education subjects are competing for student enrolment.

The most perceived future challenges of vocational students were that vocational education graduates lack business start-up capital. They will also be challenged with regard equipment for starting up, and lastly, graduates will encounter challenges in transporting inputs and products. This is supported by Mndebele (2000) noting vocational teachers were invariably without means of transportation to visit students' home-based projects.

Positive aspects of vocational education presented by career guidance counselors are in line with the purpose and intent of introducing high school vocational education. Some of the key components of a vocational education program include equipping students with business skills and thus enabling them to be self-employed upon high school graduation. This is clearly echoed by the counselors. Negative aspects of vocational education in the opinion of the guidance counselors center on the financial capacity of the vocational student graduates to start their own businesses upon high school graduation and access to facilities and equipment. Suggested improvements on vocational education reiterate the need for start up capital and support from government.

### **Conclusion and Recommendations**

This study shed light on the guidance counselors' perceptions of high school vocational education in Swaziland and revealed a number of compelling findings. First, the group of career guidance counselors study holds a strong belief that vocational education is focused on the future as a career program, there are some good job opportunities to its graduates, and vocational education produces students with the necessary skills for the world of work. Thus, a strong suggestion that vocational education should be introduced to other schools in the country is being. Second, career guidance counselors indicated their duties and responsibilities in respect of vocational education as guiding the vocational education students to develop decision making skills, assessing vocational education students' aptitude/ ability for available occupations, assisting vocational education students in completing job application

forms, and interpreting occupational/career information to vocational education students. Third, a number of constraints are faced by the vocational education program such as time constraints, marketing of the graduates' skills to the world of work after completion, lack of support from the other teachers, and inadequate practical equipment. Forth, career guidance counselors indicated that program graduates will face various problems such as: lack of start-up capital and appropriate equipment for starting up, transport problems, and leaving the vocational education graduates by themselves and not visited at their respective project sites. Lastly, the major opinion as regard the possible improvements of vocational education is the, "provision of start-up capital for the graduates". The major negative aspect is "lack of start-up capital" and the major positive aspect is that, "students are taught relevant business skills for self employment", and thus prepared for the world of work.

In addition to the conclusions noted above, six recommendations can be ascertain from this research study as well. The six recommendations include: 1) the skills acquired by vocational students are significant and relevant equipping them for self-employment and wage employment, and thus, the need to market the vocational education program to business and industry; 2) vocational education students should be allowed adequate time to attend to and manage their enterprise projects whether at home, community or at school; 3) in-service workshops or orientation sessions must be conducted for non-vocational teachers in the vocational high schools with the purpose and intent of orienting them to the vocational education program, and thus develop their positive attitude towards the program; 4) revolving fund must be established to afford vocational education graduates an opportunity to access start up funding for their business enterprises; likewise, the government and the business-industry community can and should assist in this regard with seed money; 5) vocational curriculum should have a module with a focus on resource mobilization from the communities and other interested groups such as business and industry; and 6) career guidance counseling in the vocational high schools must be strengthened.

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# Career Behavior Strategies for Minority Students in Adult Education, Career and Technical Education, Human Resource Development and STEM Disciplines

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## Abstract

The concept of career planning and management for minority college students enrolled in adult education, career and technical education, human resource development and Science, Technology, Engineering and Mathematics (STEM) disciplines has gained great importance especially in the contemporary complex, globalized and rapidly changing workplace. Thus, career choice cannot be left to chance and requires the students to be proactive and to learn and apply career-enhancing strategies such as employability, networking, mentorship and career management skills. This paper examines the career development process for minority students in STEM disciplines along with the career challenges faced by this category of students and discusses entrepreneurial and opportunity identification strategies. In addition, the paper recommends career-behavior enhancing strategies for college students enrolled in STEM disciplines.

**Keywords:** *minority college students, career development, adult education, career and technical education, Human Resource Development, STEM*

## Introduction

Organizations are experiencing uncertainty and rapid changes precipitated by revolutionary changes in technology, diverse consumer demands, and a globalized economy. These changes have created challenges for universities and colleges



engaged in preparing individuals for the world of work. Global financial melt-down, corporate downsizing, rightsizing, restructuring, and increased competition have resulted in workplace changes characterized by flatter organizational structures, competition, job insecurity, limited career growth opportunities, and limited career prospects (Nafukho, 2009; Cummings & Worley, 2005; Ridzi, 2007). Even among well-established and fast growing companies, employers now encourage employees to be in charge of their own careers (Capelli, 1999; Kossek et al., 1998). University programs offering degrees in adult education, career and technical education, human resource development and in the areas of Science, Technology, Engineering and Mathematics (STEM) are challenged from not only encouraging individuals to seek careers in these fields, but also in identifying cogent strategies to prepare these individuals for the world of work. In an article published for the American Society of Engineering Education (ASEE), Grose (2005) attempted to untangle the mystery of how engineering academics decided on their chosen career paths. Grose questioned intuitively at what point in their childhood, adolescence, or early adulthood did today's engineers decide that engineering was for them? He wondered loudly whether there was some signal event? A Eureka moment! Or whether it was a process, a series of fortunate events? He pondered whether the sons and daughters of engineers carried on family traditions or perhaps some astute grade-school teacher pointed them in the right direction. Or maybe they were garage tinkerers who just stumbled into it? Much like the questions that Grose posed to get a better understanding of how these academics chose a career path that lead to academia, so too must career development scholars and practitioners identify key questions—questions that are critical to understanding how colleges students, especially minority students make career decisions. In the case of the fields of adult education, career and technical education and human resource development, how do college graduates in these fields make career choices? This chapter sets out to provide some answers to these pertinent questions.

### **Developing Careers for Minority Students in STEM**

The quest for knowledge to facilitate the development of careers among college student cohorts, particularly for minority STEM cohorts, has never been greater than it is in today's world of education, training and work. According to The Engineer of 2020 Report, "...an engineer in 2020 must be capable of operating in a world where 'social, cultural, political, and economic forces will continue to shape and affect the success of technological innovation.'" This indeed applies to all professionals. Thus, career behavior enhancement strategies become absolutely critical in determining career choice and success. To illustrate these key strategies, it is important to understand a core principle—career development.

Career development is viewed as a two-part process: career planning and career management. *Career planning* involves an individual's actions to determine skills, knowledge, abilities, and values necessary, not only for the selection of a *career opportunity*, but to ensure and facilitate success once the career is chosen. Career planning may be a solitary action or a college counselor may assist the individual in a more formalized set of procedures. *Career management*, on the other hand, involves the deliberate application of steps necessary to achieve the career plan, and maintain the career (De Simone, et al., 2002). For a career development system to be effective, it must "have clearly defined responsibilities to the employees, the managers, and the organization; offer them a variety of development options; and form the link between current performance and future development, which includes the notion of the best 'fit' or 'match'" (Leibowitz, et al., 1986, p. 5). Thus besides, the knowledge, skills and key competencies that individuals have, there is need for individuals in the workforce to remain proactive and actively engage in career management processes.

### **Career Development Challenges for Minority Students**

While all college students struggle to plan their careers and identify and make decisions about the opportunities before them, minority college students in STEM disciplines and in adult education, career and technical education and in human resource development fields often find such struggles especially challenging. These students often lack role models, mentors, resources, confidence, and knowledge of the existing career opportunities (Brooks & Nafukho, 2006; Tang, 1997). In referencing the challenges experienced by African American and Hispanic students in STEM disciplines, Summers and Hrabowski (2006) stated that these students suffer from academic and cultural isolation, lack of motivation, and performance vulnerability in the face of low expectations, peers who are not supportive of academic success, and discrimination, whether perceived or actual. These factors can have a stronger effect at institutions with predominantly majority populations. Thus, if educators and human resource development professionals are to help minority college students succeed in and beyond college, they must pinpoint the strategies that graduates use to identify and manage career opportunities, determine which of these strategies (or mix of strategies) is most likely to help them succeed, and develop evidence-based interventions to help them learn and become adept in employing innovative career management strategies. Indeed, there is a critical need to teach minority college students and indeed all college students to be and to remain *proactive* and *entrepreneurial* in their career opportunity identification and career behavior management strategies, so that they may anticipate and prepare for future workplace career challenges prior to graduation, rather than react to these

changes after they have already occurred. In the absence of empirical research on career opportunity identification strategies and career behavior enhancing strategies for minority college students in STEM disciplines, the issue of career success for this group of students remains critical. According to Loftus (2006), to stay competitive, the U.S. will have to attract more minority students to STEM majors and subsequently to STEM careers. This paper conceptualizes a new perspective of the perceived factors that influence career pathways for minority college students and how they transition from college to the workforce. In addition, the paper discusses the importance of career opportunity identification enhancement strategies and career enhancement behaviors of minority college students in STEM related disciplines.

