

The impact of state funded higher education on neighbourhood and community in the United Arab Emirates

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This paper focuses on the provision of higher education in the United Arab Emirates (UAE) and the issues surrounding strategies employed by institutions to prepare tertiary level students for careers in the global economy. Dramatic growth and development in the Arabian Gulf region over the past two decades has made fundamental changes in the education system necessary. There has been a shift in focus from more traditional education and delivery methods, to contemporary approaches to support student learning with the emphasis on preparing students for careers in the knowledge economy. These changes in higher education, and its widespread provision, have impacted on the UAE and its economy in particular. This paper reviews the provision of higher education, its role in the rapidly developing society and economy of the UAE, and how the community is contributing to and benefiting from emerging partnerships.

Higher education, strategic planning, neighbourhood effect, life long learning,
information age, United Arab Emirates

INTRODUCTION

The Arabian Gulf states¹ have witnessed dramatic population growth since the early 1990s. Coffman (2003) reports an annual growth rate of three per cent, and that approximately 60 per cent of the population in the region is under sixteen years of age. The implications for education are enormous and issues such as funding, infrastructure, staffing, curriculum, and keeping pace with the needs of the increasingly global workforce in the knowledge economy are significant. Literature relevant to these issues is scant in relation to the Arabian Gulf region. However, Aungles, Karmel and Wu (2000) identify the likely long-term implications for education of major demographic change in Australia which serves as a valid wake-up call for governments and educators worldwide. As populations around the world age and live longer, governments' social expenditure worldwide will be put under increasing pressure. Longevity in the United Arab Emirates (UAE) has improved significantly in the past 30 years due to dramatically enhanced living conditions, as has the child mortality rate, and the birth rate continues to increase encouraged by the government and its nation building policies².

The provision and funding of quality education is a concern in developed and developing countries as governments and other authorities search for a panacea. Reviewing the literature on

¹ The Arabian Gulf States comprise Saudi Arabia, Kuwait, Bahrain, Qatar, Oman and the United Arab Emirates (also known as the Gulf Cooperation Council or GCC).

² As at 2000, birthrate = 18 births/1,000 population; death rate = 3.68 deaths/1,000 population; infant mortality rate = 17.17 deaths/1,000 live births and fertility rate = 3.29 children born per woman. (Source: <http://encyclopedia.thefreedictionary.com>)

the marketisation (Friedman, 1962; Brown and Lauder, 1996; Marginson, 1996 and Ladd and Fiske, 2003) and privatisation of education (Caldwell, 2003a; Fitz and Beers, 2002; Mintzberg, 1996), it appears that no single strategy, solution or formula provides consistent, good quality education on a global basis (Cuban, at al., 2001; OECD, 2001). Aungles at al. (2000) predict an even greater shift in demographics over the next 25 years with a significant increase in older age groups at the expense of younger demographic groups, and this would appear to be a worldwide trend, although perhaps less so in the UAE where the birth rate may continue to increase. They point out that governments are likely to focus on providing for the elderly rather than on educational expenditure. Logically, those who have paid taxes should be entitled to a high standard of healthcare and a state pension upon retirement. However, government investment in education and the development of the future workforce, and therefore the economic prosperity of their countries must also be a high priority. Striking an appropriate balance and allocating social expenditure according to a realistic, well-planned and sustainable vision would appear to be sound government policy.

The worldwide demographic trends and related issues are particularly complex in the UAE where there is no income tax, although there is the clear expectation that the government will provide education, healthcare, pensions, and continue to develop the infrastructure of the country in line with the increasing needs of the community. In the emirate of Abu Dhabi, these social services are funded by oil revenues and other government investment, but in less wealthy areas of the country, resources are under great pressure. The first signs of strain have started to show in the field of education, due to the immense increase in the number of school and college-aged Emiratis.

