MSc. in Project Management

Dissertation

Dissertation Supervisor: Dr. Arun Bajracharya

Evaluating the Outcomes of Vocational Education

Program in Abu Dhabi

from a Project Management Perspective

تقييم نتائج برنامج التعليم المهني في أبوظبي من منظور إدارة

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Abstract

The paper examined the effectiveness of the evaluation method currently applied to measure the outcomes of the vocational education programs in Abu Dhabi. In-depth interviews were carried out with three managers and the documents of one of the biggest vocational institutes in Abu Dhabi were reviewed. It has been found that the current trend is using basic and conventional evaluation systems. Evaluating the outcomes of the programs is done as part of other evaluation processes and is limited to closure of the program. What differentiates the vocational programs is the impact of their outcomes on the community at large, represented by the employers and Tawteen Council. Therefore, the Multi-Objective Realization Approach (MORE) is proposed as an appropriate method for evaluation to be applied in Abu Dhabi Institutes. The MORE Approach will help in evaluating the effectiveness of the programs in addition to measuring their outcomes in relation to the stakeholders' objectives and needs. The programs include delivering and assessing different types of diplomas to enhance the opportunities of local job seekers in finding jobs. By using the MORE evaluation framework, the outcomes evaluation of the programs will be extended beyond program closure. It has been found that the current evaluation method should include the number of graduates against the percentage of employment. It also should involve the competencies of the graduates against the skills required in the market. Moreover, the outcomes of the programs must include their impact the education levels. The proposed MORE method will help in increasing the possibility of achieving the strategic goals of both; the institute and its stakeholders. Therefore, this study focuses mainly on the outcomes of the evaluation methods in respect to stakeholders' short and long term needs and objectives.

Keywords: Vocational Education - MORE - Outcomes Evaluation - Evaluation Methods

ملخص

اختبرت ورقة العمل فعالية أسلوب التقييم المطبق حالياً لقياس نتائج برامج التعليم المهني في أبوظبي. تم إجراء مقابلات متعمقة مع ثلاث مدراء وتمت مراجعة مستندات واحدة من أكبر المؤسسات المهنية في أبوظبي. لقد وجد أن التوجه الحالي يستخدم أنظمة تقييم أساسية وتقليدية. يتم تقييم مخرجات البرامج كجزء من عمليات تقييم أخرى ويكون محدداً بإغلاق البرنامج. ما يميز البرامج المهنية هو تأثير نتائجها على المجتمع ككل والذي يمثله أصحاب العمل ومجلس التوطين. لذلك، فقد تم اقتراح نهج تحقيق أهداف متعددة (إم أو آر ئي) كأسلوب مناسب للتقييم يتم تطبيقه في مؤسسات أبوظبي. إن نهج تحقيق أهداف متعددة سوف يساعد في تقييم فاعلية البرامج إضافة إلى قياس نتائجها فيما يتعلق بأهداف واحتياجات أصحاب المصلحة. تتضمن البرامج تقديم وتقييم أنواع مختلفة من الشهادات لتحسين فرص الباحثين عن وظائف من المواطنين في العثور على العمل. باستخدام إطار عمل تقييم نهج تحقيق أهداف متعددة، فإن تقييم نتائج البرنامج سيمتد لما بعد إغلاق البرنامج. لقد وجد أنه يتعين أن يتضمن أسلوب التقييم الحالي عدد المتخرجين مقابل النسبة المئوية لتوظيف. كما ينبغي أن يتضمن اختصاصات المتخرجين مقابل المهارات المطلوبة في السوق. علاوة على ذلك، يتعين أن يتضمن نتائج البرامج تأثيرها على مستويات التعليم. إن أسلوب نهج تحقيق أهداف متعددة سوف يساعد في زيادة احتمال بلوغ الأهداف الاستراجية لكل من المؤسسة وأصحاب المصلحة فيها. لذلك، فإن هذه الدراسة تركز بشكل أساسي عى نتائج أساليب التقييم بخصوص احتياجات وأهداف أصحاب المصلحة على المدى القصير والبعيد.

الكلمات الرئيسية: تعليم مهني – نهج تحقيق أهداف متعددة – تقييم المخرجات – أساليب التقييم

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1. Introduction

The vocational education in UAE has emerged as a resolution for Emiratis who did not get the chance to achieve a high school certification or complete their higher education. The structure and the process of vocational education programs are complex. The program involves a large number of internal and external stakeholders involved in the different phases of the program.

The process has several stages that begins with writing the proposal and ends by graduating skillful Emirate who can join the workforce. UAE endeavor is to establish a strong educational framework in order to meet the development goals of the region. The vocational training in UAE is considered and managed as higher education. The strategies are developed by higher educational council and ministry of higher education within the frameworks of the Emirate's education policies. The program's main strategic goal is to provide the learners with the necessary skills to be able to join the workforce of different businesses and industries. For this reason, several vocational education programs are currently running in Abu Dhabi (ACTVET Website). The success of the vocational education program will have a positive influence on the national education and employment structure in Abu Dhabi. Therefore, the five phases of project management must be applied effectively.

This study mainly focused on the control phase of project management. The evaluation strategies currently applied in the vocational education institutes in Abu Dhabi are examined. Then they are compared to The Multi- Objective Realization Approach (MORE) being an effective and practical approach for evaluating programs. It has been found that the current evaluation method is very basic and can be enhanced to provide more details about the outcomes of the programs. MORE approach has been proposed as it helps to consider the different needs of stakeholders through the use of GQM technique and constant interaction with the stakeholders. This will extend the evaluation of the programs to include their long term impact on stakeholders.

Problem Statement: Vocational education is a burgeoning field in the United Arab Emirates, where it is increasingly becoming recognized as the key to equipping the next generation of students for the workforce. In particular, vocational education is designed to equip students to meet the demand for highly technical positions, such as engineering, industry, and medicine, etc. However, there have been, and continue to be, very real problems with vocational education in the United Arab Emirates: while it is growing in popularity, it

has been producing a great many students who are woefully under-qualified and ill-prepared for the field. The problem is especially acute with Emirati nationals, who are overwhelmingly drawn to the public sector, to such a degree that the government is now going to great lengths to funnel them into the private sector, especially the high-skilled occupations.

The question of what is wrong with vocational education in the UAE, and how it might be fixed, is what animates this research. This study will explore the educational system in the UAE, examining the patterns and the factors that either promote or inhibit success. Along the way, we will explore vocational education in other countries, and ascertain what does and does not work, both in the UAE and abroad. In so doing, this study will establish important information for a reform platform for vocational education in the UAE, a reform platform that may well change the character and shape of Emirati industries indubitably.

1.1 Research Question

- How effective is the evaluation method currently used to measure the outcomes of vocational education programs in Abu Dhabi?
- How to make the current evaluation method applied to evaluate vocational programs more effective?

1.2 The Aim and Objectives of the Research

The research aims to examine the evaluation method currently used to measure the outcomes of the vocational education programs in Abu Dhabi. Recommendations will be provided for a more practical evaluation approach. The objectives of the research are as follows:

1- To examine the evaluation methods currently used to measure the outcomes of vocational education programs in Abu Dhabi.
2- To compare the currently used methods to measure the outcomes of vocational education programs in Abu Dhabi with the MORE approach.
3- To propose a more effective evaluation approach for measuring the outcomes of vocational education programs in Abu Dhabi.

1.3 Significance of the Study

The vocational education in Abu Dhabi has a considerable impact on the national education and on the employment rates. Evaluation is a significant tool for development to

ensure the strategic goals are met. Therefore, this study points out the gaps in the current evaluation method used by the researched institute. It provides useful suggestion to evaluate the outcome of the vocational programs more effectively. Effectual evaluation using the proposed model, MORE, will enhance the decision making process. It will also improve the outcomes of vocational experience in relation to internal and external stakeholders' needs. Proper evaluation will help in decreasing de-skilling and to replace proper skills in suitable positions. On the long run, this will increase the workforce outcomes and help in raising job effectiveness and productivity rates.

1.4 Research Pattern and Scope of the Study

Now the character of the research pattern was as follows: firstly, a rich literature review was conducted, a literature review that delved into the subject of vocational education programs in order to facilitate adult learning. Of the foundational insights gained and the key learning revealed, the first was the considerable importance of vocational education for the building of knowledge and the promotion of skill amongst graduates.

This much being established, the literature review did then explore the features of the educational system in the United Arab Emirates. Here, the research focused on many governmental efforts to promote vocational education, notably through the Higher Colleges of Technology (HCT). There is also the Abu Dhabi Vocational Education and Training Institute (ADVETI), and others besides. The system of vocational education has been growing in the UAE, and the HCT in particular is evincing quite considerable promise. Indeed, a key finding was that the HCT have raised their standards, with lower-scoring applicants being funneled into ADVETI.

Problems with pedagogy in the UAE educational system were identified, problems that have traditionally undercut the efficacy of the system of vocational education as far as producing graduates who are capable of being effectively competitive in an increasingly globalized marketplace for jobs. UAE efforts to ameliorate these problems have seen rather mixed success at best and very often lackluster results. Moreover, the attraction of many Emiratis to the large public sector, and their low rates of performance in the private sector, were elaborated upon and discussed. Key problems that might account for all of this were identified, and the groundwork of possible solutions was explored at some length.

Efforts to promote vocational education in other countries were also discussed, notably the prestigious Royal Melbourne Institute of Technology (RMIT). RMIT provides

salutary examples indeed, and the reasons for this proved quite exciting. Indeed, RMIT points the way toward many salutary reform efforts that could be carried out to greatly improve the educational picture in the UAE.

Both the Republic of Turkey and the People's Republic of China present cases of vocational educational systems much in need of reform, cases evincing some interesting parallels with the UAE. Mismatches between the skills of students and the demands of industry were identified as significant problems in both cases, as in the UAE, and the lack of practical experience was identified as a culprit, as is also the case in the UAE. From all of this the picture becomes clear indeed: the means whereby vocational education could be reformed and rendered into a form that would produce competitive graduates.

Now the scope of the research was designed to capture the picture of vocational education in the UAE: what is working, what are not working and the reasons for each. From this it could be the more readily surmised the contours of a solution. Literature discussing similar issues in other countries was used also to provide attestation of both similar problems and likely solutions. All of this was done in accordance with the mandate to produce a most compelling and yet concise literature review, one that would serve the needs efficaciously of the dissertation.

Project management was then analyzed most studiously, with especial care rendered unto the phase of control. The character of project management was covered, especially the foundational importance of the control phase, which is necessary that the project may be corrected in the event of any deviations.

The conceptual foundations were then established and laid down, establishing a firm focus on alternative measurement processes, and the imperatives of evaluating program performance. A firm emphasis was made on the effective management of the evaluation process, in order that value creation might be properly measured. The MORE approach was identified and chosen for the purposes of this paper, chosen and used as the foundation of a process of identification.

The institute selected was anonymized to ABC Institute for the sake of participants' anonymity. It was selected precisely because of its great size and importance in the UAE; the reasoning was that any findings would be of relevance to the successes and challenges faced by vocational education programs in the UAE. ABC Institute has substantial interactions with the Tawteen Council and employers, and is therefore of considerable importance in educating the next generation of skilled workers in the UAE. Problems with ABC Institute's evaluation of its vocational programs, if identified, could yield solutions that have the potential to

substantially increase the efficacy of vocational education, and the competitiveness of Emirati graduates of these programs accordingly. The data collected were designed to do precisely this, informing a comprehensive study based on grounded theory.

A qualitative research approach was selected as the methodology, and in-depth interviews were conducted with three key and foundational people at a vocational educational institute in Abu Dhabi. The sample size was small by design, in order to enable the study to delve the more deeply into the rich storehouses of knowledge held by each of these three individuals. The institute from which these individuals were selected is ABC Institute, selected for its size and importance to other institutions. The findings were used as the basis of rich and well-drawn conclusions, utilizing Grounded Theory to explore connections between categories and reduce the data. From this proceeded the findings about the evaluation methods utilized, findings which proved illuminating indeed. Finally, recommendations were issued, recommendations to guide the course of future research.