### **Entrepreneurial Spirit and Opportunity Identification Strategies**

The term *entrepreneurship* is used in this paper to refer to innovative and creative behavior that college students need to have when seeking to develop their careers. Opportunity identification should be viewed as a multi-staged process in which entrepreneurs, in this case minority college students, play proactive roles based on factors such as entrepreneurial alertness, social networks, prior information, and personality traits such as optimism, self-efficacy, persistence and creativity (Cardozo, Ardichvili, & Ray 2002). Ardichvili, Cardozo, and Ray (2002) developed an opportunity identification model which borrowed from Dubin's theory building framework. They postulated that there existed a relationship among level of individual alertness, use of social networks, use of prior career information, personality traits and career opportunity identification. Kaish and Gilad (1991) observed that entrepreneurs enhance their entrepreneurial alertness to potential opportunities by using different types of information to project the anticipated opportunity.

Ray and Cardazo (1996) emphasized that an individual's level of entrepreneurial alertness was the propensity for the individual to notice and be sensitive to information about objects, incidents, and patterns of behavior in the environment with special sensitivity to recognize an existing opportunity. Gaglio and Taub (1992) demonstrated that higher entrepreneurial alertness increased the likelihood of opportunity identification among individuals. Therefore, to enhance their careers, minority college students require a high level of entrepreneurial alertness. This level of alertness becomes even more essential for these populations due to their lack of perceived "congruence" with careers in STEM disciplines, adult education, career and technical education and human resource development fields of study. For most minority students, unless they know someone who is a mentor or majored in one of the STEM disciplines,

they do not see the relevance nor exhibit the desire to enter into careers in these areas (Loftus, 2005).

### **Social Networks and Career Enhancement**

While investing in the education of minority college students is considered an investment in human capital, it has been argued that social capital is equally important for the success of these students (Brooks & Nafukho, 2006). It has been further argued that having a well developed social network is recognized as one of the most significant resources (Hill et al., 1997). In the business world, social encounters between entrepreneurs and their network contacts are often a source of business opportunities (Christensen & Peterson, 1990). Thus, individuals with an extended social network can expand their information levels leading to identification of more ideas and opportunities (Hills et al., 1997). In most cases people have more weak ties than strong ties; therefore, casual acquaintances have a higher probability of offering more information than close friends (Granovetter, 1973). For students in STEM disciplines, Bonner (2001) posits that a clearly defined peer network is one of the most crucial elements in student satisfaction, stability, and identification with the educational environment. These same traits endemic to the peer network in the educational setting transcend to choices regarding future career and workplace decisions.

De Koning (1999) developed a socio-cognitive framework of opportunity identification that involved interaction with people through activities such as information gathering, talking, and resource assessing. Social networking involves the entrepreneur gathering information from weak and strong ties. Entrepreneurs who use social networks recognize significantly more opportunities than those who recognized opportunities individually for their firms (Singh, Hills, Hybels & Lumpkin, 2000). While this is true of business entrepreneurs, the same is true of entrepreneurial career seekers with strong social networks. For minority students in STEM-related disciplines, this particular socio-cognitive framework shows much promise for the new directions in which not only careers are moving, but also for the levels of social involvement key to the successful matriculation of these minority students enrolled in college. Selingo (2006) observed, "The classic image of an engineer has always been that of a quiet man, most times with glasses and a pocket protector, tucked away in a corner, furiously working on a design for a new bridge or electrical system. But the modern version of how engineers actually work, of course, is completely different: They often operate in teams, with engineers and non-engineers alike, collaborating on projects and communicating regularly with clients." Thus engineers like all other professionals require human resource skills and need to understand the people they work with.

## Prior Knowledge and Career Opportunity Identification

There are two types of prior knowledge relevant to the opportunity identification process: knowledge in a special area of interest, and knowledge accumulated over the years while working on given tasks (Sigrist, 1999). Three major dimensions of prior knowledge are important to the process of entrepreneurial opportunity identification: prior knowledge of markets, prior knowledge of ways to serve markets, and prior knowledge of customer problems, prior knowledge of existing careers (Ardichvili et al., 2002). Von Hippel (1993) noted that people tend to notice information that is related to their prior knowledge. The possession of prior information is a necessary condition for opportunity identification because it triggers an entrepreneurial conjecture (Kaish & Gilad, 1987; Venkataraman, 2000). Shane (1999) argued that entrepreneurs tend to discover only those opportunities related to their prior knowledge. The individual's idiosyncratic prior knowledge creates a "knowledge corridor" which allows opportunity identification (Ronstadt, 1988). Thus, prior knowledge acquired through education, networking, training, and career opportunity identification and career enhancement behavior should be a great asset to minority students graduating from adult education, career and technical education, and human resource development programs which enroll many students from STEM disciplines.

## Personality Traits and Career Behavior Enhancement

The personality traits that relate to opportunity identification include level of optimism, self-efficacy, persistence, and level of creativity, all of which are core characteristics that college students require to be successful in their careers in this 21<sup>st</sup> century. Empirical research in the field of entrepreneurship has shown that the need for achievement is an important psychological characteristic of successful entrepreneurs (McClelland, 1967). Loci of control and propensity for taking risks have also been advanced as possible explanations for entrepreneurial actions (Brockhaus, 1982). Some scholars in the field of entrepreneurship have proposed a behavioral focus emphasizing opportunity identification and new venture creation (Gartner, 1989, 1990). In the last decade, researchers have moved to integrated models that explain entrepreneurship as the process of *how*, by *whom* and with *what* effects the opportunities to create future goods and services are discovered, evaluated, and exploited (Venkataraman, 1997; Shane & Venkataraman, 2000). For example, creativity, as an attribute, can be used to explain why successful entrepreneurs identify opportunities while others do not (Ardichvili, Cardozo, & Ray, 2003). Researchers have also established a relationship between creativity and opportunity identification (Kay, 1986; Hills et al., 1997). Thus, creativity can be defined as the ability to rapidly

recognize the association between problems and their purported solutions by identifying non-obvious associations or by shaping or reforming available resources in a non-obvious way (Ray & Cardozo, 1996).

Besides creativity, optimism is the other personality trait that has been shown to be related to successful opportunity identification. Researchers focusing on optimism as a personality trait have found a connection between optimism, self-efficacy and higher opportunity identification and career success (Kruega & Brazeal, 1994; Krueger & Dickson, 1994). According to Bandura (1997), a person's belief or expectation to accomplish certain tasks successfully determines whether or not a certain behavior will be attempted, the amount of effort the individual will contribute to the behavior, and how long the behavior will be sustained when obstacles are encountered. Neck and Manz (1996), in their study of optimism in organizations, noted that perceived self-efficacy led to optimism and a higher propensity to see opportunities rather than threats in any given situation. Thus, training in soft skills and emotional intelligence skills which focus on the development of intrapersonal skills, interpersonal skills, adaptability skills, stress management skills and optimism is not only a necessary condition but a sufficient condition for career success.

### **Career Development for Minority College Populations in STEM**

Given the many noted changes that we are seeing in the workplace, it has been correctly observed that the notion of lifelong employment and the employee's organizational commitment that have underpinned traditional traits of career growth are no longer valid (Arthur, 1994; DeFillippi & Arthur, 1994; Peiperl & Baruch, 1997; Schein, 1996). The changes taking place in organizations require that graduating college students must have competencies and proactively make an effort to shape their career self-management behaviours. In speaking about the changes at the workplace and the necessary strategies to ensure the matriculation as well as career identification process for student cohorts, Favadin (2007) asserted, that providing opportunities for students to develop key career related competencies was necessary. He argued that in the field of engineering there was an urgent need to: 1) Recruit students more likely to thrive in the challenging engineering school environment; 2) Make engineering come alive from the first day of class, with high-quality, innovative courses, in state-of-the-art facilities, taught by faculty members who care; 3) Create a complete academic experience that offered students exciting opportunities, useful guidance and a sense of community. These criteria apply to any other academic field if we have to ensure that the students we recruit are successful in college and later on in their careers.