Perceived threats to successful growth and development of the country may also relate to the very high expectations that citizens of the UAE have of their government. Generally, citizens of the UAE have the expectation that their children will receive state-funded basic and higher education that will eventually lead to gainful employment and a high level of remuneration. Access to education at all levels is seen as a right rather than a privilege (Bahgat, 1999), and open enrolment has previously ensured a place at either a government funded college or university upon graduation from high school (Sharè, 1999). The socio-economic status of a family is not an issue; in fact, there are few and incomplete records relating to family income in the UAE. In the early years of the building of this nation, and with an Emirati population of less than one million during the 1980s and 1990s, the above expectations were reasonable. Previously, young men would be provided with employment opportunities upon leaving school courtesy of a friend of the family, or perhaps even join the family business. Those better placed in society received the more lucrative government and oil company positions, thus perpetuating the cycle. It would seem that in recent years this practice has begun to diminish and more onus appears to be placed upon competence and qualifications, although to a limited extent.

The focus in this paper is based on three major issues relating to higher education in the UAE. First, the provision of higher education is reviewed, examining available options and educational strategies employed to meet the needs of the community and workforce. Next, the role of the business community in the transformation of higher education programs is considered. Finally, the importance of life-long learning in the information age is examined in the context of further developing the human capital of the UAE.

PROVIDING HIGH QUALITY EDUCATION IN THE UAE

Global trends in education indicate that a serious review and reform of the *status quo* in education is needed (Caldwell, 2003a). A good standard of basic education is the first step towards building a strong workforce in any country (Cuban, 2001) and there is a major role for the government and community in aspiring to a positive neighbourhood effect in an effort to provide and maintain a high quality learning environment, and ultimately strengthen the community (Friedman, 1962).

Friedman (1962) writes about the 'neighbourhood effect' with education benefiting the individual, the family, the community and eventually the economy and the country as a whole. Education plays a significant role in building and sustaining a country (Brown and Lauder, 1996), and educational leadership should therefore be seen as a key component in that process. Bahgat (1999) provides an overview of the transformation from traditional to modern education in the Arabian Gulf region and comments on how the parameters have previously been unlike those in many other parts of the world, although worldwide trends are increasingly becoming relevant to the Gulf context with the widespread implementation of technology in the information age.

In the UAE, strategic leadership of education is particularly essential as socio-economic and political transformation has been significant and dramatic during the past 20 years. Bahgat (1999) asserts that a strategic, well-articulated focus would appear to have been overlooked in the expansion and transformation of education in Arabian Gulf region since changes have been so rapid. Caldwell and Spinks (1992, pp. 92) discuss leadership strategies and provide five statements, which although designed to be applied to institutions in the Asia-Pacific region, would appear to be equally of value in the UAE at primary, middle, secondary or tertiary level. They claim that educational leadership is strategic when it involves (a) remaining abreast of trends, issues, threats and opportunities; (b) sharing knowledge in the community; (c) establishing structures and processes; (d) ensuring the community is focused on the strategies; and (e) monitoring and reviewing of the implementation of these strategies (Caldwell and Spinks, 1992, p. 92).

Established in 1971, the UAE is a young country. The economy of Abu Dhabi emirate is based on the oil industry but more diversity has recently been introduced in the shape of banking and finance, light industry and tourism. Neither citizens nor expatriates pay income tax to the government and the infrastructure and development of the country is funded directly by the government. State-funded basic and higher education, including textbooks, is free to citizens of both genders. Private basic education in the UAE³ is often followed by higher education overseas or at one of the recently established private universities in the UAE. However, increasingly within the past five years, overseas universities have begun to open branches in the UAE or develop affiliations with existing private colleges⁴. To some extent, this may be in response to the events of the attacks on the United States on September 11, 2001, since when Emiratis, among others, appear to have experienced a greater degree of difficulty in obtaining visas to study in the West, particularly the United States. Higher education credentials from the United States and other Western countries continue to be highly desirable and any political differences would appear to be overlooked where the continued economic development of the country is concerned.