The chapters, then, are these:

Chapter 1: Introduction. Poses the research question, propounds the aim and objectives of the research, and exposits upon the significance of the study.

Chapter 2: Literature Review: Reviews at no mean length the literature upon vocational education. Vocational education is reviewed in the context of the UAE, and also in the context of other countries. Problems with vocational education in the UAE are identified, as well as areas in which it is performing better. Strengths and weaknesses of foreign approaches are also analyzed, and the findings examined.

Chapter 3: Proposed Evaluation Method: The proposed method of evaluation is examined and discussed, consisting as it does of the MORE frameworks. The character and features of these are revealed and explored at some length.

Chapter 4: Methodology. The methodology is expostulated upon, consisting as it does of interviews with three individuals selected from ABC Institute. These individuals were selected for their considerable importance, as was the institution. The nature and character of the data analysis are elaborated upon. The processes of open coding, axial coding, and selective coding are examined and remarked upon.

Chapter 5: Research Findings. At last, the findings of the research are revealed, and the character of these and their ramifications for praxis elaborated and remarked upon. The evaluation process of ABC Institute is found to be sound, meet and right for the circumstances in which this institution of higher learning operates.

Chapter 6: Discussion. In light of the revelations of the research findings, a discussion is held.

Chapter 7: Conclusion and Recommendations. Wherein the paper is brought to a close and recommendations issued for future research.

2. Literature Review

2.1 Vocational Education

2.1.1 The Importance of Vocational Education

Several researches have investigated the importance of adult learning through vocational education programs. Klein (1999) states that the higher education institutes are increasingly determined to execute inventive programs that concentrate on the real world needs of contemporaneous workers. Furthermore, the universities and colleges experience mounting competition from other educational profitable and non-profitable organizations targeting employed adults (Graves, 1997). The well-versed systematic development of innovative educational programs is essential to attract and satisfy the current adult learners who look for value and flexibility in the several available options (Meister, 2001).

Vocational education is defined as the development and the application of certain knowledge and skills required by societies for middle-level occupations. Moreover, vocational education involves general education as well as studying technologies and relevant sciences and acquiring practical skills, behaviors, comprehension and knowledge related to jobs in different sectors (UNESCO, 2001). On the other hand, King and Martin (2002) see vocational education as a "fallacy". They explicate the vocational education and training fallacy as a challenge among planning and reality. Oketch (2007) criticizes the concept of fallacy, stating that vocational education is considered as a training that forms the foundation for future training rather than being a means to facilitate job entry. For him, vocational training leads to acquiring vocational specific skills over duration of a lifetime. In addition; vocational education is seen as a significant method for enabling community members to cope with new challenges to become productive members in their societies. Vocational training leads to social structure, integration and self-esteem (UNESCO, 1999).

The ILO Recommendation Concerning Human Resources Development: Education, Training and Lifelong Learning (ILO, 2004) move of the traditional way of thinking clarifying that vocational education and training systems need to be well developed and reinforced in order to offer proper opportunities that lead to developing qualifications and skills required for the labor market. It is highly important to organize a link between

vocational education and training and the labor market in the form of apprenticeships. Moreover, the importance of the programs' content relies in its being a main concern for some parties who think that employers have a considerable influence on the skills projected.

2.1.2 Vocational Education in the UAE

One of the seminal features of education in the United Arab Emirates is that it is free for all citizens, at all levels (Wilkins, 2002, p. 3). The Ministry of Education and Youth and the Ministry of Higher Education and Scientific Research are tasked with managing the educational system, while the Ministry of Labor and Social Affairs oversees vocational training (p. 3). Vocational education initiatives have been under way in the UAE since the recognition, by the middle of the 1980s, that there were not enough of the right sorts of graduates from the institutes of higher education in the UAE (p. 3). Specifically, the types of skills and knowledge in demand, particularly technical skills for industry and engineering fields, etc., were underrepresented among graduates (p. 3).

In 1988, the government responded by creating the Higher Colleges of Technology (HCT) to rectify this (Wilkins, 2002, p. 3). The HCT seek to promote vocational education to equip students to be able to take advantage of job opportunities in a wide array of scientific and technical fields. To this end, they offer courses in "business, information technology, engineering, communication technology, and health science" (p. 4). The HCT have produced very promising results, with some 89% of the students who graduated from them in 1999 and 2000 going on to further education or gaining employment (p. 3). Growth of the HCT has been precipitous: while in early years they attracted enrolment of only a few hundred, in 2003 they attracted nearly 15,000, and that number has since grown to over 20,000 on 17 campuses (Elsner & Horton, 2008, p. 151; Higher Colleges of Technology [HCT], 2011). Demand for post-secondary education is high, with 95% of female and 80% of male graduates from secondary education pursuing tertiary education of some kind (Darraj & Puller, 2009, p. 68). The government is responding with increasing support for education, especially higher education: for example, in FY 2010, the government allocated approximately 22.5% of the nation's budget to the education sector (ICEF, 2013).

In 2007, Abu Dhabi established the Abu Dhabi Vocational Education and Training Institute (ADVETI) for the purposes of advancing the cause of vocational education (Secondary Technical School [STS], n.d.). A major initiative ADVETI has unrolled is the establishment of technical high schools in order to prepare students for the highly skilled fields in which there is so much demand. Students are recruited from those who have

obtained their Grade 9 Certificate, and are then put through grades 10, 11, and 12. Students must also pass an entrance test in English and Mathematics (STS, n.d.).

As Swan (2012) explains, ADVETI has recently moved to expand its ranks, particularly since HCT has raised its standards for admission. Those students who cannot meet the standards set at the HCT are now offered admission to ADVETI instead. As Swan explains, the result has been a precipitous expansion of ADVETI, which has "opened three new campuses, in Sharjah, Fujairah and Ras Al Khaimah" (2012). There is also the Institute of Applied Technology (IAT), which was founded by royal decree in 2005 to provide vocational, technical education at the secondary and tertiary levels (Institute of Applied Technology [IAT], n.d.). The IAT also includes "higher learning start-ups in aviation, logistics and nursing" (n.d.).

Given the historically low rates of participation of Emirati nationals in the private sector, it is particularly notable that of the HCT graduates of 1999 and 2000 who went on to become employed, some 60% of them took employment in the private sector (Wilkins, 2002, p. 4). The HCT have outperformed UAE University in terms of the frequency with which employers hire their graduates: 68% of large firms in Dubai recruit HCT graduates with some regularity; the figure for UAE University is 50% (p. 4). A number of private universities have also been established in recent years, such as the University of Sharjah, the American University of Sharjah, Al Bayan University, and Dubai Polytechnic (p. 4). The case of Dubai Polytechnic is of particular interest, given that the emirate created the school in response to a great deal of market and industry data which indicated a need for better vocational education to help young residents of Dubai gain the qualifications needed for skilled jobs in technical fields (pp. 4-5). Though established by the government, the goal for Dubai Polytechnic has always been for the university to become an independent, private entity, something achieved by means of a process of privatization (p. 5).

The challenges for the education system of the UAE have been immense. Before the oil boom of the 1970s, the economy depended upon subsistence agriculture, pastoralism, pearl diving, and a certain amount of trade (Raven, 2011, pp. 16-17). The oil boom fueled precipitous economic growth, and the task that has befallen the UAE since has been to transform their workforce in order to produce the kinds of skilled, highly-trained workers in demand in modern industries (p. 16). Education is foundational to this, particularly the HCT. Here, however, there are a number of pedagogical concerns: according to Raven, the education system is working to update models of pedagogy and implement more modern teaching methodologies (p. 17).

2.1.3 Factors of Effective Vocational Education

While the education system has traditionally relied on teachers from Egypt and other Middle Eastern countries, typically for cultural reasons, policymakers have begun to hire Western teachers to facilitate the modernization of the education sector (Raven, 2011, pp. 16-17). Another key change is student-centered approaches to pedagogy, which are being introduced to replace traditional models, which rely heavily on rote-learning (p. 17). The goal of these approaches is student autonomy and the promotion of independent thought (p. 17).

According to Gonzalez, Karoly, Constant, Salem, and Goldman (2008), there are a number of initiatives under way to facilitate vocational education in the United Arab Emirates. Faced with declining enrollment, UAE University in particular has responded with efforts to improve its programs by linking them with practical, real-world experience for the students (p. 125). A case in point is UAE's internship through the College of Engineering, which is designed to allow students the opportunity to work for both domestic and foreign companies (p. 125). The internship has placed students not only with Emirati companies, but also with major international companies based in such countries as the United Kingdom, France, Sweden, Finland, and Italy (pp. 125-126). In addition, UAE University has collaborated with technology parks, and even with the military, which has provided a number of Emirati students with engineering internships (p. 126).

The UAE's two other public institutions of higher education, HCT and Zayed University, have both become actively involved in vocational education as well (Gonzalez et al., 2008, p. 126). HCT is especially well-placed to do this, given that the university was founded to educate students with the highly technical skills in demand in the oil sector and other, closely related industries (p. 126). HCT also offers foundation programs, including: "courses in English, mathematics and other basic subjects [in order] to support the transition to programs within the university" (p. 126). Zayed University, on the other hand, follows the mold of international liberal arts universities, and as such the school certainly has a quite strong emphasis on research and outreach (p. 126).

The respective education councils of both Dubai and Abu Dhabi have played key roles in helming efforts to improve vocational education in the United Arab Emirates (Gonzalez et al., 2008, p. 128). Both have been given the mandate of directing efforts across all of the emirates, unifying a variety of approaches in a format that invites participation from both public and private sectors (p. 128). The seminal imperative is to increase the ability of the universities to provide the type of vocational education that will facilitate meeting the demand in the labor market for human resources in specialized fields, as seen (p. 128).

In Abu Dhabi, one particularly prominent and promising initiative to promote vocational education is CERT, founded as an offshoot of HCT (Gonzalez et al., 2008, p. 130). CERT constitutes an international academic partnership, one that involves both academic institutions and multinational organizations concerned with technology and business solutions (p. 130). Working together, these institutions and organizations seek to promote research in the UAE, as well as provide the necessary vocational education for Emiratis along the way (p. 130). Those who graduate from CERT receive both a degree from CERT and a degree from whichever international academic institution they have worked with, increasing their employability in both the UAE and other nations (p. 130). Abu Dhabi is also producing its much-anticipated Education and Research City, "a nexus of learning consisting of a primary/secondary school, college or university, research center, and convention center with an attached five-star hotel" (p. 130). The goal of Education and Research City is indeed research, research of the highest quality: the idea is to attract the very best faculty by providing the best research facilities possible (p. 130). Available to both Emirati and international students, Education and Research City is projected to provide a great deal of academic and vocational opportunity (pp. 130-131).

The policy of Emiratisation is a major reform platform for vocational education in the United Arab Emirates (Gonzalez et al., 2008, p. 131). The goal of Emiratisation is to bring more Emiratis into the workforce, thereby making for a workforce with higher rates of participation from Emirati nationals (p. 131). By so doing, the United Arab Emirates hope to become free from undue dependence on foreign nationals in the labor force. In particular, the goal of Emiratisation is to increase the share of jobs held by Emirati nationals in the industries of "oil and gas production, banking, insurance, trade, and, more recently, tourism" (p. 131). A significant part of Emiratisation consists of efforts to lure Emirati workers from the public sector to the private sector (p. 132). Lucrative government benefits in the public sector have been a major stumbling block here, with many Emirati nationals not attracted to the private sector due to a lack of such benefits there (p. 132). In September 1999, a new national pension law was drafted to rectify this: the new pension law states that Emirati nationals are now eligible for participating in a national pension plan even if they hold jobs in the private sector (pp. 132-133). In particular, such benefits as "government employee retirement benefits, disability benefits, life insurance, and end-of-service bonuses" are all eligible for transference to the program for those that take private sector jobs (p. 133).