## Enhancing Employability in the Workplace

Employability as explained by Nyamute (2007) is the capability to move self-sufficiently within the labor market to realize one's potential through sustainable employment. Nyamute observed further that three key factors define the employability of an individual: their knowledge, skills and attitudes (KSA). To be successful at the workplace, Baruch (2004) observed that individuals must develop their own boundaryless, multidirectional career skills. To help students to develop boundaryless career behaviors, Defillippi and Arthur (1994) advanced the notion of competency-based model of career development. According to this competency-based model, the *know-how* employment skills consist of knowledge and skills employees may possess not to accommodate specific performance requirements of an organization, but also to enhance their employability and potential in the workplace. The *know-whom* competencies, on the other hand, refer to individual's efforts in forming a career-centered social capital rather than developing organizational-centered networking and information. Examples of social capital skills include networking, mentoring, and consultation that extend beyond the employer environment to social contacts with family, acquaintances, and, even more importantly, with friends (Eby et al., 2003; Lin & Dumin, 1986; Mihail, 2008). The *know-why* career competencies are linked with employees' efforts to integrate their work experiences into a coherent individual career plan, decoupling their own career paths from their current employer's job settings (Eby et al., 2003).

In a boundaryless career development model, employees tend to assume greater responsibility for their careers and, in most cases, are *proactive* in their career management strategies. Thus, proactive behavior stems from proactive personalities; that is, from people who can intentionally and directly change their current circumstances in the labor market by scanning for opportunities, showing initiative, taking action, and persevering, and finally reaching closure by bringing about change (Bateman & Crant, 1993; Bateman & Crant, 1999). A growing literature has used the concept of proactive personality in theorizing about career outcomes, demonstrating relationships between proactivity and job performance (Crant, 1995; Crant, 2000; Mihail, 2008), entrepreneurial intentions (Crant, 1996), career success (Seibert et al., 1999; Seibert et al., 2001), proactive behavior at work (Parker et al., 2006), career-enhancing strategies (Mihail, 2008), and the job search (Brown et al., 2006).

## Networking, Mentors, and Reverse Mentors

To be successful in their careers, college graduates like all other individuals at the workplace must acquire additional career enhancing skills such as relational



skills, networking skills, consultation skills, and mentoring skills (Lambert et al., 2006, Mihail, 2008). Research in the field of engineering has shown that minority graduate engineers with characteristics similar to those of minority college students enrolled in STEM programs, adult education, career and technical education and human resource development fields have encountered career barriers. Attempts to help these graduates to be successful in their careers have included programs such as minority network workgroups, mentoring programs, and diversity awareness programs noted, "It would be naïve to say that once someone receives their engineering degree, their personal and professional problems are solved. There are issues ... graduates have to deal with: corporate politics, access to positions of power, appropriate mentorship, and avenues for growth and recognition ..." (Carranza, 1999).

### **Career Planning for Career Success**

Career planning may be a solitary action or it may involve individuals receiving career counseling services in a more formalized set of procedures. As noted, "career development practices and activities selected and utilized by human resource development practitioners vary from a minor few to multiple possibilities when addressing the growth of employees' careers and ultimately the growth of the organization" (Graham & Nafukho, 2004, p. 2). Several theories and concepts have been advanced to explain the career planning process: career anchor theory, power and politics, group dynamics, and organizational culture. The reader of this paper is encouraged to refer to Schein's (1975) career anchor theory which looked at individual self-perception with regard to talents, abilities, motives, needs, attitudes and values. Thus, issues pertaining to career development and career success cannot be outlined in one single paper hence the need for continued search for knowledge and ideas pertaining to these important issues. In conclusion, by identifying the career opportunity identification and career behavior enhancement strategies of minority college students in STEM programs, and by offering training on career opportunity identification and career behavior enhancement strategies, human resources development professionals will be filling a huge gap that currently exists in the workplace especially in this era of aging workforce in many developed nations of the world.



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# **Job Corps: A Successful Workforce Program for International Consideration**

**Carl Nink and Jill Elkins**

## **Abstract**

This article provides information about the United States Department of Labor's Job Corps program and the success it is having with at-risk youth. Information gathered so far demonstrates the positive economic impact this education and training program is having in the US. In addition, this article describes the operation of the Job Corps program and suggests ways in which the program can be adapted to specific workforce needs of a donor agency or international partner, striving to address a countries undereducated and unskilled "youth bulge" that is, a large cohort of young people reaching a working age in their country.

*Keywords: Job Corps, workforce program, economy, at-risk youth*

## **Introduction**

Over the past few years, many Americans began to realize the nation's economy crisis. This predicament has been driven in part by an education system that has not kept pace with the increased demands of tomorrow's jobs. This dilemma is also troubling developing countries, which are experiencing a youth bulge and other economic issues (Ghose, Majid, & Ernst, 2008). Many economists and labor market experts believe that job growth would be much stronger if employers were able to find the skilled labor they so desperately need. This lack of skilled workers hampers the ability of businesses to take advantage of market conditions that would otherwise lend themselves to expansion. In the end, the shortage of skilled laborers has a negative impact on economic growth (Isidore, 2007). The students, who are typically left behind, lost, or on the verge of involvement in illegal activities, however, can play a key role in addressing a nation's economic needs.

Facing this crisis, America and other countries around the world need to continue to strengthen not only the education system, but invest in and ex-

pand on proven programs, such as Job Corps (Organization for Economic Co-operation and Development (OECD), 2009). This program is America's premier workforce training and dropout recovery program, working with over 60,000 at-risk students each year. Job Corps is not only the most successful program with the at-risk student population, but it also is very cost effective; studies have proven it has had a minimum positive \$2 return for every \$1 spent (McConnell & Glazeman, 2001).

Now, more than ever, Job Corps is playing a key role in delivering educated and skilled workers to meet the needs of high demand occupations. Due to multiple factors, America is facing a crisis-level deficiency in skilled workers. As the population in the rest of the world grows larger, younger, and more educated, technological change and global competition are demanding more of America's workers; and high school dropout rates are alarmingly high that is, 50 percent in some major cities (Balfanz, 2007). Further, America's population growth has slowed; the population and workforce are aging; and the education system has not kept pace with the increased demands of tomorrow's jobs. The US economy is growing increasingly dependent on the dropouts, minorities, and disadvantaged students as well as traditional education and social systems.

The economic success of the US, its companies, and workforce is extremely dependent, at this time, on the ability to significantly increase the education and training levels of every student in the school systems. The Job Corps program model, as described in this report, can and should be adapted to help meet the needs of developing countries that are experiencing economic development issues as well as problems with youth who are under-educated, under-trained, and under-utilized.

## **Future Demand for Workers**

Today's US economy – driven by the pace of technological change, the expansion of international trade and the globalization of capital markets – requires a more highly skilled workforce (Aspen Institute Domestic Strategy Group, 2010). Those entering the workforce for the next four plus decades are not necessarily going to be as educated as those they replace. To a great degree, those in the pipeline to take the place of aging “baby boomers” (Baby Boomer Headquarters, 2010) are minority populations that for a number of reasons have had a lower level of academic success than the national average (Baby Boomer Headquarters, 2010). These demographic trends are putting the nation at an academic crossroads. Incoming minorities have large hurdles to overcome in achieving the skill level obtained by exiting baby boomers.

African Americans and Hispanics comprise the largest portion of the at-risk student population (Alliance for Excellent Education, 2009). For the 2005-2006

school year, it was reported that 24% of white students failed to graduate from high school (Alliance for Excellent Education, 2009). While this number is high, 45% and 49% of Black and Hispanic students respectively failed to graduate (Alliance for Excellent Education, 2009). Against this backdrop, the labor market is demanding more highly-skilled workers than ever before – people who can analyze computer networks, provide financial expertise and give medical care to such groups as the growing population of senior citizens. Job Corps, which provides training in industry-recognized certificated programs, is playing a key role in delivering educated and skilled workers to meet the needs of high demand occupations.