Wealthier Emirati families tend to make the same choices as those in other countries, although perhaps for different reasons, and frequently send their children to private schools. There is significant prestige attached to being in a position to send children to a private school where they become proficient in English and mix with students of other nationalities, especially since parents, and certainly their grandparents are unlikely to have attended school at all in the accepted Western sense. The international credentials earned at private schools carry great kudos in the community and are an indication of a positive future career.

³ Expatriate children are expected to attend private schools, usually community schools such as Al Khubairat British School (<http://www.britishschool.sch.ae>) and the American Community School of Abu Dhabi (<http://www.acs.sch.ae>). Such schooling is available to expatriate and Emirati students who qualify academically and whose parents can afford the fees.

⁴ Typically, higher education for the children of expatriates is provided in their home countries.

Higher Education Choices in the UAE

When discussing higher education in the UAE, it is important to consider the contextual background. The sector has grown dramatically over the past 25 years and now offers two government universities: UAE University in Al Ain, which was founded in 1977, and Zayed University, based in Dubai and Abu Dhabi, founded in 1998; and 12 federal Higher Colleges of Technology (HCT) campuses located in six emirates. There are an additional 23 non-government, higher education and training institutions currently licensed by the Ministry of Higher Education and Scientific Research, 11 of which have been accredited by the ministry thus assuring their quality (Tanmia, 2004).

As this paper reviews the provision of higher education and the strategies being implemented in the UAE to manage changes in the educational environment, it provides examples to illustrate what is currently being done to address pertinent educational issues from the perspective of the Higher Colleges of Technology (HCT), specifically Abu Dhabi Men's College (ADMC) and its immediate community.

In the past ten years the higher education sector has grown four-fold, with the confirmed enrolment figure of 37,548 for the academic year 2001-02, 70 per cent of which are women. The uptake of higher education has also increased dramatically with 95 per cent of all female secondary school leavers and 73 per cent of all male secondary school leavers embarking upon college courses of study. HCT graduate numbers were modest until 1998 when the graduating class was 1,437. This trend has continued in recent years⁵ due to infrastructural improvements in the system, with new campuses being opened in the more rural emirates in order to reach a wider catchment area.

Government run and funded higher educational institutions in the UAE are segregated, although private institutions are frequently co-educational. It is also noteworthy that the combined number of college graduates produced each year is comparable with that of some individual institutions in larger, more developed countries. Table 1 illustrates the breakdown between private and government institutions, by gender, for the academic year 2001-2002 which saw a total of 7,117 students graduate from college in the entire country (Tanmia, 2004). Based on the number of students currently in secondary school, the expected increase in the uptake and eventual graduation from higher educational institutions for the first five years of the current century is approximately 37 per cent overall (NAPO, 2002).

Table 1. Number of UAE national graduates from accredited federal and private higher educational institutions, by gender, 2001/2002

Institution	Male	Female	Total
Private Higher Education Institutions	262	624	886
Zayed University (2 campuses)	0	379	379
Higher Colleges of Technology (11 campuses)	1237	2084	3321
UAE University	438	2093	2531
Total	1937	5180	7117
Percentage	27	73	100

Source: CLMRI (Tanmia), 2004 – from various sources

⁵ Recent numbers of graduates from the HCT: 2001 – 2,536; 2002 – 3,321; 2003 – 3,922. Projected growth in number of HCT graduates for 2004 is 4,635 and 2005 is 5,299 (HCT, 2001)

The Position of Private Higher Education in the UAE

The UAE was the first country in the Gulf Cooperation Council (GCC) to authorise private higher education (Coffman, 2003). Private institutions, mostly from the United States and primarily based in Dubai and Sharjah in the UAE, are not seen as a threat by the government, but rather as a positive solution to managing the increased numbers of students in need of higher education. This increase could not have been accommodated had it not been for the on-going growth and development of the international private universities (Robertson, 2000). Private institutions are also viewed in the community as healthy competition (Cerny, 1995; Wade 1996), and as being in tune with the needs of the private sector and international workforce standards (Coffman, 2003). Perhaps more importantly for the students who graduate from these private institutions, they will earn a credential from an international university to help smooth their career path, although it is currently highly unusual for Emiratis to seek employment overseas. Dore (1997), Livingstone (1998), and Lowe (2000) have explored the topic of international credentials further and addressed issues relating to credentialism in a global context.