2.1.4 Emerging Problems of Vocational Education in UAE

According to Janardhan (2011), although the private sector creates the majority of the jobs in the UAE, Emiratis who are employed in the private sector resign at the remarkable rate of 10% per year (p. 98). Low wages are one common complaint, particularly since the opportunities in the public sector are so lucrative (p. 98). Another problem is a lack of vocational education, and the opportunities Emiratis need to improve their skills (p. 98). Still another problem is that non-Emirati employers in particular, who dominate much of the private sector in the UAE, hold negative stereotypes of Emirati nationals (p. 98). This in turn, coupled with Emiratis' low rates of participation in the private sector, contributes to a lack of trust between Emirati employees and their employers (p. 98). Quotas are one way the UAE government is seeking to promote Emiratisation: companies which employ more than fifty employees must hire a work force that is at least two percent Emirati. Companies with over one hundred employees are required by law to hire only Emiratis as public relations officers (PROs) (p. 98).

The problem is fundamentally not a lack of opportunity (Janardhan, 2011, p. 100). Emirati nationals have plenty of opportunities for jobs in industry and engineering. In particular, a high turnover due to retirement is expected in the energy sector, with about half of those employed in said sector probably looking to retire by 2015 (p. 100). Despite the plethora of opportunities, less than one quarter of Emirati college students are majoring in science and technology (p. 100). Instead, they have gravitated to business in droves: over 64% have opted for business school (p. 100). Both business and banking are preferred to industry and technology "because the qualification requirements are less rigorous, and promotions are easier in comparison" (p. 100).

Still, promoting education is likely to go a long way towards redressing this imbalance in the number of Emiratis employed in engineering, industry, and the like (Shalhoub & Al Qasimi, 2006, p. 106). By providing the necessary education and skills, students will be in a better position to pursue opportunities in these fields. And, too, the success of some students can readily be expected to inspire others to attain qualifications in these fields (p. 106). Overall, the schools are held to be the necessary platforms for advancing technical vocational education in the United Arab Emirates. In fact, the Abu Dhabi National Oil Company has a Career Development Center, which is specifically geared to helping the hundreds of Emirati students who do not complete secondary education (p. 106). At the Career Development Center, these students take courses to qualify for technical positions within the oil industry, a very promising sector in the United Arab Emirates indeed (p. 106).

There is also the Emirates Institute for Banking and Financial Studies, which provides the necessary training for job opportunities within the financial sector (p. 106). This institution, too, is expected to be a major part of the drive to implement Emiratisation through technical education (p. 106).

Nursing education in the UAE is also in need of initiatives to enhance the quality of vocational education provided. As Nematollahi and Isaac (2012) explain, the performance of the nursing program in Dubai has been lackluster indeed. Dubai's graduate nurses tend to be unprepared and ill-equipped, and many report not receiving enough practice in the clinical setting in order to feel ready to practice after graduating (p. 194). Accordingly, the Graduate Nurse Program (GNP) was designed by the Professional Development Center (PDC) to provide nurses in training with the opportunity to develop the important competencies needed to practice successfully (p. 195). This is the more important since the position, once realized, comes with so much stress, and many, many nurses do indeed feel unprepared (p. 195).

The PDC identified important functions necessary to a successful program of vocational education for Dubai's nurses (Nematollahi & Isaac, 2012, p. 195). Firstly, they ascertained the importance of certain management tools and special indicators, together to serve as the means of signaling an early warning in the event that things were not transpiring as they were expected to (p. 195). Secondly, what was needed was also a system for cultivating the important capacities in the training nurses (p. 195). Thirdly, the PDC identified the recruitment and retention of nurses as an important point. And fourthly, the PDC ascertained the importance of establishing a support system to help newly-qualified nurses by ameliorating the stress to which they were subjected (p. 195).

The program was delivered over the course of one year, and rotated the nurses-in-training throughout the various aspects of their future jobs (Nematollahi & Isaac, 2012, p. 196). Particular care was taken to match the difficulty level of the work with the students' own level of competence, so that they were not left overwhelmed by the material (pp. 196-197). Overall, the emphasis is on "supporting new nurses in their working environment", such that they are able to discharge their duties and adjust to the stressors of a demanding environment (p. 197).

The first step for the program is a good solid orientation, designed to welcome the new candidates into the embrace of the program (Nematollahi & Isaac, 2012, p. 197). New entrants are required to learn the organizational fundamentals, including the underlying and overarching philosophy, values, vision and mission, and the character of the organization: where they are to fit in it, and what they will be expected to do (p. 197). Refreshing skills is

another function of the orientation: after all, transitioning from theory to practice can be complex, and often requires relearning some of what has been learned (p. 197). Entrants also have to learn important organizational processes, i.e. what to do, when, and how (p. 197). By so doing, the new entrant can be oriented within the structure of the organization, made aware of their place within its great connective tissue and social ecology.

Communication and a good support network are another important part of the process (Nematollahi & Isaac, 2012, p. 197). A key strength of the GNP is the fact that it surrounds new clinical nurses with several people who are tasked with helping them to adjust to the requirements of the organization: thus, they have several pairs of eyes on them, and several pairs of hands to assist them in the performance of duties, and learning the appropriate protocols and procedures, etc. (p. 197). A mentor is also assigned, to provide special instruction in the character of the job and the organization (p. 197). This gives the new nurse some important one-on-one interaction with a specific team member tasked with integrating them into the strategic plan of the organization (p. 197). Concerning the qualities and virtues requisite of a mentor, Nematollahi and Isaac elaborate that they must be "approachable, good listeners, respectful and deserving of respect, interesting, trustworthy and encouraging" (p. 197). They must also be good at reasoning, capable of divining the answers to problems and challenges, in order to facilitate the progress of those whom they mentor (pp. 197-198).

The figure of the preceptor stands large, above even the mentor (Nematollahi & Isaac, 2012, p. 198). The guardians of the program, the preceptors divine the means of reducing turnover (p. 198). By example they serve as tutelary role models, guides for new graduate nurses through the often-confusing and challenging paths they must face in adjusting to their duties (p. 198). The preceptor is interactive and dynamic, attenuated to the strategic plan on the one hand and the individual level on the other. The preceptor's perspective enables them to direct, coach, guide, lead, and show the way to many first-time nurses (p. 198). Of foundational importance it is, then, that the graduate be able to gain access to the preceptor's wise presence by means of regular meetings (p. 198). By this means the two may establish a ready rapport, enabling a productive tutelage (p. 198). Upon the preceptors, then, rests the means of great success for the totality of the GNP (p. 198).

Beyond doubt an excellent example of successful vocational education is the Royal Melbourne Institute of Technology (RMIT). This institution has undertaken a number of efforts to develop successful programs of vocational education, and the results provide salutary examples indeed (Abanteriba, 2006, p. 284). Its program of activities is titled the RMIT International Industry Experience and Research Program (RIIERP), founded in 1992

to prepare students to develop the skills needed to compete in an increasingly globalized world (pp. 283-284). The program has entailed the establishment of a number of links between the school and industry-leading companies, companies capable of offering vocational training and research facilities of the very highest quality (p. 284). Every year, RMIT selects about 160 students to engage in these programs (p. 284).

Indubitably, the goals of the RMIT International Industry Experience and Research Program are a blueprint for success. Of the goals, the first is global employability for all graduates: graduates must have a worldly, cosmopolitan outlook, conducive to flexible adaptation to a variety of diverse workplaces (Abanteriba, 2006, p. 285). Graduates must have a critical, well-informed perspective on the international workplace, in order to be able to assimilate themselves to the demands of a variety of business cultures worldwide. The second goal is to provide all graduates with vocational experience, in the form of industry-specific projects in international companies (p. 285). Here, the purpose is to give them hands-on training learning their jobs in a culturally diverse context. After all, different cultural environments have different work ethics and different rules of doing business (p. 285).

Graduates must be pragmatic, acquiring the knowledge they need as they find that they need it, in order to facilitate their employability in the globalized workplace (Abanteriba, 2006, p. 285). Realistically, graduates must also be liberal in their sentiments and sensibilities, comfortable interacting with people from diverse cultural backgrounds without reservation or judgment (p. 285). And moreover, graduates must also be civic, conducting themselves as good ethical citizens of the globalized business world and its workplaces (p. 285). But of a surety, this is important in any workplace; nonetheless, in the international, globalized workplace it comes with certain requirements for cultural awareness and knowledge about correct and incorrect conduct (p. 285).

The third goal of the RMIT International Industry Experience and Research Program is the provision of facilities that are diverse in type and kind, which the students may profit from a comprehensive and ecumenical educational experience (Abanteriba, 2006, p. 285). Only by so doing may they hone their skills to the utmost, becoming versatile and dynamic employees capable of participating effectively in a strategically-oriented organizational culture. The fourth goal is for RMIT itself to cultivate the means whereby it can assess how well it is providing for its students' education (p. 285). This goal is concerned with metrics: the university must take stock of what it is doing, and ensure that it is facilitating a sound experience of vocational education for all of its students. In particular, the students must be able to cultivate a global perspective, and the university must ascertain that it is helping them

to do so (p. 285). The fifth goal is the promotion of interactivity and collaboration: RMIT must collaborate with companies and with institutions possessing the best resources of knowledge and capacity in order to maximize the learning opportunities for RMIT's students (p. 285). By so doing, it can fulfill its educational mandate to the utmost (p. 285).

Indubitably, the success of RIIERP was made possible by very careful planning, and by involving all of the relevant stakeholders (Abanteriba, 2006, p. 286). By so doing, RMIT was able to demonstrate to each of the relevant stakeholders the very real benefits that could be accrued unto them by participating in the RIIERP. Of utmost and foundational import was the selection of student participants, a task which required care and skill. Firstly, student participants are selected according to academic ability, with their performance constituting up to 60% of the points required for admittance to the program (pp. 286-287). Secondly, students are interviewed, with the interview constituting up to 40% of the points necessary for admittance into the program (p. 287). In particular, the interview is used to establish that the student possesses the knowledge concerning the goals of the program, and what it is and is not intended to do—and what is expected of the participant, what duties they are to discharge (p. 287).

Taking into account the student's own ardor for the program is another key factor, one that must also be measured and ascertained: the student must be committed to discharge their duties and act in accordance with the responsibilities entrusted to them (Abanteriba, 2006, p. 287). Students must also be capable of articulating their own reasons for their choice of company: why they wish to intern there, and what they hope to gain from the experience (p. 287). Of especial importance, the student must be able to articulate those favorable features of the company felicitous to their own career aims, and therefore to vocational training (p. 287). Having been selected, the candidate is initiated: a series of special sessions enables them to learn and internalize the nature of the company's work culture and expectations (p. 287).

2.1.5 Benefits of Vocational Education to Students, Universities and Companies

To be sure, the benefits for the students are considerable, and communicating this to them has helped to ensure the most efficacious results (Abanteriba, 2006, p. 287). Early exposure is one: the vocational educational opportunities of which they are availing themselves by participating in the program help them to develop especially competitive curriculum vitae, one that will serve them in good stead when they go to seek employment (p. 287). Students can work in these companies from 3 to 12 months, and gain valuable

experience in on-the-job training (p. 287). While they can learn a great deal about the technical aspects of their jobs, students can also learn much about the opportunities and challenges of working in a culturally diverse setting (p. 287). Taken together, these opportunities can greatly improve the employability of the participant once they graduate and enter the job market (p. 287). In fact, up to 10% of participants are offered jobs by the very companies with which they interned often many years later (p. 278).

If the benefits for the students are considerable, so too are the benefits accrued to the university. As Abanteriba (2006) pointed out, the cardinal charge of a university is to provide its students with a rich, fulfilling, comprehensive and ecumenical educational experience (p. 288). The logical way to do this is to provide them with opportunities to learn and develop the skills that they require to compete successfully in the global marketplace for work (p. 288). By so doing, the university can increase its prestige and reputation, thereby attracting more funding, the best teachers, and the best students (p. 288). In other words, this is a win-win scenario for students and university both. The university greatly enhances its programs by providing these advantageous and felicitous opportunities, and this enables it to maximize its ability to complete its educational mission (pp. 288-289).