### **Increased Premium on Education and Training**

There are over 3.1 billion individuals working across the globe and 73 % of those are in developing countries (Ghose, Majid, & Ernst, 2008). There is also a growing youth bulge as teenagers unsuccessfully seek entry to formal employment. An ever-increasing expansion of the 15-24 year old group in terms of the total workforce population has not provided the fuel for reducing a global skills shortage. As the global demand for skilled workers has strengthened, the capacity of national economies to meet that demand has declined. This is particularly true given these important facts (Moses, 2009):

- An extra *one billion* people will become of working age within the next decade,
- The 15 to 25 year age group in developing countries represents 85% of the world's population, and
- Conservatively, 89 million more secondary training places are needed by 2015.

With most jobs requiring education beyond secondary education, dropouts face a life of challenges and economic disadvantage. Without education and training, dropouts have the potential to become a huge burden on economies.

While overall educational attainment went up in the US for all ethnic and racial groups, the educational gap between whites and most minority groups also went up. In 1980, the disparity between whites and African Americans was 11 % (The National Center for Public Policy and Higher Education, 2005). Two decades later, it was 15 %. In 1980, the disparity between whites and Hispanics was 12 % (The National Center for Public Policy and Higher Education, 2005). Two decades later, it was 19 % (The National Center for Public Policy and Higher Education, 2005). If these kinds of gaps stay in place, the increase in the number of workers with a post-secondary education will no longer remain the same. Instead, between 2000 and 2020 it is expected to be 4 percent (Aspen Institute Domestic Strategy Group, 2010). In short, the least educated

segment of the population is growing the fastest. And if current trends continue, those coming into the labor market will lower the education level of the American workforce.

Job Corps is one major US program addressing this foreseeable problem. This undereducated, fast-growing and diverse group of young people so desperately needed by our economy is exactly the group that Job Corps is training. A redesigned Job Corps type program could play a crucial role in helping countries experiencing a youth bulge where at-risk, lost or orphaned youth are predominantly undereducated with little or no work skills.

## US Workforce Dynamics

The myriad numbers pertaining to age, race, ethnicity, and educational attainment do not bode well for meeting the needs of a 21st century workforce. Nor do they bode well for maintaining the nation's economic edge in an increasingly global marketplace. Instead they point to three troublesome trends:

1. Job growth is outpacing population growth;
2. The jobs themselves will require increasingly complex tasks; and
3. Gains in educational attainment are on the wane.

Gone are the days when manufacturing jobs allowed people without a high school diploma to excel in the workforce and provide a comfortable living for their families. As the number of those jobs has dwindled, they have been eclipsed by jobs that require, at the very least, a high school diploma. More than likely, however, they require some postsecondary education.

The value of education is an important message imparted to Job Corps students by a dedicated staff that tutors, teaches, coaches, and encourages students to excel. The message is very similar to one published in a Department of Labor (2007) report entitled, *America's Dynamic Workforce*. "Today, and increasingly in the future, a solid education foundation, including completion of post-secondary courses or degrees is needed to compete successfully in the job market," the report said (US Department of Labor, 2007, p. 41). A solid educational foundation is also needed if the United States wants to remain competitive in a global marketplace where technology and outsourcing allow the educated populations of India, Mexico, Brazil, and a number of other countries to compete – in essence – for American jobs.

If educational disparities stay in place, experts predict there will be a damaging ripple effect in the U.S. economy. They will "depress personal income levels for Americans, in turn create a corresponding decrease in the nation's tax base," said the National Center for Public Policy and Higher Education (US Department of Labor, 2005, p. 1). Such disparities will also lead to more outsourcing, according to the US Department of Labor (2005).



The group's report predicted that between 2000 and 2020, there will be a loss of personal income totaling \$395 billion. If the gap is closed, future gains should be over \$421 billion and may be as high as \$805 billion, depending on a variety of factors (The National Center for Public Policy and Higher Education, 2005). Closing that gap requires educating those youth who have traditionally been left behind. Dealing with those left behind is a Job Corps program focus. With the help of the Job Corps education, training, and transitional programs in 2009 nearly 21,751 students obtained employment (Job Corps Data Center, 2010).

### **How the Job Corps Program Operates in the US**

Job Corps is a concentrated, comprehensive program whose goal is to help disadvantaged youth between the ages of 16 and 24 become more responsible, employable, and productive citizens. Most of the 123 Job Corps Centers across America provide residential services; only about 12% are nonresidential with students living at home (Management and Training Corporation (MTC) Institute, 2009). The Federal Job Corps National Office provides all funding, programmatic, and policy guidance; regional offices directly oversee the provision of contract services. The program encompasses a demand driven approach utilizing both an Industry Advisory Council and Community Relations Council to improve the ability of centers to meet the needs of business and the community.

Job Corps serves these fast-growing segments of the population. It has over four decades of experience working with minority students, as well as dropouts of all racial and ethnic backgrounds. Of those who enter Job Corps, 76.5 % are high school dropouts; without Job Corps, they would be much more likely to depend on taxpayer dollars via the welfare system, the criminal justice system and other government-run programs (US Department of Labor, 2009).

The average length of stay for student graduates is almost a year. However, students can stay in the program for up to two or three years, if they choose to go to college. Most Job Corps participants enter the program with many needs. By the time they leave the program, most have obtained a high school diploma or a GED and an industry-recognized certificate in one of nearly 100 career technical training programs. Of the 59,353 youth who separated from the Job Corps programs in 2009, nearly half, or 29,415, earned a vocational certificate; 10,711, earned a GED; and 8,855, earned a high school diploma (Note: 16,934 entered the program with a GED or High School Diploma) (Job Corps Resource Library, 2009). Most (78 %) of the graduates complete their high school diploma or GED and/or an industry-recognized certificate leading to careers in skilled trades, the military or entered college (Job Corps Resource Library, 2009).



The typical Job Corps student comes from a low socioeconomic background and has had a very ineffective experience with the school system, either dropping out and /or failing to achieve significant competence. Students generally join Job Corps because they are motivated to change their lives and want to gain the education and skills they need to become successful in life and the workplace. Students are encouraged and volunteer to perform community service, that is tutoring, mentoring, and/or work.

Based on the demographic information from Management and Training Corporation (MTC) Institute (2009), most students are male (59%), are on average 19 years of age, are predominantly African American and have not finished high school. A recent review of the active Job Corps students by race and ethnicity revealed the following breakout:

- African American            51.9%
- Latino                                    17.4%
- White                                    25.2%
- Native American            3.3%
- Asian American            2.2%

In a comprehensive/holistic approach, the program includes academic education, vocational training, health care and health education, soft/life skills training, counseling and job placement assistance. In the US, rigorous evaluations concluded that the Job Corps increases participants' skills and employment, reduces criminal and other anti-social behavior, and is cost-effective (Schochet, Burghardt, & McConnell, 2008). The Job Corps program can essentially be separated into four components. Each component provides the student essential services, education, and training to prepare them for the next stage of the program and ultimately graduation, as a skilled worker with an industry-recognized credential. Figure 1 below illustrates each of the components described above.

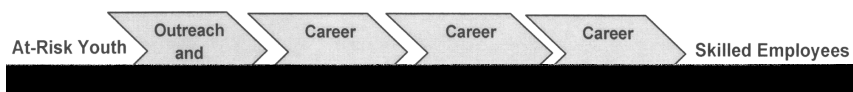


Figure 1 *Jobs Corps Training Model*

A variety of public and private entities under contract with the Federal National Office of Job Corps, conducts outreach, admissions, and screening of new students as well as help graduating students find jobs or further education.

Job Corps students enter with varying levels of academic abilities and progress at their own pace. Many centers offer English Language Learner (ELL) classes. In addition to providing participants with basic courses in literacy and numeracy, workforce skills, life skills (including conflict resolution), and tools for civic engagement, the Job Corps program helps build the skills and attitudes that promote personal and career growth, offering opportunities to learn the value of community service through civic engagement with a variety of charities and other social functions. Job Corps encourages a team-building approach to assist in establishing alternative group affiliations for participants, which helps with retention.