Post-graduate Options in the UAE

Post-graduate studies in the UAE are offered at government and private institutions, such as, UAE University, Zayed University, University of Sharjah, the American University of Sharjah, Dubai University College, and the University of Wollongong, all of which offer Master of Business Administration (MBA) programs. However, with the launch of Universitas 21 Global (www.u21global.com/mideast), which offers online MBA programs from 16 different accredited universities worldwide, it would appear that business programs are abundant compared to the opportunities in other majors.

Opportunities for post-graduate studies in the sciences include those offered at UAE University, which runs three post-graduate programs: Master of Science in Environmental Sciences; Master of Materials Science and Engineering, and Master of Science in Water Resources. These programs are offered free of charge to eligible candidates since the university is government run and funded. An example of post-graduate alternatives in the private sector would be the American University of Sharjah which runs Master's programs in Mechatronics and Urban Planning. Further program options for study at the post-graduate level are being prepared and developed at Ajman University of Science and Technology and Etisalat Engineering College. In the longer term, the proposal is that doctoral studies will become available both in the government and private sectors.

RAPID GROWTH, EDUCATIONAL NEEDS AND THE JOB MARKET

At the start of 2004, the total population of the UAE, including expatriates, reached approximately four million (UAE-The official website, 2004), with Emiratis comprising nine per cent of the total UAE workforce, while two per cent of them were unemployed, according to the three-part *Employment and Human Resource Report 2004*, released by the National Human Resource Development and Employment Authority (Tanmia, 2004). The report focuses on strategies for increasing the employment amongst UAE nationals, particularly in the private sector, career development, improving work skills, and highlights the need to reform higher education. These goals are echoed and supported by Al-Suwaidi (1999) who asserts that it is imperative that the UAE pursues more aggressive and diverse human resource development policies.

The Tanmia (2004) report stresses the need for a curriculum that is oriented to the job market. This supports the argument raised by Coffman (2003) in favour of international private higher education which better suits the needs of private sector employers. A similar argument is addressed by Bahgat (1999) and Al-Sulayti (1999) who highlight the mismatch between the needs of the labour force and the educational system in the Arabian Gulf region. A total of 13,361 UAE

nationals are expected to enter the job market in 2004 according to Tanmia (2004), and the projected figures for 2006 and 2010 are 16,187 and 19,610 respectively. Since 57 per cent of the UAE population is currently below the age of 20, those charged with leadership roles in education are examining ways of addressing the needs of this rapidly growing nation for the twenty-first century.

The UAE state higher education budget has been frozen for five years⁶ in spite of a significant increase in population, and this is especially alarming in light of the demographic data relating to increases in high school and college-aged students. Add to this the focus of the government on emiratisation and the development of a workforce for the knowledge society of the twenty-first century, and it becomes clear that parents as well as educators must review their traditional strategies and approaches to providing quality teaching and learning. The situation in the UAE is that the underfunding of higher education has had an impact on a previously liberal admissions policy (Sharè, 1999). Such a situation can be equated to the gradual and surreptitious global trend of the withdrawal of support and government funding of schools worldwide. Many schools worldwide are in a poor state of repair, teachers are dissatisfied with their salaries and working conditions, and a perception that state schools are falling short of their responsibilities being nurtured by governments. Such a strategy may be in an effort to abdicate responsibility for a vital, expensive and politically sensitive service which affects a country's entire population and is an easy target in political campaigns. The effects of this reduced level of government support are already being felt in the labour market according to Tanmia (2004) who highlight a number of disturbing facts that need to be addressed by the community as a whole and educators in particular to ensure continued economic success and growth in the UAE.