Education of the student-participants also provides benefits to the participating institutions and organizations (Abanteriba, 2006, p. 290). These efforts can indeed be placed in a strategic context, as part of the grand strategy of the participating organizations to cultivate and retain new talent (p. 290). Without committing to hiring these students, companies nonetheless have the opportunity to observe them and teach them, an invaluable opportunity to help cultivate new talent for the labor force (p. 290). One invaluable opportunity for the companies is the opportunity to see how well students are learning from their universities. This can in turn help companies to calibrate training requirements for entry-level positions in particular accordingly (p. 290). This positive feedback cycle is much to the advantage and interests of all parties concerned, inasmuch as it addresses the needs and desires of all stakeholders.

Sometimes the companies are in a position to provide helpful feedback to the university, which can then move to improve its program, and therefore the quality of the graduates it turns out—graduates who may someday work for the companies in question (Abanteriba, 2006, pp. 290-291). For example, a number of companies commented that RMIT students tend to be monolingual, an undesirable state of affairs in an increasingly globalized workplace (p. 291). The university responded, ameliorating the problem by introducing courses in several European and Asian languages (p. 291). But companies also

gain a great deal practically, in the course of their day-to-day affairs, by participating in the programs: they gain the contributions of the students, which are often quite significant. Those organizations that have participated in the programs have evinced a very real appreciation of the skills that the students possess, and the contributions that the students are therefore able to make to the operation of business within the organizations (p. 290). The students bring fresh ideas and new sets of eyes to examine problems, thereby enabling the companies to be that much more competitive (p. 290).

Similar efforts to establish partnerships between universities and companies are under way in the Republic of Turkey. According to Adiguzel (2008), such collaborations still have a long way to go. Although an estimated 62% of industrial enterprises engage in such collaborations with universities, cooperating in order to facilitate vocational education for engineering students, and students in other highly specialized technical fields, the partnerships are geared largely towards essentially basic areas of the enterprises (p. 34). Adiguzel lists such basic areas as "test-measurement services, nomination of an expert, possibility for scientific publications, problem analysis, improvement of human-machine systems at a micro level, and solution to the quality-related problems" (p. 34). Overall, organizations are less inclined to want to establish meaningful partnerships with universities for the purposes of educating the next generation of students, and more inclined to simply partner with them in order to buy certain very basic services from them (p. 34). This is in sharp contrast to the situation as described with RMIT, and in many European Union countries, wherein universities collaborate with major, leading companies in the industries for the purposes of meaningful vocational education for the students (p. 34).

2.1.6 Emerging Problems of Vocational Education in Other Countries

Adiguzel (2008) found many problems with extant systems of vocational education in Turkey, though many of the problems suggest rather obvious solutions. Overall, the first problem identified was poor legal substructure: case in point, the lack of insurance against accidents for the engineering students in training (p. 38). They are not protected against the many risks they face, thanks to a lax regulatory environment that does not even constrain businesses from considering the number of other workers they have on hand when taking on students (p. 38). If businesses were forced by regulations to keep the ratio of workers to students high, with more workers as a percentage of total workforces, this would of course reduce the likelihood of accidents and other mishaps, as well as enhance the opportunities for students to learn and gain a good education (p. 38). But students are generally much cheaper

than regular workers, so a business that takes on many students may, of course, be able to cut costs—a powerful incentive for a business to participate in a way that is less than ethical (p. 38).

The second problem identified by Adiguzel (2008) was a lack of effective communications between universities and businesses (p. 38). Poor communication meant poor flow of information, which greatly hampered the educational experience for the students overall (p. 38). There were not even established channels of communication, protocols and procedures designed to facilitate communication between the enterprises and the university (p. 38). Another finding: faculty members believed that enterprises took on trainees due to being cajoled or even forced by faculty and/or students, as opposed to being a function of supply and demand (p. 38). Clearly, better communication and better knowledge is needed to facilitate a better system of vocational education in the Republic of Turkey.

Many different types of Turkish enterprises provide vocational educational opportunities, something which, while it might sound beneficial, actually carries problems of its own (Adiguzel, 2008, p. 38). Some were unquestionably more effective than others, case in point incorporated companies and holding companies (p. 38). Institutional companies were the most promising in their proclivity to work with the universities in order to gainsay student participation and evaluate performance (p. 38). However, small-scale enterprises were better at providing actual industrial education, due to these companies being quite selective and having very limited trainee student quotas (p. 38).

Another problem: lack of adequate controls for the education that was provided (Adiguzel, 2008, p. 39). It is of great importance indeed that the industrial education provided by enterprises be of suitably auspicious quality and subject to examination for relevance (p. 39). Control must be exercised to ensure quality of the education provided for the students (p. 39). The processes pertaining to feedback were lacking also, inasmuch as these were characterized by a lack of preparation, and the feedback was oral only (p. 39). Insufficient was the time allotted towards the preparation of documents establishing in writ the nature and character of the feedback to be provided, and thus the means by which the students might advance themselves unto greater heights of learning and excellence in the cultivation of their faculties and skills in the fields of their choice (p. 39).

To wit, from all of this it may be the more readily surmised that a system of practical directives, diligently and scrupulously applied, must needs have served for the amelioration of all diverse assorted sundry problems identified (Adiguzel, 2008, p. 39). Insufficient directives and feedback constitute a lack of proper and appropriate channels of

communication, that most foundational of imperatives for the passage of information in an efficacious manner, designed to facilitate the ready working and sound operation of the competitive, strategically oriented organization. Clearer directives would have enabled the students to achieve adequate preparation by learning from mistakes and correcting and improving their conduct as they went along; the lack of these is the salient issue demanding resolution (p. 39).

The final issue identified was insufficient time for the internships: the students did not have adequate time to cultivate their skills and profit thereby (Adiguzel, 2008, p. 39). Rectifying this would enable them to achieve true mastery of their skills, true excellence, and in so doing to become the more competitive in the international workplace (p. 39). The time allotted unto the students was either two periods of thirty days' each, or else three periods of twenty days each. This time, put plainly and forthrightly, was found to be inadequate entire for the development of the professional virtues needed to ensure mastery of the disciplines (p. 39). Longer time is needed for the apprenticeship, that the interns may profit from the opportunity and master the knowledge on offer. The rectification of this lack would serve a great deal to remedy the deficits of vocational education in the Republic of Turkey (p. 39).

Remedying the problems with the regulatory environment would require efforts to lend puissance and strength to the legal substructure of industrial education (Adiguzel, 2008, p. 40). By so doing, the safety of the students may readily be assured, and the experience of education made the more profitable throughout. Insurance is foundational for assuring safety. Enterprises should also have to take into account the number of their employees when taking on trainees; this too would, to be very sure, improve their efficacy with regard to vocational education (p. 40). Thus, a sound regulatory environment is the solution proffered to the first problem identified by Adiguzel (2008).

Secondly, students must be adequately prepared for industrial education (Adiguzel, 2008, p. 40). A system of coordination, Adiguzel claims, would go a long way towards rectifying the problems with regard to preparing students for industrial education: such a system could be used "to classify the firms according to their job areas, to establish a relationship between the enterprises and students, and to control the appropriateness of education in enterprises to the goals" (p. 40). Such a system of coordination would ensure the overall success of the process: without an adequate system of coordination, it is no wonder that vocational education in Turkey has been subject to a great deal of inefficiency and a great many problems.

Protocols of cooperation would also greatly expedite the process of industrial education (Adiguzel, 2008, p. 40). Larger firms should be prioritized for giving industrial education, since larger firms generally have human resources departments accustomed to heavier turnover, and which are the more efficient and therefore much to be desired (p. 40). Competence must also be established for the partnership to succeed: it must be established which competences the graduates will be required to master, and what skills in which they must be proficient (p. 40). Once this is established, the curricula and all attendant educational programs can be reworked at need around these criteria (p. 40).

Adiguzel (2008) recommends also that on-site inspections be established as a matter of course, with standard protocols and structures to guide them (p. 40). The physical conditions of the workplace, after all, are of considerable importance, and care must be taken to ensure that they are entirely meet and appropriate for the process of vocational education (p. 40). Regular meetings must be established as a matter of course. These meetings should involve the student, the teacher(s), and the people involved with the student in the process of vocational education on-site (p. 40). The likely benefits are obvious: more learning for the student, and generally better coordination between all stakeholders (p. 40).

Finally, a longer time period is a fairly common sense measure to be taken: more time would allow the students a longer period in which to learn new things and apply those skills (Adiguzel, 2008, p. 40). This in turn would increase their marketability once they are looking for employment. Adiguzel recommends increasing the length of time for the total education of an engineering student from four to five years, thereby freeing up time that can then be utilized for research specialization, case in point, and vocational education by means of participation in a company (pp. 40-41).

Concerning vocational education in Turkey, and the prospects for the reform thereof, Nursoy (2008) analyzed the prospects for applying a certain system of vocational training developed in the EC and the USA to Turkey (p. 603). This system is technology engineering, long established in the advanced Western democracies but completely new to Turkey (p. 604). Nursoy took a survey of 64 companies in Ankara, each of which employs more than 30 employees (p. 606). What Nursoy ascertained was that inadequate consideration was given to the all-important functions of research and development (R&D) by the small and medium sized enterprises (SMEs) (p. 606). By comparison and contrast, the larger enterprises typically had an active R&D program, or else a product development department (p. 606). The explanation for this is relatively simple: SMEs are typically engaged in the production of

products which are purchased by larger companies, whereas the larger companies must develop the products needed to compete in the global marketplace (p. 606).

Nursoy also found that many companies had complaints about the technical qualifications, or lack thereof, of the people they hired, new graduates from Turkey's technical high school and vocational higher school (p. 606). According to Nursoy, a decrease in enrolment is hurting these schools, and making for a lower quality overall (p. 606). In particular, the technicians are inadequate for their poor analytical and problem-solving abilities, lack of communication skills, and finally poor manual skills (p. 606). How to explain such abysmal results? The key problem, Nursoy reveals, lies in a mismatch between the nature of an engineering education in Turkey, and the actual requirements of a real engineering workplace in industry (p. 607).

In general, an engineering education in Turkey is oriented towards science, and soundly grounded in theory, though much less so in practice (Nursoy, 2008, p. 607). As a consequence, graduates of engineering schools emerge with heads full of theoretical and scientific knowledge, but little of the sort of practical experience necessary to build real skills in their chosen field (p. 607). This is a problem in the industry, where engineers are expected to have precisely these skills, in order to run manufacturing systems and carry out associated, attendant processes (p. 607). Engineering work often requires good teamwork, and very few engineers work in the research and development field (p. 607).

These problems are considerable, but the solutions proposed by Nursoy (2008) are elegantly simple. Of the most seminal importance is the modification of certain institutions to improve the training of technical teachers, so that they are in turn equipped to train new corps of engineers in precisely the sort of practical knowledge needed to meet the requirements of the industry (p. 608). The proper training of technicians can be affected precisely by altering the curricula of the technical high school system in order to facilitate hands-on, practical training that gives students the sort of applied knowledge they will need if they are to succeed (p. 608). By so doing, Turkey can indeed acquire a system of engineering education capable of training competent engineers.

Appropriate curricula constitute an important dimension of vocational education as well. Should the curriculum not adequately promote the development of the requisite skills and capabilities for the field, the student will be left the worse, ill-prepared to confront the complex demands of an active workplace in a technical field. It is therefore of the most foundational and paramount importance that the curriculum be well-informed and informative, conducive to the acquisition of the needed knowledge. Perhaps nowhere is this

more important than in the health industry, as Clase (2008) reveals: in pharmaceuticals and in biotechnology, innovative scientific discoveries are pushing forward the frontiers of knowledge in the most precipitous and transformative fashion, precipitating a corresponding and concomitant need for a new crop of highly skilled and well trained young people to fill positions in the life sciences (p. 12). With products and services on offer in the industry ever more sophisticated, ever more wondrously complex, it is absolutely essential that the students possess the knowledge needed to master the discipline in question (p. 12).