Trainees, in collaboration with program staff, develop group process rules and procedures to maintain discipline. Self-regulation and democratic processes are critical factors in the success of Jobs Corps and help participants become engaged in the center culture, leadership and gain a better understanding of themselves and how they can make a positive contribution to society.

Job Corps centers help in many ways to prepare the student who is near completion of a program to be ready for the transition to a new place to live, finding a job or entering the military. In addition, working closely with the center are public and private entities, under contract to the Federal Job Corps National Office, who are focused on helping graduating students find jobs or go on to college.

### **Considering the Job Corps Model for International Adaption**

The Job Corps program is very beneficial for the US, recovering a number of students who would otherwise continue through life as undereducated and lacking skills that would help them become self-sustaining. The US Job Corps program is expansive, thus the cost of replicating such a program would most likely be prohibitive. The programming elements however, could readily be modified and adapted to fit the needs of youth for training in support of workforce demands in emerging countries. Much of the structure in the existing program supports an accountability framework of a very competitive

program, which has a number of contractors. This structure would also not be something that would need to be transferred to another country.

Management and Training Corporation (MTC) has over 30 years of experience providing education and training of young adults under the Job Corps model and over 20 years of experience teaching academics, developing personal and workforce skills with offenders in correctional facilities. It is this experience that provided a foundation for successfully adapting the model for use in other countries over the last six years, piloting initiatives designed to test processes and explore what works in relation to Job Corps type program elements. In most of the initiatives, MTC has brought in outside expertise to partner with local business leaders and training experts.

The MTC protocol typically includes a gap analysis to determine the potential for growth in specific occupational areas, integrating the available training providers (e.g., employers, TVET schools, person to person) so as to be able to meet a training need. Any analysis would also take into account gender, cultural, and religious considerations in the development of the pilot program.

A pilot program, which has some of the aspects of the US Job Corps program, will need to limit the costs by starting with a small initiative, focusing on entry level training with possibly only one or two trades. It may be possible, depending on the structures that are available, to have a residential training facility. While it would be less expensive in an emerging country to renovate, staff, and operate a residential facility, it may be necessary to operate the pilot program as a non-residential program. One of the barriers with a non-residential program is transportation, which will need to be taken into account during any feasibility study. Preferably, the location of training facilities would be near the location of various business partners who would not only participate in helping guide the center's training, but hire graduates. The pilot initiative would necessarily need strong partnerships with local experts and businesses/industries to create a sustainable TVET program.

Many countries, especially developing countries, do not have the dedicated funding streams to meet the needs of an ever-expanding group of under-educated, under-trained and under-utilized youth. One of the key elements to a good workforce training program is ensuring that training will be delivered to take into account the employers' skill demands and makes sense for the country (Berryman, Natsios, Elkins, & Marquardt, 2008). Any interest in adapting the Job Corps model to another country should start by talking with various donor agencies to determine more specifically what they want to do in various countries and if possible, Technical and Vocational Education and Training (TVET) experts knowledgeable of the countries that have a need and interest.

Following the discussion with the stakeholders and donor agencies, one should conduct an analysis, utilizing experts in TVET, with a focus on creating a demand driven program with extensive business and industry partnerships.

The Job Corps TVET model can be segmented and overlaid with the wants and needs of an identified country. These may include:

- Residential and non-residential,
- Academics and technical vocational education,
- Life skills and other soft skills training,
- Tracking the performance after setting clear outcomes,
- Partnerships with business leaders and industry, colleges, universities, and
- Entrepreneurial training for students who would return home to open a small business.

Another advancement, which could be included in the design of a program, is the use of information and communications technology (ICT). ICT is a growing practice in a number of countries, recognizing the adaptability and access granted through the variety of mediums available, including social networking forums. Using E-Learning can greatly increase participation, reduce space needs and allow large numbers to access education, as well as address the limited academic resources in many developing countries (Moseki & Pence, 2009).

## **Conclusion**

As noted earlier, the Job Corps program is a comprehensive program model that can be readily adapted or replicated to meet the demands of countries around the world. Research demonstrates that both skills training and comprehensive workforce development programs have improved labor market outcomes for youth in developing countries (Betcherman, Godfrey, Puerto, Rother, & Stavreska, 2007).

Opportunities exist for foreign countries to identify experts who operate Job Corps centers in the US who will consult or help with implementing and building a program or providing knowledge transfer. Finding an organization that has experience with demand driven workforce programs can assist government in exploring the development of conceptually similar programs. A partnership of this nature could assist countries in their efforts to address economic issues and the burdens of an undereducated, untrained youth bulge, either through their own resources or through the support of a donor agency. Many elements of the US Job Corps program can be implemented in other countries to assist with the problems associated with unskilled youth and businesses which are limited as a result of too few qualified employees.

The economy continues to struggle in the US and many other countries, which are facing the demand for skilled workers. Job Corps is a successful workforce program for at-risk youth and is one of the best examples of how the US Department of Labor is working to address the pressing issue of undereducated and unskilled youth.

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# The EDUSAT: A Model for Improving TVET in Rural Areas of India

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## Abstract

Even though many initiatives to provide access to education may be underway, issues of equity, quality, and access remain areas of concern - particularly within the rural areas of India. Children and youth in rural areas continue to be deprived of quality education due to the lack of a necessary infrastructure, and consequently, a knowledge-divide exists between student populations in urban and rural/remote areas. This paper describes the problems associated with this divide in education while also highlighting the impact of information and communication technologies (ICT) in education and training. These concepts are discussed with reference to the EDUSAT, a satellite, initiative in Indian, which intends to extend ICT to a larger percentage of the rural population.

**Keywords:** *information and communication technologies (ICT), TVET, rural and remote education, India*

## Background

As a developing country, India is facing the challenge of closing the gap between supply and demand with respects to the skilled workforce. There are students coming out of the educational system but they lack the required skill sets for employment and this results in a decrease of skilled resources. A large percentage of the young population living in rural and remote areas does not have access to technical and vocational education and training (TVET) facilities through the general education and skill development system. The number of youth joining skill development courses is small due to the following reasons: (a) accessibility of facilities is not near to their habitat; (b) lack of experienced teachers and trainers; (c) unavailable appropriate training and learning material; (d) training offered in a conventional way is not affordable;

(e) a lack of sufficient funds for extension and expansion; (f) traditional ways of teaching and learning do not encourage trainees; and (g) a lack of flexibility in existing system. Using ICT in the remote areas for teaching and learning purposes has great potential to help overcome these issues. With necessary updating and extensions the basic facilities already available could be utilized better, and updated technologies will make it possible to extend educational services to larger numbers of people.

According to the available statistics, in India the young population between ages of 16-18 is estimated to be 45.8 millions (Government of Indian, 2010). Every year on average 27.82% of the young population is admitted into the 50,272 higher secondary schools, and approximately 61.92% of the young population, ages 14-16, drop out of school in the 9th and 10th grades. The issue of dropout rate is not isolated to higher secondary schools, and there is a similar case in higher education.

In order to increase the number of students from rural/remote areas admitted to school for continued studies, India's Ministry of Human Resource Development (2008), has initiated a number of schemes at the national level to promote TVET in rural areas. These schemes are being implemented in the formal education system using existing infrastructure. The biggest challenge being faced is the mobilization of trainees from their current locations.

### **A Concept: ICT in TVET in Remote Area**

Making access to education universal has become a priority in India. However, extending quality education to the rural regions is a Herculean task, especially considering the large size of the country. Furthermore, India has a multi-lingual and multi-cultural population separated by vast geographical distances and in many instances inaccessible terrain. Despite such challenges in India, over the past few years a few methods were initiated to connect the schools residing in rural areas with the mainstream education system using ICT. With the success of the Indian National Satellites (INSAT) educational services, a satellite EDUSAT, India's first thematic satellite dedicated exclusively for educational services, was launched in 2002 (Indian Space Research Organization, 2008). The impact of EDUSAT is far reaching and "with EDUSAT hovering in the skies above, 70 per cent of marginalized sections of society will be able to get access to higher education and learning will become more interactive and hassle-free" (Pant, 2004, par. 7). EDUSAT is mainly intended to meet the demand for an interactive satellite-based distance education system for the country. In addition, EDUSAT



is meant to provide connectivity to schools, colleges, higher levels of education, as well as support to non-formal education like vocational education and other professional development forms of education.