Al-Rostamani (2004) reports that of those registered with Tanmia as unemployed:

- 76.6 per cent are females;
- 50.8 per cent have completed their higher education;
- 70 per cent are aged between 20-29 years;
- Higher Colleges of Technology graduates in health sciences (1996-2001) say 40.8 per cent of them are unemployed;
- the number of UAE University graduates who registered with Tanmia did so in the unemployed and not the job-seekers category;
- males were able to find jobs more easily than their female counterparts; although both had the same educational qualifications; and
- Tanmia were able to place only 12.6 percent of 6,563 job-seekers in 2003

A possible further ramification of the freezing of funding in higher education may also be a subtle move by the government to increase the pace of emiratisation. Emiratis lacking higher education would be forced into the situation where they would have to accept blue collar or low-level clerical positions, currently held by workers from the sub-continent who would subsequently be returned to their homelands. The workforces of Oman and Bahrain, for example, comprise citizens employed at all levels, unlike the UAE where citizens currently expect to be employed at management level.

EDUCATIONAL REFORM IN THE UAE

The significance of the role that schools play in preparing students for higher education, and ultimately for their future careers, should not be underestimated. In the UAE the school system is

⁶ Funds are occasionally forthcoming from other sources such as sheikhs and other benefactors in the community, partnerships in industry and events such as conferences.

currently under scrutiny by external contractors with a view to long-term educational reform (Za'za, 2004). However, the quest for an ideal solution continues worldwide and the OECD (2001) puts forward the view that there may be a number of possible solutions, rather than one simple answer, to the future of schools. It is vital that educational reform should be viewed holistically, rather than simply extracting methods and curricula which work elsewhere and attempting to transplant them into a different country with a different culture and values set. Addressing educational issues in isolation and with a fragmented approach, rather than holistically, is rarely successful in the longer term. Unfortunately, this method is frequently employed in the UAE where Western culture is highly valued, though not always popular. The latest ideas and technology are often embraced without planning or critique, and may subsequently be abandoned just as quickly and easily in favour of the next new fad or trend. The importance of strategic planning and the long-term, objective monitoring and evaluation of educational processes and technology introduced into institutions needs to be highlighted to educational leaders in the region. Caldwell argues that "transformation means change that is significant, systematic and sustained" (Caldwell, 2003a).

Wider, broader educational experiences can benefit students greatly, but the challenge is to manage the changes and the funding without losing sight of the focus, namely. the provision of a solid, meaningful, educational experience with transferable skills and a clear appreciation of the need for lifelong learning (Al-Suwaidi, 1999; Carnevale, 1991; Livingstone, 1997). Global trends in education indicate that a serious review and reform of the *status quo* in education is needed worldwide (Caldwell, 2003a), and focusing on the UAE, Davies (1999) highlights the fact that greater investment in teacher training, curriculum development and technology is required to reform schools and higher education and training.

THE BUSINESS COMMUNITY'S ROLE IN TRANSFORMING HIGHER EDUCATION

Although there are certain issues that clearly distinguish the UAE from many other countries, it is important to acknowledge that in spite of the differences between, for example, the United States and the UAE in the composition and background of cohorts, the argument against standardised reform that Cuban at al. (2001) present, and which is also illustrated by the OECD (2001), would seem to be transferable and particularly valid in the UAE. Each of the emirates, of which there are seven, united in 1971 as a federation, has a separate and distinctive profile as far as terrain, raw materials, trade and indeed tribal origins is concerned. Only one emirate, Abu Dhabi, has its economy based in the oil industry. Dubai is essentially the commercial centre with its economy traditionally being based in merchant trading, and Sharjah is considered to be the cultural centre of the country, but is also involved in trading and the fishing industry. The smaller emirates of Ras Al Khaimah, Um Al Quwain, Fujairah and Ajman are much less well-developed, both economically and in terms of infrastructure, and have developed much more slowly as a result. Education, the economy and the workforce are markedly different in the smaller emirates than in the larger, more economically robust centres. It stands to reason then that the distinctive educational issues, needs, and the requirements of the workforce in the various regions must be addressed rather than enforcing a single, across the board policy for state-funded basic education and higher education.