In an effort to address the educational needs of students planning to enter such biotechnology fields, Purdue University is leading the way with a new academic minor: Biotechnology (Clase, 2008, p. 13). This minor is the result of a fruitful collaboration between the Colleges of Pharmacy, Science, and Technology (p. 12). The goal of this educational endeavor is to promote the appropriate knowledge by means of a laboratory environment that is interactive, wherein students can engage in research and acquaint themselves with the scientific processes so necessary and foundational to their jobs (p. 13).

A number of actionable, concrete goals have been articulated for this curriculum, the first being to increase the students' facility with the subject matter (Clase, 2008, p. 13). This is, of course, necessary that the student may understand the requirements of the field, and the nature of the incredibly complex, skilled work to which they are called. The second goal is instruction in the development of scientific reasoning (p. 13). This is done, that the mind may be equipped to set itself unto whatsoever tasks the student may be confronted with: scientific reasoning will facilitate the surmounting of problems and the removal of obstacles of all kinds. To wit, scientific reasoning is a kind of 'meta-tool' which facilitates more efficacious operation throughout (p. 13).

The third goal is the promotion of an enhanced comprehension of the oft-mysterious complexity and ambiguity of the work to which the student is devoted (Clase, 2008, p. 13). After all, such work is often very complex, very ambiguous, and loaded with many variables and uncertainties: resolving this, peering through the swirling phenomena in order to augur that which is needed is a skill of the most profound importance (p. 13). The cultivation of practical skills is another goal: after all, the student will need many practical skills, panoply of them, in order to successfully pursue a career in the life sciences (p. 13). Promoting a greater awareness and understanding of the nature and character of the scientific enterprise is another goal: the student must cultivate their mind in a scientific manner, becoming transformed in the nature of their thought processes such that they may understand the true character of science (p. 13).

With understanding, too, must come interest: a true interest in science and that which it can reveal and make known (Clase, 2008, p. 13). The promotion of an interest in science, then, is another goal of the most profound and foundational importance (p. 13). Finally, the promotion of teamwork abilities is the final key goal to which the curriculum is devoted, and about which it is built: that the student may master the crucial social skills necessary to work with other students in a research and laboratory setting (p. 13). By promoting all of these goals, the university may realize its goal of initiating a new crop of students into the field, having more than adequately prepared them through vocational education for what lays ahead (p. 13).

The biotechnology program at Purdue University, then, is a good example of what can be achieved in vocational education with a sound strategic plan to guide the educational process: a curriculum that is designed to enhance knowledge, understanding, and interest (Clase, 2008, p. 13). The goal is very much to promote the development of the skills needed to do research correctly and well: the higher order thinking, the devotion to research and inquiry, all of which makes possible a great deal of learning (p. 13). This prepares the student to be competitive in the workplace, able to surmount the challenges that lie ahead. Unsurprisingly, this program is an integral part of the grand strategic plan of Purdue University: through the promotion of interdisciplinary collaboration, it facilitates the strengths of the university in the life sciences and in technology, positioning students to make their own contributions to biotechnology (p. 13). For technology and life sciences, the focus is on providing the opportunity for the student to engage in hands-on research (p. 13). The particular applications singled out are genomic, proteomic, and bioinformatics (p. 13).

Such a linkage between education, industry, and enterprise is precisely the way to reform vocational education in order to facilitate an effective program. Indeed, writing on the need for reform in Computer Application Technology (CAT) in China, Qiming (2012) points to this tripartite linkage as foundational. According to Qiming, there are two key problems in higher vocational education in China today: some cross-section of the student body consists of apathetic students, students who have little interest in their courses and even grow tired of learning (p. 147). This leads to poor results indeed, as the students are not sufficiently motivated and therefore do not take the initiative in studies and get poor grades (p. 147).

A second problem is similar to that elaborated upon by Nursoy (2008) for Turkey: a severe mismatch between what graduates know how to do, what they have learned, and what employers actually want (Qiming, 2012, p. 147). Qiming identifies a number of causes for this, the first being that higher vocational colleges in China attract many students who are

very poorly-performing students with little motivation to improve (p. 147). Secondly, the course materials themselves are often too difficult; at least given the caliber of students they typically attract (p. 147). Moreover, the pedagogy leaves much to be desired, since courses are typically taught in a manner not unlike that of undergraduate and vocational colleges (p. 147). Finally and perhaps especially egregiously, courses related to students' majors are simply not geared toward the requirements of the market: they do not reflect demand at all (p. 147).

The path to reform begins with proper emphasis on the correct application-oriented talents needed to succeed in the marketplace (Qiming, 2012, p. 148). To do this, it is necessary to orient majors toward the actual requirements of the field: majors must be strategically aligned to prepare students for the requirements of the positions they hope to hold (p. 148). Market analysis should be conducted accordingly, in order to ascertain what skills truly are in demand (p. 148). By these means, China can programs that breed success, by equipping students with the very competencies and skills needed to succeed in the market (p. 148).

In addition to market data, Qiming (2012) suggests, interviews with the students should be used to guide the way as well: the schools need to know how capable the students are, and what are their knowledge and practice needs (p. 148). By so doing, the school can ensure adequate preparation of the students from the curriculum (p. 148). Qiming also recommends a Major Guidance Committee, one tasked with determining requirements for the students and how to carry out these requirements in practice (p. 148). Qiming gives an example of how this system could be applied to the CAT major in Wenzhou Vocational & Technical College in Zhejiang Province: information from the IT industry, including from software and cartoon associations, should be used to start with (p. 148). Given the presence of an Information Management Major on campus already, the CAT major is more focused on "network maintenance, multimedia technology and software programming as cultivation content" (p. 148). Additionally, the strongest demand for IT in Wenzhou City is for middle-level talent (p. 148). The next step is the students, who fall into two types: firstly, "senior high college graduates, who are good at logical thinking and have good study habits but poor practical skills," and secondly, "secondary vocational college graduates, who are weak in logical thinking but strong in practical skills" (p. 148). The Major Guidance Committee can then carry out its summary analysis of the directions in which the major should be aimed: what should be required of the students, and how they should be taught, etc. (p. 148). Realistic aims must be developed: indeed, this is a crucial aspect of this phase (p. 148). In so

doing, the reform effort based on tripartite linkage may successfully be realized, enabling the CAT major to turn out truly competitive and industry-responsive graduates (pp. 148-150).

2.2 Conceptual Foundations

By reviewing the contemporary academic literature, it has been found that there is not much attention given to alternative measurement processes that are designed exclusively for programs. This may be clarified by the perspective of considering programs as bigger types of projects (PMI, 2004, 2008). For this reason, the traditional evaluation methods are seen as appropriate however, they do not allow comprehensive analysis for projects and programs (Cohen & Graham, 2001). As stakeholders can have a great influence on the outcomes of projects and programs (PMI, 2004, 2008) excluding some of the stakeholders can cause a limitation in the requirements or rising issues all through the programs.

To discuss the existing approaches to the measurement of programs it is essential to mention that the performance of a program includes an assessment of the progress. The objectives and the advantages of the synchronized projects are also realized. When the program performance is evaluated, the process of managing the projects and activities and the related operations are considered. Product delivery is also assessed against the expectations of different stakeholders. When any program is designed, the needs of the stakeholders should be considered. The achievement of these needs has to be tracked throughout the life cycle of the program. The expectations of the stakeholders' are part of the planning. They are documented, traced and evaluated as part of the whole evaluation process (Barclay, 2008; Hartman & Ashrafi, 2002).

Effective management of the evaluation process the strategic decisions should consider the current position of the program, changes and corrective actions to meet the end goals. The evaluation would not be effective without having criteria that reflect stakeholders' values and needs. Assessing the program schedule, product's specifications and cost is not enough to provide a holistic analysis for programs or projects Cohen & Graham, 2001).

Therefore, methods for evaluating the value creation opportunities of programs and projects have emerged. The value creation concept led to a re-evaluation of the traditional ideas. Normann, (2001) suggests that the main purpose of businesses is to empower their customers to create value from their services or products rather than them creating value for their customer. This point of view has been adopted by Winter and Szczepanek (2008). They suggested using this concept to programs and projects to make the customers create value

from a program or project. They also recommended that there is a need for further conceptual frameworks to facilitate the thinking of projects and programs' value creation processes and opportunities.

This perspective is in line with the purpose of this paper. The outcomes of the vocational education in the UAE need to be evaluated effectively with a focus on the stakeholders' needs. A new evaluation approach is required to ensure the program is empowering the learners to create their own value creation as a result to the outcomes of the program.

On the other hand, Ipsilandis, Samaras, and Mplanas (2008) suggested the Multi-criteria Satisfaction Analysis (MUSA) method for evaluating the outcomes of programs. This approach has been used successfully for assessing customers' satisfaction. The customers' feedback is seen as a reliable source of assessment as it reveals clearly their needs and their satisfactions. Ipsilandis et al. (2008) used this approach to analyze project managers' satisfaction of the criteria applied to measure the results of projects, relevant operations, organization's support and project team performance. However, by looking thoroughly at the objectives and stakeholders' needs of vocational programs, it has been found that a more sophisticated approach is required.

Reviewing the literature of program measurements, MORE approach has been selected as the most relevant tool to the subject of this paper. MORE relies on four processes; identify, define, analyze, and realize a program's strategic values by knowing the points of view of a group of stakeholders. The phases of MORE are deliberately arranged to line up with the management processes to emphasize that the measurement analysis is a fundamental part of the process. This should lead to the achievement of the strategic vision of the program. Moreover, by using The Value-Focused Thinking approach will help in providing a base for evaluating the performance of vocational education activities and would enhance the decision making process (Keeney, 1996). Therefore adapting the measurement approach to become an objective-based program would create definite targets and more accurate measures. In addition, involving The Goal Question Metric (GQM) in the evaluation approach will entail that the vocational institutions specify and track their objectives.

2.3 The Multi-Objective Realization Method (MORE)

The Multi-Objective Realization Method (MORE) is an assessment framework to measure the strategic offerings of a program to stakeholders.

MORE includes four main processes, which are respectively; identify, define, analyze, and then realize. The realization process involves realizing the strategic values of the program from the stakeholders' points of view. MORE phases are deliberately arranged to line up with the management process of the program. Eventually, it is part of the management process applied to ensure the strategic objectives of the coordinated projects are met.
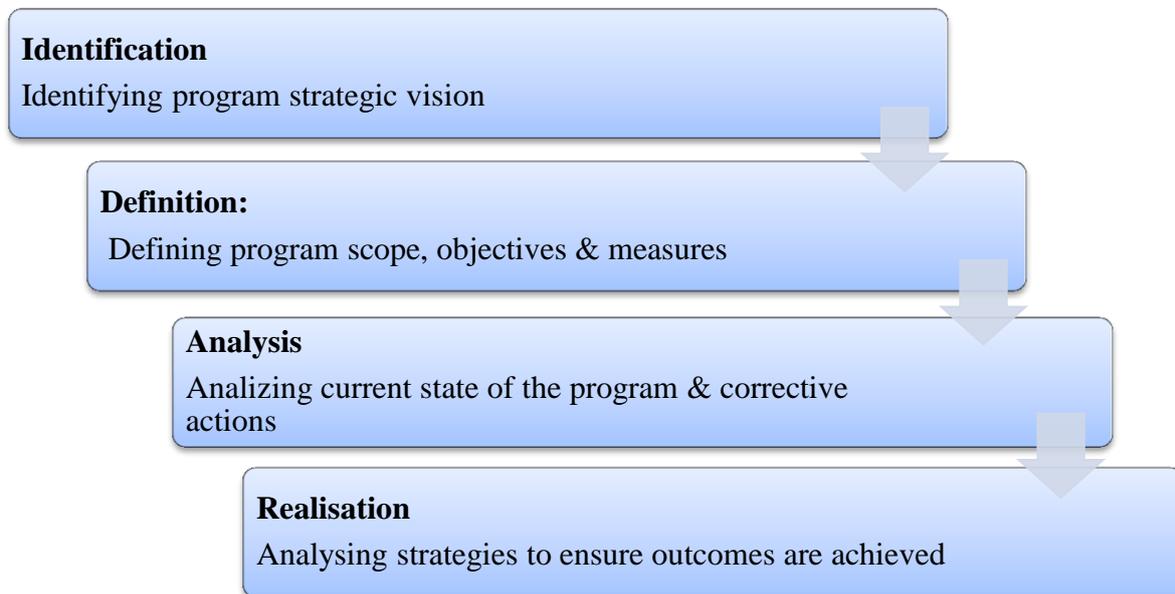
Identification
Identifying program strategic vision

Definition:
Defining program scope, objectives & measures

Analysis
Analizing current state of the program & corrective actions

Realisation
Analysing strategies to ensure outcomes are achieved

Figure 1: More Frameworks

MORE approach emphasize on the plan-do-check-act cycle of projects (PMI, 2004, 2006). The first phase of the process is identifying the process and the program stakeholders. The second phase is developing program's strategic objectives and appropriate measurements. In this phase the objectives should also be prioritized. The third phase is monitoring, analyzing and assessing the organization's performance against the objectives. These objectives should be aligned to the Project Performance Scorecard (PPS). The fourth process is finding out if the program's objectives have been met and if the benefits have been realized.