The launch of EDUSAT has provided a further fillip to the educational services offered by the INSAT system. EDUSAT has ushered in an era where both Internet and intranet can be used for transmission, interaction, dialogue, digital repositories, digital multimedia content, virtual education, and research.

The project has already established 134 interactive terminals across the country with a two-way interactive facility (Indira Gandhi National Open University, 2008). The facility is expected to enhance the capacity of the learners to access the resources. In turn, this will widen the geographical area covered and also the numbers of users of the facility. EDUSAT strongly reflects India's commitment to use space technology for national development, especially for the development of the remote and rural population. The diagram below presents EDUSAT's structure.

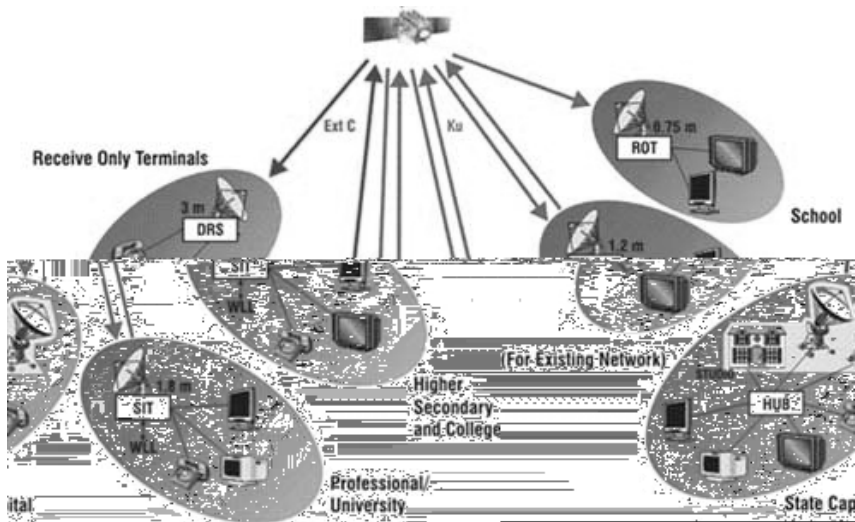


Figure 1 *The Structure of EDUSAT*

In addition to providing interactive distance education across the country, EDUSAT has many specific applications for TVET. Those applications include: 1) virtual classrooms at multiple locations; 2) allows for quick expansions and reach in remote locations; 3) capabilities for multiple streaming of videos, text, and graphics contents and streaming such content live; 4) can be used for training of people at different level with different contents; 5) cost effectiveness; 6) easy accessibility to all; 7) two-way communications at more than one location for real time delivery; 8) ease of conducting examinations



and test through the network; 9) multi-user infrastructure; and lastly, 10) permits phasing of the contents delivery to suit the requirements of different target groups (Indira Gandhi National Open University, 2008).

Remote training centers using the present EDUSAT facility would be places in the rural community where people of all educational level, sects, and casts have equal access, rights, and opportunities to benefit from the latest educational services. The general objective of this system is to overcome issues and problems faced in the conventional system.

The EDUSAT main stations and already existing terminals may be used for TVET purposes with necessary additions. The central hub is the transmission station and can be used by a teacher as they present their lecture in front of a camera, which may be broadcast live or recorded (Vigyan Prasar, 2008). The central hub may also have a library of contents on various subjects and topics in a wide range of formats including audio, video, films, animated movies, and multimedia presentations. These can be generally broadcast on a pre-defined schedule, when the related teacher or faculty is also present at the center to interact with the participants sitting at the receiving end in a remote location. For example, practical, hands-on training sessions can be broadcast live and conducted simultaneously with participants. The participants on the receiving end can repeat instructions and do the exercise as presented on the screen.

The main function of the remote centers will be to receive the contents broadcasted from the central transmission hub and present the audience or participants with high quality audio and visual data through a connected computer, television, or multimedia projector. At the same time, the remote center also provides the two-way interaction with the central hub for resolving the queries raised by the participants during the session (Evans, Stacey, & Tregenza, 2001; Saenz, Garcia, & Wolff, 2002). Sometimes these centers store the entire interactive session and make a small library of their own to provide access to recorded lectures and sessions for the participants even if the central hub does not repeat the transmission of the same lecture. Having such digital libraries at remote locations makes them rich with content, especially when the local instructors and teachers can come and enhance their teaching skills as well as provide further guidance to their students or participants.

With a view for making these centers popular in regions, the available facilities can also be extended to trainees so that the centers not only work as

training centers but also become TVET service and support centers. Centers could do so by way of providing the trainees with: (a) career counseling and guidance; (b) information about the scholarships and other government sponsorship e.g., information about subsidies for starting up a business; (c) knowledge on various entrepreneur development programs; (d) information regarding advanced and higher studies and further training; and (e) linkages of communication with government officers and rural administrators.

In addition, there should be requirements for setting up of EDUSAT based TVET remote centers. Some requirements include: 1) sufficient fund for infrastructure and its maintenance; 2) proper management structure ensuring participation of all stakeholders; 3) security of the infrastructure in remote areas; 4) development & delivery of the contents in regional or local language; and 5) mechanism of publicity and awareness. Making sure that remote centers run smoothly is another important facet for this interactive educational technology. Some suggestions for smooth sunning are: ownership of these centers shall be with Technical Education and Trainings Department; involvement of local agencies and industries shall be ensured, and a system to update contents on continuous basis.

In 2005, the first broadband network for EDUSAT schools was the Virtual Class Technology on EDUSAT for Rural Schools (ViCTERS) (Government of Kerala, n.d.). ViCTERS has been transformative and shows how EDUSAT can be used to improve education and empower both teachers and students. Since its launch, ViCTERS has been running successfully and has gained popularity.

The state of Kerala in India, which started this program, is also looking to expound upon its success with a non-interactive DTH (Direct-to-Home) program to help even more schools and children benefit from such technology (Government of Kerala, n.d.). The kind of technology used for ViCTERS is similar to direct-to home (DTH) technology used in other TV channels. Educational videos, syllabus, and curriculum, are aired mostly during school scheduled times, but the program repeatedly airs at the request of students and teachers in schools. This program's objective is not to replace the existing teachers of a given school but to complement and enhance their teaching. The project's vision involves the teachers, the students, and ViCTERS inside the classroom. For example, teachers could use the TVs inside their classrooms to create a multi-sensory experience for the students. ViCTERS is designed to provide an excellent alternate source of information for such poor students.

## Conclusion

The use of ICT tools and medium like EDUSAT can establish connectivity to urban educational institutions, provide adequate infrastructure imparting quality education, and train a large number of rural and semi-urban students at remote training centres and educational institutions that lack the necessary infrastructure. Besides supporting formal education, this system can facilitate the dissemination of TVET to the rural and remote populations for in-demand professions like agriculture, tourism, accounting and marketing, packaging and storage, health and hygiene, and computer applications. The authors hope developed countries that have experimented with similar initiatives continue to share their ideas, experiences, and best practices through publications as well as organization like the International Vocational Education and Training Association (IVETA).

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# Lifelong Learning from Preschool to Professional High School: Education for Sustainable Development for Culinary Arts

Preciosa S. Soliven

## Abstract

The Philippine Government, during the UNESCO 2005 General Conference, proposed the establishment of a Category 2 Center for Lifelong Learning for Sustainable Development (CLLSD) in the Philippines. The Operation Brotherhood Montessori Center with a unique LLSD laboratory is one of its service providers. The scientific Montessori system conditions children from preschool, elementary to professional high school to love work in a prepared “work” environment. It matches the Four Pillars of UNESCO’s 21st Century Education, which have been reconstructed as: Pillar I - “Learning to Be”; Pillar II - “Learning to Learn”; Pillar III “Learning to Work”; and Pillar IV “Learning to Live together in Harmony”. This paper describes how education for sustainable development (ESD) is integrated in the TVET curriculum.