Sharing knowledge in the community at large and the development of human capital in the UAE (Mograby, 1999) is thought to be vitally important to the mission of the HCT and the eventual success of its graduates in the workforce. The importance of addressing a possible mismatch between the education provided and the current and ever-changing needs of the workforce is underscored by Bahgat (1999), Benjamin (1999), and Odeh (1993). In order to address the needs of the local workforce in the UAE, Program Advisory Committees (PACs) were set up when the HCT was launched in 1988. Each division in each city established contact with the business

community and invited their input, both positive and negative. These committees meet two or three times a year, more frequently in the earlier years, to discuss changes in the market needs, to inform and to advise colleges on constructive and useful alterations in each of the programs of study.

The business community is a vital link in the UAE where a large proportion of educators are from overseas and often need guidance regarding local conditions and practices. The system of meeting and consulting the PACs works well and builds relationships within the business community which pave the way for HCT students to participate in work placement and possibly eventual employment with the companies that are actively involved⁷.

Addressing the Needs of the Community

The knowledge society is shaping all our lives and it pervades every avenue of our lives (Drucker, 1993). Caldwell (2003a) points out that there is “universal recognition that education is the key to the well being of society and of the individual in the years ahead”. Citizens should now be prepared more than ever, and from a very early age, to participate in a meaningful way in society and to be able to integrate their skills in a variety of ways (Davies, 1999). As Drucker predicted in 1994, there are currently very few jobs in any sector that do not demand computer literacy as a basic skill. It is clear that schooling, and indeed higher education, needs to adapt to the demands of the workplace in a very dynamic sense (Sharè, 1999). Education needs to transform, and educational institutions of the future may take many forms with educators having to adapt to their new roles (Caldwell, 2003c). The OECD (2001) suggests six possible scenarios for future schooling⁸. However, the one thread that seems to run through these scenarios is the need for greater, and possibly wiser, expenditure on and investment in education.

One significant development that has occurred at the HCT in response to both rapid growth and the need to gauge the success, or otherwise, of college programs, their graduates, and feedback from employers, is the Program Quality Assurance (PQA) process, in which academic programs are monitored and reviewed for an entire academic year, every three to five years. Accountability, best practices, outcomes and results are examined, and managers are given an opportunity to defend their written reports in front of a review panel. The resulting reports and evidence are stored in an on-line portal and those authorised to do so may access the data and regularly update it to maintain its currency. The data provides vital information that may be used to address issues relating to the question of the current high level of unemployment in the UAE, and the further development of strategies to ensure that program offerings are in line with the needs of the workforce.

As a strategic measure responding to PQA feedback, and to ensure continued quality even after graduating from the HCT with a Diploma, Higher Diploma or a Bachelor's degree, it became apparent that a facility would be needed to allow members of the workforce to update and build on their skills. Therefore, in addition to the recognised HCT programs of study that lead to formal credentials, a branch of the organisation was formed to cater to the specific and urgent needs in the workforce and community. The Centre of Excellence for Applied Research in Training (CERT) was established in 1996 in Abu Dhabi, affiliated to Abu Dhabi Men's College (ADMC)

⁷ The HCT is also supported by the business community in other ways such as companies and government departments who sponsor large numbers of students in programs such as Highway Maintenance, Chemical Engineering and Aviation.

⁸ Scenario 1: “Robust bureaucratic school systems”. Scenario 2: “Extending the market model”. Scenario 3: “Schools as core social centres”. Scenario 4: “Schools as focused learning organizations. Scenario 6: “Teacher exodus – the ‘meltdown’ scenario”. (OECD, 2001).

to develop and support partnerships with industry, and to provide fee-for-service programs to complement those offered through the HCT. International companies, such as Honeywell and Lucent, have operational branches at CERT and partnerships have flourished over a relatively short period of time.