The MORE approach has several key characteristics that contributes to the effectiveness of the approach in evaluating programs.

- Stakeholders are actively involved. This results in improving the communication process and in enhancing the management of expectations (Agarwal & Rathod, 2006)
- The formal elicitation of program objectives and their measurements. This characteristic leads to effective coordination and development of the key performance

indicators and measurements resulting in better quality of performance (Barclay and Osei-Bryson, 2009).

- The formal design and development of measurements. MORE approach deals with the measures as a management decision model which results in designing effective methods and enhanced practices to achieve the objectives (Barclay, 2008). The clear measurements give the stakeholders a clear idea of the program and the objectives and answer their questions (Barclay and Osei-Bryson, 2009).

- The continuity of performance analysis. As aforementioned, the plan-do-check cycle is embedded in the MORE approach. This enhances the monitoring of the organization's performance and allows a meta-evaluation process. The approach has a learning system added to the cycle thus resulting in creating a learning organization (Barclay and Osei-Bryson, 2009).

- The management by objectives approach. This characteristic contributes to the realization process to ensure that all the strategic objectives are achieved and stakeholders are satisfied (Barclay and Osei-Bryson, 2009).

In addition to the above advantages and key positive characteristics, the MORE approach applies effective systems related to evaluation. The method relies on the principles of the PPS providing an evaluation framework that uses the six dimensions of stakeholders, project process, quality, benefit, innovation and learning, (Barclay, 2008). This method relies on multiple established perspectives including the balanced Scorecard approach (Kaplan & Norton, 1992). The PPS has been developed exclusively for projects; however it also applies for programs. The MORE approach is also linked to Goal Question Metric (GQM) techniques (Basili, Caldiera, & Rombach, 1994) in order to develop a strategy for drawing out objectives and measures framed within the dimensions of the PPS.

The GQM approach is taken originally from engineering software dedicated to develop performance metrics that are in line with the project goals and related activities (Basili, Caldiera, & Rombach, 1994). The GQM approach helps to tailor goals and measurements to the program.

The GQM approach has been used successfully in evaluation exercises resulting in sound decision making in different program settings (Basili, Vishkin, & Gilbert, 2008). The multi-objective realization method (MORE) will be used to evaluate the vocational education programs in Abu Dhabi. For the institute, the GQM framework is necessary to create defined targets. The institute has to specify its own objectives and the objectives of stakeholders,

track the objectives to the sources of will define the operation objectives. Once these processes are done, a framework for interpreting the relevant data must be provided to link the objectives to the outcomes of the program (Basili, 1999).

El-Haik and Shaout (2010) write of GQM, observing that seminal feature of GQM: namely, its ability to make manifest the fact that the explicitly stated goal of the project is of the most foundational importance if improvement is to be achieved in the course of the project (p. 113). It is indeed by means of GQM that goals may be systematically integrated to the software processes foundational to the project (p. 113). This is the great determining feature of GQM, a strategic operational characteristic that makes possible the determination of the course of the project: it serves as a lodestar, guiding the course of the project by establishing and making firm its foundational character (p. 113).

What, then, if it is determined that the project must needs be improved? By what means can GQM be utilized to affect this? GQM provides the answers: measurement goals must be drafted and laid down, that they may be taken and refined, made into questions (El-Haik & Shaout, 2010, p. 113). These questions can then be used to craft metrics that will supply the answers to the questions (p. 113). To facilitate all of this, GQM delineates a three-level model of measurement, the first level of which consists of the conceptual level, wherein the goal(s) is/are articulated (p. 113). The desired outputs are established here, and the desired results for the program are articulated (Kendrick, 2012, p. 77). Thereafter comes the operational level, the level wherein the question(s) is/are posed, establishing the contours of the inquiry (El-Haik & Shaout, 2010, p. 113). In this second tier, questions are posed in order to ascertain the means by which the objectives are to be achieved (Kendrick, 2012, p. 77). Thereafter comes the quantitative level, the level of metrics: here it is that outcomes are measured and recorded (El-Haik & Shaout, 2010, p. 113). In this third and final tier, the measurements are established and made firm, measurements whereby the questions may be answered (Kendrick, 2012, p. 77).

Now concerning the MUSA method, Joao, Bana e Costa, and Figueira (2008) write that it is an effective model, entirely meet and right for correctly measuring qualitative data, specifically customers' judgments (p. 168). It is indeed efficacious toward such ends, these authors conclude: it enables the researchers to reach correct conclusions about customer satisfaction regarding things such as food and hotels (p. 173). Indeed, it is most efficacious at measuring individual satisfaction, and deriving also collective value functions, and weighting various characteristics to be measured (Levy, 2006, p. 110).

Specifically, MUSA is indeed very good at providing nested satisfaction levels (Levy, 2006, p. 110). Such a schematic might well have an overall satisfaction level—say, measuring customers' overall levels of satisfaction with a hotel—which in turn depends on a number of subordinate levels (p. 110). Now, the overall metric is of considerable importance. Nonetheless, it cannot be understood without breaking it down into its constituent, subordinate parts: indeed, how else would one make sense of it?

Let us suppose that a customer has a mixed experience at a hotel. She gives the hotel an "average" rating overall. But this is in no wise the whole of the story, for she has different ratings for different aspects of her hotel experience, and different valuations of how much each of these aspects matter. Let us say that she found the food to be terrible, of unacceptable quality. This skews her rating downward, but—again, let us suppose—as it so happens, she expects hotel food to be terrible, and so this does not count very much. What else? Let us say that she assigns customer service a much higher weighting, and sure enough, she found the customer service lackluster, altogether mediocre: not abysmal, merely middle-of-the-road. This is a considerable disappointment, however, given what she paid for her room, so this is a significant negative mark indeed. Perhaps the quality of her room was acceptable overall, save for the fact that the Wi-Fi was of poor quality. Now we have a much better picture of her "average" rating of the hotel, and some very clear pointers for how the hotel should improve.

Is MUSA, then, a better approach than MORE? Let us consider: MUSA is outstanding at measuring nested levels of satisfaction, which makes it ideal for people seeking, say, to figure out what aspects of their hotel experience customers did and did not enjoy. Well and good, but MORE has multiple levels of analysis as well: four main processes which are geared towards precisely the kinds of evaluations demanded of this study. Thus, MORE is to be preferred, given the requirements of this study, and what is expected from the data that will be gathered. Particularly given that, as has been established, MORE will be used in conjunction with GQM, MORE is the preferred option here, and the one that has been chosen accordingly.

3. Proposed Evaluation Methodology

Based on the literature review, the proposed model to be used in the ABC Institute is the MORE evaluation model. The reason behind the selection the MORE model is as follows:

3.1 Identification Process

The identification process is the formative stage of the MORE frameworks. First, the vision of the program is identified to assist in identifying the stakeholders. This stage is critically important as the program's activities will be formed and evaluated accordingly. The stakeholders are all the individuals and teams involved and affected by the program outcomes. According to Pouloudi and Whitley (1997) interaction with stakeholders facilitates the reflection of the changing conditions refines their requirements. By identifying its stakeholders, the institute will have a better accounting for stakeholders' objectives and values. In this case, the stakeholders are the students, Tawteen, and the employers. The institute considers their stakeholders 'needs in the planning and execution of programs. The gap is in the outcome evaluation method. The current evaluation method does not involve any measurements concerning the impact of the programs on the stakeholders. The outcomes of the programs are not mapped against the long term impact of the programs nor does the method involve the stakeholders in evaluation this impact.

3.2 Definition Process

Objectives and measures of the vocational programs are to be elucidated and developed. Based on MORE approach, eliciting the objectives will generate a large pool of program objectives. At this stage, the institute needs to consult both; internal and external stakeholders providing that management insights are critical at this stage. The objectives have to prioritized and refined to program scope. The direct communication with stakeholders is critical to make sure their requirements are met and considered in the evaluation. Once the objectives are identified they have to be prioritized and organized using the PPS techniques (Barclay and Osei-Bryson, 2009).

The management should examine why each objective is important in order to reveal the relationship between the different stakeholders' objectives. In addition, management should check if any objective is missing and should analyze the relationships between stakeholders and institute's objectives. It is worth mentioning that this process may raise the need to a set of different measurements and success indicators. The measurements and the performance objectives are to be aligned through the analysis of objectives. Meeting with the relevant stakeholders is the next step in order to determine how success may be characterized. To identify the proper measures based on stakeholders' needs, it is effective to use the GQM technique.

Some of the measures that should be considered are the new solutions, change in the number of students and consequently the revenues, results of the students' satisfaction survey, and the level of conformance to governmental procedures. Another critical control point is the need of the market and the performance or former students. Thus the evaluation of the outcomes should involve the long term objectives of stakeholders and this will reflect on the performance of the institute. The suitability of the measures to the objectives has to be validated after it is completed which may reveal more objectives. Monitoring the implementation of activities in relation to the objectives should be done throughout the program (Barclay and Osei-Bryson, 2009).

3.3 Analysis Process

The analysis of the progress against the identified objectives is a continuous process carried out at the program level. The program schedule is an effective tool the will help the program team to track the accomplishment of objectives. Corrective actions will be taken when needed to meet the program objectives and targets (Barclay and Osei-Bryson, 2009). It is worth mentioning here that the outcome of each objective should be analyzed independently before analyzing the general outcome of the programs. The objectives of the institute as well those of the stakeholders must be measured carefully. The More approach will allow the institute to measure the outcomes of the programs on relation to their impact on the external environment. The analysis process will provide a foundation for the planning phase of future programs. The planning will consider the ever changing needs of the stakeholders along with the goal accomplishment and development of the institute.

3.4 Realization Process

The realization is an incessant process and may be extended beyond the closure of the program Osei-Bryson (2009). Objectives related to the number of students in the next academic year may not be revealed and the results will not be instant. However, it will help stakeholders in verifying if the vocational programs have provided the market with competent and skilled workers. Therefore, the evaluation of the outcomes will be extended to include the long term goals and needs of the stakeholders. It may include the percentage of employment, the positions acquired by the students and the future needs of the market. The realization process reveals the lessons learned that will enhance the performance of the program and

other projects within the institute. The key lessons learned contribute to the programs activities and to the relevant measurements (Barclay and Osei-Bryson, 2009).

The next section discusses the methodology used to obtain the required information relevant to the evaluation method applied in ABC Institute. The findings of the research will be compared to the proposed model.