*Keywords: culinary arts, Montessori, lifelong learning, education for sustainable development (EDS)*

## Introduction

Founded in 1966, Operation Brotherhood Montessori Center, Inc. (OBMCI) is a non-stock, non-profit, non-sectarian educational institution belonging to a worldwide movement. Its primary aim is to promote and further the Cause of the Child to assist him to develop into a man, protect and defend him as the creative social factor in the building of our civilization.

OBMCI envisions the emergence of a “new man” who will no longer be the victim of events but, thanks to his clarity of vision, will become able to direct and mold the future of mankind. The school adheres faithfully to the educational method discovered and propagated by the great Dr. Maria Montessori where Man becomes the center of education, whose mental growth and development begins at birth. Guided by his “inner teacher,” he can construct himself into a citizen of the world, able to exercise freedom and self-discipline, undistorted by fear.

To help the child help himself – *seipsum facit persona* – man makes himself. OBMCI's mission is to transform all students into self-developing individuals by establishing the right relationship between the child and the adult and by providing him with a suitable environment for learning and the skills necessary for him to become independent and productive member of the society. After nearly 50 years of making a difference in the lives of millions of Filipino families, this Montessori operation has become the largest in the world with nearly 5,000 students enrolled in its five branches in Manila, Las Pinas, Greenhills, Fairview and Angeles, Pampanga.

### **The Engineering of Movement**

The activity-oriented system includes Movement Education in preschool, which helps the child acquire self-sufficiency. In addition to Sense Education, Dr. Maria Montessori learned from three to five-year-old children that the Movement Education is essential as well. Instead of being upset with their motor activity (*pagkamalikot*), Dr. Montessori discovered how day by day personal grooming and housekeeping activities actually synthesize their rapidly developing mental and physical energies. This psychological development is known as NORMALIZATION. Timidity, laziness, disorderliness and dependence are transformed into love for work, order and confidence within the first month of school.

Not all teachers can become a Montessori teacher. One has to pass a battery of test for I.Q., Teaching Aptitude and Maturity, but many fail the maturity test. Those who pass have to undergo a lengthy scientific training accompanied by closely monitored in-service classroom training using the Montessori self-educating apparatus.

The trained Montessori teacher has to write an apparatus book. Resembling a recipe book, each exercise enumerates the tools and ingredients, the steps required and the development aim. The apparatus book is divided into: Care of the Person; Care of the Environment – inner and outer; Grace and Courtesy; Fine Finger Movement or arts and crafts; and the Silence Game.

In the seventies, the author came upon the Stanford University catalogue of new courses which could be audited by adults. Once called “Engineering in Movement,” it actually stems from an urgent need of training technicians for the industry. For instance, Food Service manuals indicate that alert serving of restaurant customers requires that waiters make ten quick steps from the kitchen to the dining hall or that heavy utensils require deep metal cart which could be wheeled from the cooking area and the washing area where they are cleaned up in a special deep “pots and pan sink”.

Almost a century ago in the first pre-school inaugurated by Dr. Montessori, precision and exactitude in movement and equipment were already inputted

by the doctor-turned-educator into activities she called as *Vita Practica* or Practical Living exercises.

Work is made up of components arranged in logical order, example: Laundering handkerchief: 1) Wet the hanky; 2) Soap and rub; 3) Rinse; 4) Squeeze dry; and 5) Hang to dry with clothespin. Work is not complete unless the “cycle” of activity is concluded by cleaning up the tools and putting them back in place.

How often is a young child scolded or screamed at for spilling his juice? Would you let your pre-schoolers set the table with breakable plates and glasses? NO, an emphatic no, all of you are likely to respond.

Adults in general have no confidence in the child’s ability to handle breakables. However, a trained Montessori teacher has. Since one’s independence in work starts with Elementary Movement exercises, the pre-school child is taught how to CARRY, FOLD, POUR, OPEN/CLOSE. Dr. Montessori stressed that when it comes to basic movement, it is easier to teach a child than an adult waiter or cook.

CARRYING requires both hands supporting a tray, box, basket, etc. Long mops, poles, ceiling duster should be held vertically. Objects like fruits and decors should be placed in the center of the tray. Water level should be kept steady in a basin or pitcher to prevent spillage.

The FOLDING exercise delights children in its simplicity, especially since it can either be done with a small hanky or with a companion when folding a tablecloth. First, the towel or bed sheet should be folded into half holding two corners to meet the opposite corners. Next, it is folded in fourths, eighths until the small hands of the child can easily carry it.

POURING equally occupies a child’s attention for some time since it requires repetition. Since water spillage can embarrass a child, Montessori “graded the difficulty of pouring”. There are three materials required: a wooden tray with a pair of ceramic pitcher for bean pouring, another pair for sand pouring, and the last tray for the most difficult water pouring.

A Montessori lesson usually carries a CONTROL OF ERROR by which a child can correct himself instead of an adult censuring him. Accidental bean spillage allows the child to pick up the few beans which fall. If sand trickles outside, the wooden tray can catch it. The child is shown how to tuck the spillage into a corner and pour it back to the ceramic pitcher.

Liquid pouring makes use of a glass pitcher of colored water, two pairs of tumblers with colored tape ring, an inch below the mouth: 1) Lift the pitcher with two hands; 2) Aim at the center of the tumbler and pour; 3) When the

water level nears the tape, tilt back the pitcher; 4) Do the same with the other tumbler; and 5) Collect the contents of the two tumblers into the tabo (large water dipper). Return the colored water into the pitcher. Repeat.

### Care of Person

A sample exercise includes the use of Dressing Frames which allow pre-schoolers to dress up or undress by themselves. Buttoning, ribboning, shoe lacing or shoe buckling exercises make use of two pieces of cloth nailed to wooden frames.

The Montessori trained teacher demonstrates buttoning, first using the “big button” frame. To unbutton: 1) Hold half of the button; 2) Push it through the buttonhole; 3) Pull out the whole button completely; 4) Do the same with the rest of the other five buttons; and 5) To button – the reverse movement of the above is done.

### Care for the Environment

Sweeping is part of the Care of the Environment. Prepared a large basket of newspaper scraps crumpled into balls, small *walis tambo*, small dustpan, wastebasket, and chalk: Step 1) Draw a circle as wide as a dustpan; 2) Drop six scraps of paper around; 3) Sweep the scraps into a pile within the circle; 4) Tilt dustpan and scoop up the paper scraps; and 5) Throw into the wastebasket. REPEAT. The threes tend to repeat this exercises 8 to 10 times as long as there are enough paper scraps. Repetition develops concentration.

### Grace and Courtesy

Dr. Montessori analyzed Good Manners as the concern and thoughtfulness of a person for another accompanied by refined movements or *movimenti raffinati*. Example of this is how Dr. Montessori demonstrated to the children the lesson of how to blow one’s nose: 1) With a folded hanky, cover the nose, pressing one’s nostril; 2) Blow slowly to remove the mucus; 3) Fold the hanky; and 4) Cover the nose again, pressing shut the other nostril and blow to clear the nostril and as much as possible, blow as unobtrusively or quietly as possible.

Another example is how to offer help or gifts to another. Dr. Montessori stressed that sometimes people who need help may not yet be ready to accept help. Since the person is the rightful judge of his feeling he should first be asked, “Would you like me to help you fix your hair?”

### **Discipline through Work**

In general, adults think that children's lives should revolve around play. Many observe, however, that giving children too many toys over-stimulate them. Their attention is not focused. Yet when they assist in cooking, laundering or other house chores, preschoolers especially are more enthusiastic.

Real activities with intellectual purpose attract children more resulting in developing their sense of responsibility.

### **The Struggle: How a Student-run Cafeteria Became Financially Viable**

During President Ferdinand Marcos' so-called *Bagong Lipunan* governance, the pet project of his First Lady Imelda Marcos was the *Sariling Sikap* livelihood projects. Her budget was so generous and yet it all failed because there was no foolproof system. It should have sustained the DECS (Department of Education, Culture and Sports) Work Education entrepreneurship program, which was required in all high schools including the public schools.