The educational courses offered at CERT relate to very specific needs in the community and may be tailor-made to suit companies and organisations in Abu Dhabi and Dubai. Courses may also be intensive and therefore completed in a comparatively short space of time so that those participating may quickly return to work with the requisite new skills, thus contributing very effectively to the economy and growth of the country. CERT fills a niche in the UAE market, which in most instances lacks established training departments within private companies and government departments. This is in part due to the rapid development of the country and the lack of a strategic plan in almost all sectors (Bahgat, 1999). Participants employed by the client company may have previously attended ADMC as students, or they may even be non-nationals. State-funded HCT programs are only available to UAE nationals. However, CERT courses are funded by employers and may be attended by those the employer chooses to allocate as candidates. By extending the remit of the HCT, CERT has helped to strengthen the funding of the college system while also establishing new HCT Diploma programs in Mapping and Surveying, Food Inspection Technology, Safety Inspection Engineering, and a Higher Diploma in Military Nursing. These credentials were developed and established in response to urgent needs in the workforce, and would have taken significantly longer to reach consensus on and approve, as part of the widespread HCT college system, than through CERT.

Higher Education and the UAE Workforce

Brown and Lauder (2003) drew attention to the implications for education and labour market policy where college graduates cannot easily or readily be absorbed by the workforce. The issue of there being a limited number of suitable job vacancies for college graduates is a clear indication that tailor-made courses as requested and funded by employers, is a need that must be addressed. In a rapidly growing economy employers cannot wait patiently for new graduates to mature and develop, so they must be pro-active and prescriptive, and support practical training initiatives to complement their employees' more academic education.

In the UAE, 90 per cent of current college graduates have been educated in traditional government institutions, directed by government policy (Tanmia, 2004), and will need to update their skills in line with the labour market as it continues to develop and diversify. Continued development of the workforce, and currency in graduates' fields of expertise, is vital to the economy of the UAE. In his discussion on the development of an industrial middle class in Arab countries, Odeh (1993) makes a persuasive case for the further development of vocational education in the region and highlights cooperation between industry and educationalists as key to such development. CERT courses are under constant review and are updated, working in tandem with individual companies and organisations as clients.

LIFE-LONG LEARNING IN THE INFORMATION AGE

Initially, the HCT established fairly clear guidelines in the form of a mission statement that outlined the expectation and challenge that basically every graduate would be prepared to operate, in English, in the global economy, and participate in the continued development of the UAE. Caldwell (2003a, p.16) states, "All students in every setting should be literate and numerate and should acquire a capacity for life-long learning, leading to success and satisfaction as good citizens and productive workers in a knowledge economy". This statement is very close to the mission statement of the HCT, and would not be out of place in any educational institution (Luca et. al., 2001; McLoughlin, 2001). However, initiatives introduced to ensure that students are aware

of the need to become lifelong learners in an effort to achieve their personal goals and those of their country, are frequently less popular than one may expect.

It is a major challenge to deliver effectively the message to students that the knowledge they are accumulating in order to gain an academic credential may soon need to be updated. This task is exacerbated in the UAE where parents often lack formal education and may largely be unaware of the demands of the workplace, and therefore the need to remain current. The burden of convincing students of the need to adopt strategies for survival in the knowledge society remains with educators, careers counsellors and future employers. There is a considerable opportunity for schools and colleges in the UAE to develop further greater understanding in this area in an effort to ensure steady growth in the economy of the country, particularly for the next generation when oil may cease to support the economy to the extent that it currently does. Drucker (2000) maintains that keeping up with knowledge and viewing the world as a whole mattered less in the days of lifetime employment, but knowledge is mobile and transferable and does not belong to one's employer or the state but to oneself, and is highly marketable.