4. Methodology

The research uses qualitative research approach to answer the research questions. The data collected will be analyzed to come up with a concluding result and useful recommendations of the research (Grinnell and Williams 1990). The case study approach is used to evaluate the vocational education programs in Abu Dhabi. Researchers promote the case study approach to investigate happenings in real life situations and this includes organizational processes (Yin, 2003). A case study is an empirical investigation of a current phenomenon occurring within a real-life context (Yin, 2003). This approach exemplifies an account of previous or existing phenomena drawn from various sources of data (Leonard-Barton, 1990). The sources include interaction with program stakeholders. The case study approach is used use because it provides better understanding to the context of the research. It also helps in maintaining the momentous and holistic features of real-life events (Yin, 2003). To collect information about the current evaluation methods used, in depth interviews are conducted with three key people working for one of the vocational education institute in Abu Dhabi.

4.1 Interviewees' Selection Criteria

It is important to note that the size of the sample is small to achieve more in-depth information from experts in the field. The interviews are designed to provide detailed information about the current evaluation system through exploring further questions and reflection form the interviewees. The small number of sample, however, has its limitations. Since the sample is from one vocational institute, the research findings cannot be generalized. The possible threat is that the interviewees do not provide correct information in order to put their institute in a better position.

The sample has been selected based on a set of criteria to identify the key people who would be able to provide the researcher with the required information relevant to the research questions. The criteria for selecting the respondents are: being in a managerial position,

involvement in the evaluation process and working for a vocational institution operating in Abu Dhabi.

The institute was selected as the research case study because it is one of the biggest institutions as is considered as a role model to other institutions. The institute has advanced systems and is managed by a highly qualified management team. It is anticipated that the ABC Institute's evaluation framework would reflect and represent the frameworks used in other institutes. The in- depth interview method has been selected because it helps to acquire detailed information based on the respondents' experience in the researched topic (Grinnell and Williams 1990). For the interviews semi-structured questions are used. Record keeping is maintained through collecting the interview notes. All the sources of evidence are managed carefully to lead to the same findings. The developed chain of evidence is stored as hard and soft copies.

The next step after identifying the participants, emails were sent to them to set interview appointments. The researcher gave the participants a brief about the research objectives stating clearly it is part of a Master's program. It was agreed that the interviews will last from 45-60 minutes. The participants were insured that their identities will not be revealed and that the outcome of the interviews will be used for educational purposes only. The interviews occurred in the participants' offices to be able to look at supporting documents when required. The timing of the interview was after working hours. The participants' offices and the timing ensured the quiet and comfortable environment to conduct the interviews. As participants requested not to video or audio tape the interviews, the researcher took clear notes. The notes attempt to provide the researcher with the latent content as well as the participants' responses.

4.2 Structured Interview Questions and Probing

The interview questions are a result of a close examination of the research problem and the information collected from the literature review. The questions are semi-structured. In other words, the researcher will use a set of questions but then will ask follow up questions based on the flow of discussion. A common question is used to start the dialogue, then the researcher is allowed to explore far beyond the responses to the prepared questions Berg (2001). This type of questions allows the researcher to explore certain subject areas in more depth. Merriam (1998) argues that the researcher needs specific information from the participants in a semi-standard interview. In the interview, there would be a structured section

but the biggest part of the interview is guided by a set of undetermined questions to be explored.

4.3 Interview Questions

Interviews have been conducted with three key people working for a well-established vocational institute in Abu Dhabi. The respondents are namely; 1) an academic manager, 2) a head of department, and 3) a project management teacher. Surprisingly, the institute does not have a project management department. However a project management program is currently running in the institute. The project management teacher was selected as respondent because he acts as a project management consultant. In addition, he is assigned to do administrative tasks related to project management.

The interviews were kept short and the questions were limited to three main structured questions to initiate the discussion. The rationale behind these questions is discussed in this section.

4.3.1 Question 1

Scheduled question: How would you describe the evaluation method currently applied in ABC Institute?

Question 1 is closely related to the main topic as it shows the characteristics of the currently applied evaluation method thus it forms the base of the whole discussion. The question is non-leading and at the same time is provides a clear introductory to the subject. The question allows the researcher to obtain facts related to the research topic. In addition, the researcher will be able to look at the issue from the experts' perspective.

Follow up questions:

- Will you please specify the evaluation methods currently applied to assess the outcomes of the vocational programs?
- What are the tools that you apply throughout the evaluation process?
- Is the same process applied through all the departments?
- Do you see that the current methods are effective enough to enhance the outcomes of the programs?

4.3.2 Question 2

Scheduled question: who are the internal stakeholders involved in the evaluation process?

The rationale of this question is shedding light on the owners of the evaluation process. It provides information on the departments and managers involved in the process and help to detect any gaps in the process.

Follow up questions:
- Will you please define the responsibility of each internal stakeholder?
- Are all the stakeholders involved in the process competent enough in this field?
- Have you ever suggested a change to the existing methods?

4.3.3 Question 3

Scheduled question: who are the external stakeholders involved in the evaluation process?

The rationale of this question is obtaining adequate information about the influence of stakeholders' contribution on the evaluation process. This question is closely related to the research program. Enhancing this part of the evaluation process would result in enhancing the evaluation process in general.

Follow up questions:
- Do you take the external stakeholders' feedback seriously?
- Can you give me a percentage of the changes that occurred as a result of external stakeholders' feedback?
- Does this include the employers?
- Do you obtain employers' feedbacks that employ the program graduates?

The researcher interfered with a follow up question when a clarification is needed. As the three respondents are from one institute, the information provided was almost identical which facilitated the coding process.

4.5 Data Analysis

To analyze the interview findings the method of Grounded Theory (Glaser and Strauss, 1967) was applied. The theory is also well-known as open-coding. Theories are either presumed from the researchers' logical assumptions or from the researcher's observations. As per Glaser and Strauss (1967), the Grounded Theory is a qualitative approach to develop theory from researcher's observation. The theory maintains flexibility and at the same time gives the structure that is usually unavailable in other qualitative approaches. The generated theory explains the categories, relevant concepts and properties, and clarifies the relation between them. The end result should be a new piece of knowledge to be grounded in data.

To achieve the purpose of the research and to collect relevant information, the Grounded Theory is applied and the interrelations between the categories are explained. Throughout the development of the emerging categories, the data will be reduces. As a result to the process, the patterns will be realized and the theory will be developed.

The procedure starts with a thorough reading of the interview transcripts and the researcher's notes. The process is named the open-coding. The aim of the open-coding process is finding and labeling the variables. Strauss (1995) argues that the open-coding process is suitable for research applying single case study and research with a small number of respondents. Data analysis using the open-coding improves understanding and provides a clear insight and guides the researcher to explore the new topic. In summary, the open-coding enables the researcher to build theories through "defining concepts and developing categories in terms of their properties and then later linking categories through statements of relationships" (Strauss, 1995).

Corbin and Strauss (2008) are clear that open-coding requires a process of brainstorming in order to ascertain the sum total of potential and possible findings that may be contained within the data (p. 160). Now within the data may be found many concepts, ranging from lower to higher levels: the latter compose categories or themes, into which the former may be grouped (p. 160). In order to ascertain the concepts, it is therefore necessary to examine the data most thoroughly, with an eye towards gleaning the essential concepts from within. Only when this has been done can data analysis proceed (p. 160).

Inasmuch as the interviews conducted concerned methods of evaluation for vocational education, the data centered to no small degree upon vocational education. The numbers of students enrolled, and the numbers graduated, were of interest. Education, then, was one

important category, and closely linked to it, achievement. The individuals interviewed explained that different methods were used to evaluate education; the first of these centers upon goals. Here, then, is reification of the themes of education and of achievement. As will be detailed in section 5, this method of evaluation is concerned with the goals of the progress of programs, the meeting of deadlines, and the adequacy of resources. The elements of this method, therefore, were very much concerned with progress, deadlines, and metrics concerning the adequacy of resources, the number of students served, and the number that actually graduated. From all of this a higher-order concept might be articulated, namely that of evaluation.

Now the second method defined and established was evaluation on the basis of processes: evaluation on the basis of how any given vocational program actually worked, and the results produced thereof. The theme of evaluation was reified here, because the emphasis was clearly on evaluating how well each and every process did in serving the needs of students. For example, the first means identified was that of reviews carried out by the teachers themselves, wherein they evaluated the curriculum and the means of assessment. The second means identified was that of teacher-facilitated lesson observations, with detailed reports of success factors and obstacles. Evaluations by academic managers and senior registrars followed. All of this established and made fast the theme of evaluation, and added to it the theme of process: there is a concern, then, for how things are done and how well they are working.

Evaluations carried out by the third method identified centered upon outcomes, and were carried out solely by the senior manager's office. Of these, the focus was on the utilization of the data from the two previously described methods, as well as measures of students, market needs, revenues and costs, content of programs versus agreed-upon standards, and customer satisfaction. Evaluation clearly emerges as a theme, as well as control: this is measurement carried out for the purposes of control. This theme is the more manifest when one looks at the picture in totality, and ascertains that the purpose of all of these evaluations is to measure the different aspects of the phenomena in question, in order to control and improve them in beneficial, efficacious ways.

It was clear from talking with the individuals in question that there is a great concern at ABC to involve all stakeholders in all relevant processes. Participation emerged as another significant theme, as the three participants in the study emphasized the degree to which these processes of evaluation are designed to ascertain how capably ABC is meeting the needs of students for a good education and of the industry for qualified, capable individuals with the

kinds of skills and abilities that are truly in demand. This, then, emerged as a crucial aspect of evaluation and achievement: a key focus in evaluation was making sure the relevant parties were appropriately served, and this was taken as the signal measure of whether or not the programs had succeeded, truly achieving their goals.

Of course, stated values and intentions are not always realized in practice. It is important to not simply take values, goals, and ideals at face value: in the working of a complex organization, with a division of labor and responsibility between many different people, it is entirely possible and indeed likely that some ideals and some goals will not be perfectly realized in the manner intended by the policymakers of the organization. Indeed, a key function of grounded theory is getting beyond one single layer of explanation to look at not only what participants say they do and why, but also the unstated assumptions, intentions and motivations that may lie behind their actions (Gray, 2009, p. 502). Accordingly, this study attempted to probe more deeply by asking the participants about specific evaluation methods currently in use for the purpose of assessing the outcomes of the vocational education programs, and the tools that were used as well.

Other questions involved asking the participants to define the responsibility of each of the stakeholders. It is all well and good to talk of giving priority to listening to all stakeholders and involving them in the process, but what does that actually look like? Participants were also asked about the competence of stakeholders. The overall goal here was to see whether the participants would describe a set of practices that actually, truly made an effort to involve all stakeholders. The organization might, for example, believe that it is meeting the needs of all students for a good education, but be basing this on faulty appraisals of the contributions and performance of the students as stakeholders in the system. This in turn might be based on not truly, fully listening to the students. Thus, the evaluation process might be guided by the best of intentions, and the university might genuinely believe that it is doing well by its students, and yet the reality might still be something very different. Only by asking the right questions, and sometimes reading between the lines, can discrepancies between stated ideals and actual actions be identified.

In fact, as will be discussed more fully in subsequent sections, these questions uncovered some very important results. While ABC University has effective processes in place to measure outcomes for most of its stakeholders, particularly the students, there is a very important lacuna with respect to evaluation of external stakeholders, i.e. the employers involved in, or at least considered as important for, vocational education programs. Although these external stakeholders played a role in that they gave input regarding the needs of the

market and the efficacy of the program while it was underway, they were not consulted for follow-up feedback after the program drew to a close. Thus, the outcomes of the program, and how well it did overall, were evaluated within the university itself, without consulting employers and industry experts. There were no target outcomes, and the only tools for communication and gathering metrics of outcomes were occasional informal conversations.

Thus, there was a significant deficit in ABC University's assessment and evaluation processes, a deficit that undermined the overall ability of the University to ascertain the efficacy of their vocational education programs. After all, if the goal of vocational education is to produce graduates who will be able to fill highly skilled positions at certain employers, then it only makes sense to consider the desires and needs of those employers, and the outcomes that they report with their new hires. The fact that ABC University did not follow up with employers and industry experts after the program's conclusion, and relied instead on internal evaluations, bespeaks certain unstated assumptions about the contribution of these external stakeholders, and the proper roles of internal versus external stakeholders, and what data should and should not be collected.