How did the DECS Work Education work out? The Secretarial course lacked typewriters. Dressmaking did not provide fabrics, instead paper dress patterns were cut out. Cosmetology was also frustrating since even for shampooing, wash basins and water were often missing. Food Technology barely made use of a well-equipped kitchen.

The first decade of the Operation Brotherhood Montessori school operation, 1966-1976, saw the establishment of the OB Montessori preschool and elementary school with its corresponding teacher training programs. The manufacture of the required standardized Montessori apparatus began, using materials bought by the author from Gonzaga, Italy and the Nienhuis factory in Holland as patterns. By then, she was already a graduate of AB major in Nutrition, when she concluded a one-year proficiency course at the Centro Montessori Internazionale at Perugia and another year of training at the AMI Elementary School Teacher Training Center of Bergamo in northern Italy.

A second apartment suite was temporarily rented by Operation Brotherhood International (OBI) for the first OB Montessori preschool adjacent to its headquarters at the Syquia apartments in M.H. del Pilar Street, Manila. With the increase in enrollment, OBMCI joined OBI as it relocated its headquarters at the Lichauco compound in Pedro Gil, Sta. Ana.



Montessori education requires a fully-equipped “Prepared Environment” to condition students to work and get things done. All tools must be complete, presentable, and functional. However, in 1975, when OB Montessori Center, then complete with both preschool and grade school, transferred and made its permanent headquarters at the Arellano compound in Greenhills, the “Prepared Environment” was somewhat crude. Since a school building with complete equipment was not afforded, they made do with the residential house and four-door apartments of the late PAF Chief of Staff General Arellano.

In Sandy Araneta’s article in *The Philippine STAR* dated July 20, 2006 entitled “*Public school students to study entrepreneurship soon*”, she reported, “The ‘Go Negosyo Campaign Teen Edition’ was introduced by the Department of Education and private entrepreneurs, a program the DepEd will begin pilot testing in some public schools and hopefully, in some ELEMENTARY SCHOOLS, as well.”

This will make children engage in livelihood enterprises violating the Convention on the Rights of the Child (CRC) Articles, which states that elementary school children must not be exploited by adults. The CRC Articles recognizing and respecting the true nature of grade school children with their strong intelligence and moral plenty believed that this stage of growth should focus on “learning how to learn”. Thus, poor families should be redirected so that they do not turn their children into sidewalk/street vendors at odd hours of the day and night when they should be at home or in school. It should be the parents, who should be working, but the fathers are usually drunkards and the mothers just sit around while bossing the small children and letting them look for customers.

By the time OBMCI started Grade IV, the author introduced a special curriculum called Home Arts. It was much more than the DECS Home Economics curriculum, which was usually a bit of cooking and a bit of sewing or embroidery. Home Arts for Grades IV to VII is not aimed at making money, but to prepare the children for a comprehensive program for the home and the family: Filipino cooking, Housekeeping, Grooming and Hygiene, Family Care from infancy, adolescence to adulthood.

The home-style kitchen (with one oven with four burners, a sink with cabinets, a 10 cubic feet refrigerator, and a rectangular work table) at the Arellano compound was shared by both the grade school and high school students. It had an adjacent *sala* (living room) and bedroom, which was used by the Home Arts grade school students.

For years, the author had been planning to establish Dr. Montessori's vision of a professional high school to satisfy the natural inclination of adolescent students for economic independence. She believed that human development has not kept pace with technological and scientific progress.

To introduce them to professional culinary service, the author arranged field trips to the Philippine Airline kitchen and tours at five-star hotel food outlets. The high school students also started the Rainbow Catering Service for preschoolers. For three years, only few parties were catered serving ice cream and cakes. However, the marketing strategy was missing. The annual food fair in December with Hawaiian, Japanese, or American themes were more successful. P25 lunches were prepared for an average of 50 students and teachers who made regular orders.

When the author lived in Italy for two years, she got used to her *padrona* serving three course meals for lunch with wine: *brodo* (soup); *carne, pollo o pesce con insalata* (meat, chicken or fish dish with fresh salad) and fruits of the season – This is the typical European food service in the *trattoria* or in the university *mensa* (mess hall). Thus, she added the unique experience of the European way of eating by letting my junior high school students prepare a sit-down dinner of three courses complete with wine in my own house. This was a free treat for the parents.

The class was divided into four groups to prepare the environment: the purchaser or marketer; the cooks; the waiters; and the housekeepers who washed the dishes and made sure my house would be restored to order. For three years, the students use the author's collection of Wedgewood, Limoges or Italian chinaware, silverware and crystals.

In 1986, Martial Law ended and bank loan interest was unusually low. With this scenario, two four-story buildings were built. The first high school graduates were able to use the modern kitchen with four well-equipped bays complete with refrigerators and freezers, as well as four ovens with burners. The school balcony adjacent to it, the Café Lycee Jasmin had “art nouveau” counters and stools to accommodate 20 customers for each of the three lunch sittings.

The Food Service curriculum was perfected: Freshmen focused on Science in the Kitchen. Sophomores combined Nutrition and Catering with more preschool students as customers. Junior students prepared banquet dinner in the school lobby. Senior students specialized in Food Technology learning to process meat, and prepare bottled or canned food such as tocino, chorizo, ham,

jams and marmalades. Months before December, the volume of production for the Food Fair and Minimart was increased.

The Food Fair and Minimart in December involves the whole high school department. By year 2000, it included the OBMC College Culinary students whose practice is in our Ristorante La Dolce Fontana and, therefore, provided a variety of packed pastas and pizzas. Christmas cakes and cookies in their pretty boxes were very saleable. They took charge of *al fresco* dining with grilled steak and Gindara fish. Every year, this has attracted the attendance of guests from several private and public schools, including officials from the Department of Education, TESDA (Technical Education and Skills Development Authority), and CHED (Commission on Higher Education). Now, the other OBMC branches in Sta. Ana, Las Piñas and Angeles hold their own Food Fair.

### **‘Real’ Entrepreneurship – Professional Services Plus Income**

How much does the Minimart earn? Between 1990 to 2000 using capital from the school, students from the four high schools of Greenhills, Las Piñas, Sta. Ana and Angeles, Pampanga earn a profit from P5,000 to P25,000 or 50% income. Due to increased demands, school investment became bigger so that students had a profit of P52,500 from 2000 to 2002. Every year since then, profit increased from 80% in 2004, 94% in 2005 and more than 100% last year – Gross sales was P521,438.53 less expenses of P253,653.96 or an income of P267,784.55. Profits earned go to the improvement of the Prepared Environment of the cafeterias.

Today, the Rainbow Catering Club has involved students from first to fourth year high school students catering to both preschool and primary grade school students. Since the full package includes invitation, unique menu, caterers and emcee dressed in clown costumes, parlor games and giveaways, parents usually prefer them than McDonald or Jollibee party packages. Costing P4,300 for a class of 30 students, this includes a costume for the birthday child whether it is a Clown, Indian, Disney or *Fiesta sa Nayon* theme.

The European-style dinner no longer uses the author’s house. It is an annual formal dinner-show, usually held in February at the 8th floor Maria Montessori Theater-Hall by the third year high school students. Tagged today as “Corporate Event”, they charge P350 per guest. In the past few years, the students’ guests have increased to 400. Parents, relatives, friends and alumni eagerly make reservations to watch the 25 student cooks, 60 waiters, 10 ushers, a dozen stage performers and a floor manager. A student band would provide dinner music. Last year, gross sales from the formal dinner was P311,330 with expenses of P211,739, the income was P99,590.

## No Shortcut to a Successful Entrepreneurship Program

It has been almost 25 years now since the O.B. Montessori Professional High School's Entrepreneurship Program was developed. Now perfected, it is easily replicated every year. The formula in achieving such a program depends on four important factors: the professionally organized bistro; sourcing investment from the school or parents; the accounting system; and the technical-skilled teachers. The usual preparation of modules to make students learn how to run a business without practice will never work out. The secret of success lies in repeated practice in a well-equipped school bistro. Then, regular constructive criticism allows the system to perfect itself.

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