Brown and Lauder (1996), Aronowitz and De Fazio (1994), and Reich (1991) provide a detailed overview of how the major economies of the world, and the United States in particular, have changed historically, especially in the second half of the twentieth century. It is apparent that globalisation and economic transformation have long-term consequences, and that good quality education is vitally important for future economic growth and prosperity (Brown and Lauder, 1996). The importance of life-long learning in the knowledge society is emphasised by Aronowitz and De Fazio (1994), Brown and Lauder (1996), Grabinger (1996), and Reich (1991). Aronowitz and De Fazio (1994) also allude to the inflation of credentials and consequently the need to be constantly acquiring additional qualifications to remain marketable in the workforce. These issues should be considered as matters of strategic importance for educators who should currently have a mandate to prepare their students for a career, propelled and supported with a philosophy and acceptance that lifelong learning is a necessity (Halloran, 1999).

Al-Hussaini (2001) reports that "Globalisation, skills in information technology, the shift from teaching to learning, a lifelong learning culture and the need to involve private sector in higher education" were recurring themes during 'The University of the 21st Century' conference in Oman, March 2001. It seems that educational issues are similar the world over, although focusing on the oil producing economies of the Arabian Gulf region Al-Hussaini (2001) emphasises that in 20 years from now, in a "post-oil economy, a highly educated and trained manpower will most probably be the only reliable economic resource" in the region. A nations' Intellectual Capital is seen as the driving force for future wealth and development (Edvinsson and Malone, 1997).

CONCLUSIONS

The UAE is managing to keep abreast of trends, issues, threats and opportunities in education and the job market, implementing innovative changes, for example laptop learning, and welcoming outside influences in the form of the latest technology and methods, and international private universities. The government has also benefited from the support and expertise of the international community and clearly appears to have recognised that progress would have been much slower working in isolation and without significant contribution from educators and business partners. The emergence of unemployment in the UAE has prompted the government rapidly to develop Tanmia with a certain amount of guidance from overseas experts to arrest the growing trend and the evident mismatch between the skills sets of prospective employees and the current job market (Bahgat, 1999; Odeh 1993).

The business community in the UAE has proved to be invaluable in the gradual transformation of teaching and learning, and the preparation of the workforce of the twenty-first century. They

provide continuous and supportive advice in the form of PACs at the HCT, and this is particularly vital to the IT-related programs which are under constant review. These PACs now include in their membership graduates of the HCT who recognise the importance of their role and wish to contribute to the learning of current students. Odeh (1993) describes a rather different scenario when discussing vocational education only a decade ago, which highlights the significant progress that has been made in the region.

Processes such as the PQA at the HCT are in place to monitor the quality of education in the UAE. However, quality assurance needs to be more widespread and should not be confined to higher education. With the introduction of PQA, or similar processes, to increase the level of accountability into government schools, there may be a significant improvement in the preparedness of high school graduates to enter higher education. This, in turn, would reflect very positively on the quality of college programs and their eventual graduates, and ultimately impact on the workforce and economy of the country.

Underpinning all the strategies and processes described in the literature reviewed is the evident need for educational systems, government-funded and private, to produce students with a clear understanding of the necessity for lifelong learning. This learning is by no means restricted to the classroom, and the community as a whole can, and should, provide and share valuable and timely information. The neighbourhood effect (Friedman, 1962) is reflected in the construction of meaningful education, engaging careers, a strong economy and the continued generation of knowledge, partnership and prosperity in the communities of the UAE. Change is constant in the knowledge society and affects the entire community.

In a relatively young country with a comparatively small population of four million, and a citizenship of approximately one million, the UAE appears to have accepted change more readily than in other more established and developed countries. Emiratis at all levels are keen to embrace the latest technology and practices from the West, although often at the expense of successful existing systems. However, it is widely accepted in the UAE that education needs to transform itself in line with the demands of the workplace and the knowledge economy. This is not a new strategy or demand for a country where basic education has only been mandatory for a generation, prior to which schools' main aim was to teach the Holy Qura'an.

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