From this, a significant theme that emerged from the data analysis was a blind spot where the external environment was concerned. The University was focused on its own internal environment, and this effectively constituted a bias, however unintentional, against fully considering the circumstances of external stakeholders. As an organization, the University was not adequately interacting with its external environment, and as a result it did not take in adequate information to better inform its activities and processes. There was a gap, then, between what these participants said was important in the university, and at least some of what was actually occurring in the university. By using grounded theory, this gap was identifiable in terms of ideals versus realities. The discrepancy could also be pinned down to certain assumptions that guided the priorities of ABC University policymakers, assumptions and priorities with major ramifications for the assessments of the outcomes of the programs.

When using open coding to analyze a qualitative research, the researcher plays the role of the primary instrument. The researcher identifies the concepts and assesses their value to the research. The researcher is allowed to modify the research approach according to the needs of the research. He/she can notice and identify the hidden content in the researched subjects. However, the researcher has to be aware of his/her prejudices and should avoid them to enhance the validity and the reliability of the research results.

Corbin and Strauss (2008) recommend that guiding questions be open-ended, thereby encouraging one's respondents to give an answer that is fulsome and truthful (p. 73). This helps to avoid loaded questions, or questions that might pigeonhole the responses of participants: by making the questions open-ended at first, the participants can direct the course of the engagement (pp. 73-74). Later on, more focused questions can help to winnow out more information in accordance with what the interviewee has already stated and made clear (p. 73).

Throughout, however, the researcher must need guard against bias. This requires an awareness of one's own biases with respect to the subject(s) in question, no matter how innocuous and inconsequential said biases may seem. Once one is aware of bias, one can guard against it, seeking always to frame questions in the most open and honest manner possible, and avoiding any attempts to pigeonhole the interviewee or ask loaded questions (Corbin & Strauss, 2008, pp. 299-301). Only a commitment to honesty and forthrightness can keep the researcher from directing the findings in accordance with her/his personal biases: such a commitment enables sound findings.

Of course, it is also important to keep careful records, in order to ensure that the researcher does not distort things, either due to bias or due to poor memory. By keeping careful records of everything, the researcher ensures that she is correct in the data she uses to inform her conclusions, and the methodology used to ascertain them. The seminal imperative, then, is careful record-keeping for the purposes of clarity: with good record-keeping, the researcher's findings can be checked by others for veracity. This lends credibility to the findings overall: it enables the researcher to demonstrate the avoidance of mistakes, bias, or simple carelessness, and thereby establishes the work as being of superior quality.

4.6 Coding

Coding is defined as the process of naming or labeling categories, and properties related to the research (Merriam, 1998). The coding process may formal and methodical or informal and spontaneous (Rossman & Rallis, 1998). The coding process of this research is frequently methodical but quite informal. It depends on the researcher's capability to point out the potential categories. The coding process of this study uses the modified version of developed by Strauss and Corbin (1998) and Silverman (1991).

4.6.1 The Open Coding Process

Using the open coding method, the phenomena available in the transcripts will be named, categorized, and explained. The responses are read carefully to find answers about the topic and related references (Silverman, 1991). At first, the concepts were identified and labels were attributed to the data collected from the interviews by differentiating the common properties. The main concept that emerged on the spot when coding the texts was evaluation. This concept integrates several similar properties of evaluation including assessment, review, standardization, etc…. The other concepts were found to be related to stakeholders. This concept integrated properties and events related to the internal and the external stakeholders and their roles in the process. When the properties were identified and combined, the concept emerged. When all the concepts were organized, a set of categories was created. The categories demonstrated how the concepts are interconnected hence linking the different concepts together. This process allowed an effective organization of data in an attempt to present the research findings. Basically, the identifying the categories of the relevant concepts created the framework of the research. Through the first step of coding it became obvious that the managers' contribution in relation to the evaluation concept can be under the categories goal-based evaluation, process-based evaluation and outcomes –based evaluation. The coding defined the categories that will be compared to the MORE evaluation of the programs' outcomes. The same applies to the internal and external stakeholders and to the tools used is the evaluation process. The decisions made were based on the available literature of evaluation and the responses available in the transcripts and in the field notes.

4.6.2 Axial Coding

According to Strauss and Corbin (1998) an organizational scheme has to be developed as a result of the axial coding process. They define Axial coding is defined as the configuration of sub-categories exerted from the categories developed during the open-coding process. For this research, the properties of the sub-categories are related to each other during the axial coding process. This has been done through both inductive and deductive thinking. The sub-categories answered more specific WH questions about the relevant phenomenon. With an emphasis on the causal relationships between the different categories, they were fit in a scheme of generic interrelations. The research considered the following components of a generic frame developed by Strauss and Corbin (1998). Table 1 below illustrates the terms used for explaining each item which helps to develop the understanding of each category.

Item	Description of the Item
Phenomenon/Concept	The subject of the research that reflects the interest of the researcher (evaluation methods)
Properties and Conditions	Events and the elements that have a causal effect on the concept and its properties (the institute's policies and procedures explained in details in the research findings section)
Action Strategies	The resolute actions and activities (the evaluation process) performed by agents (owners of the process) as a reflection to the phenomenon and prevailing conditions.
Consequences	Intentional and unintentional results of the action strategies, intended and unintended (the consequences of the evaluation method).

Table 1: Terms Used to Explain a Category

The items listed in the above table are obtained from the interview transcripts. The properties relevant to the concept of program evaluation are compared to properties of the other concepts in order to explain the relevant behavior. The concept of evaluation is discussed by all the respondents. However, different terms are used to describe the concept and the related event.

4.6.3 Selective Coding

Selective coding is defined as the practice refining and integrating the categories and subcategories in order to develop a theoretical framework (Strauss & Corbin, 1998). A central category is created as the first step and the theoretical framework that emerged in this research is the evaluation method associated with the stakeholders' roles and the tools applied to achieve the intended results. This central category is the main character and all the categories, concepts, and themes are organized around it. The selection of the dynamic core character is a significant process that that drives the research forward. Evaluation processes are the driver for this research. In the selective process the following steps has been completed:

- The logical flow of the research has been determined.
- The properties of the categories and the subcategories are developed.
- The extra ideas has been refined and reduced and only what is relevant to the core category are kept.

- The interviews were reviewed to ensure all the relevant data has been considered and added to the emergent patterns.

The writing process of the analysis has been continuous throughout the previous process. All the categories has been compared to each other and assessed against the core concept of the evaluation of program outcomes. At this stage, the central category has been developed through the coding process. The interrelations between the different categories, concepts and events are completed. The data collected will be interpreted in an attempt to answer the research questions. The findings of the research will provide a new theoretical framework for understanding the importance of using the MORE approach to evaluate the vocational programs within the UAE context.

5. Research Findings

The interviews revealed the evaluation methods used in ABC Institute. The evaluation process consists of more than one method; each with specific objectives, tools and process owners.

The first method is goals-based evaluation and it used to evaluate each vocational course as an individual project. In general all the courses have similar goals related to the inputs and outputs of the courses. The goals of the programs are: program progress, meeting deadlines, adequacy of resources. In addition, the assessment takes place to ensure that at least 25 students enrolled and 90% graduated. These figures are considered as the success factors in terms of goal accomplishment. The main tools used are periodic reports submitted to the senior manager. A summary is demonstrated in table 2 below.

Element	Tools	Ownership
Program Progress	Periodic Reports	Administration Department
Meeting Deadlines	Periodic Reports	Academic Manager
Adequacy of Resources	Periodic Reports	Academic Manager
Students Enrolled	Registration Forms	Administration Department
Students Graduated	Periodic Report	Academic Manager

Table 2: Institute's Goals - Based Evaluation Method

The second method is the process-based evaluation. This method is used by the academic department to reveal how the program worked and what are the results of each program. This is done through several means. 1) Teachers complete a review form about the curriculum and the assessments. 2) Teachers carry out lesson observations and then develop a detailed report of the success factors and/ or the obstacles that occurred throughout the program. 3) Academic manager evaluates the performance of head teachers and completeness of documentations.4) senior registrar evaluates the registration and certification process. A summary is illustrated in table 3 below.

Element	Tools	Ownership
Curriculum & Assessments	Review Sheet	Teachers
Lesson Observation	Assessment Sheet	Teachers
Head teachers Performance	Assessment Sheet	Academic Manager
Registration & Certification	Periodic Reports	Registrar

Table 3: Institute's Process - Based Evaluation Method

The third method is the outcomes-based evaluation, the main interest of the paper. This method is used by the senior manager's office. The evaluation is based on data provided by the aforementioned two methods in addition to: the number of students against approved targets, programs delivered against market needs, the revenue from each program verses the resources used, and the content of programs against agreed upon standards, and customer satisfaction against previous percentage. All the data is submitted to the deputy manager who in turn develop a report to be submitted to the senior manager. A summary is provided in table three below.

Element	Mapped To	Tools	Ownership
Number of Students	Target	Periodic Reports	Registrar Office
Type of Programs	Market Needs	Industry Experts/Tawteen Correspondence	Academic Department
Revenue	Resources	Financial Report	Finance Department
Programs' Content	International Standards	Review Sheets	Academic Department

Student Satisfaction (Internal Stakeholders)	Last year %	Happy Sheets Students' Complaints	Student Services
Employers/Tawteen Satisfaction (External Satisfaction)	None	None (informal conversations may take place)	None

<center>**Table 4: Outcomes - Institute's Based Evaluation Method**</center>

6. Discussion

The in-depth interviews revealed the evaluation methods used in ABC Institute. It has been found that the institute has a good evaluation system that covers all the activities. The internal stakeholders are closely involved in the different evaluation processes. The applied methods revealed by the respondents have been analyzed to be able to compare them to the proposed approach. ABC evaluation process consists of three methods some of which are conducted by the same agents. Each of the three methods has specific objectives, tools and one or more process owners. The outcome of the three evaluation methods provides a clear insight on the current situation and points out the gaps in the current performance.

The goal- based evaluation method is used to evaluate the projects individually. The main focus is on evaluating the outputs based on the inputs of the projects. The data collected for the evaluation is mainly related, if we may say, to commercial outcomes. The main concern is to make sure that the program through it projects is progressing continuously, meeting deadlines, and the required resources are available. The number of participants is also assessed against the number of graduates. As revealed by the respondents, the number of participants and consequently contributes to the success factors of the program. The effectiveness is this method is limited. When compared with the MORE approach proposed to enhance the evaluation process of the program outcome it has been found the following: the external stakeholders do not play a main role in the process. Knowing the positive impact of the contribution of the external stakeholders' the current goal based evaluation method is not the ideal approach.

On the other hand, the current process-based evaluation has been also reviewed. This method is meant to reveal the results of the program from the academic/vocational perspective. Several agents contribute to the evaluation of the process. Head teachers, teachers, registration, curriculum and relevant documentations are evaluated. So far the method provides a clear insight of the current situation pointing out the gaps and the

obstacles. The outcomes of the process-based evaluation methods provides the management with sound data that enhances the decision making process. The gap that has been noticed is that the evaluation does not consider the external stakeholders' and all the activities are based on internal data. The evaluation process ends with the closing of the program leaving a great deal of the outcome unattended. Logically, the consequences of the educational program are extended to a long period of time after the closing of each project/program. Considering that the evaluated activities have a significant impact on the outcomes, stakeholders' feedback is highly required to ensure the success of the program.

The ABC Institute uses a third method to complete its evaluation process. This method is the most relevant to the subject of this research. This method relies heavily on the outcomes of the goal-based method and the process-based methods. When looking closely at the outcome –based method, it has been found that it lacks the main factor that made the MORE a preferred method for the researcher. The external stakeholders play a role in the evaluation process. Namely, the market needs is analyzed to ensure the acceptance and the success of the program. In addition, the customer satisfaction is considered which entails taking decisions for change and improvements. On the other hand, neither the documents reviewed nor the responses of the managers showed any contribution from the employers or from industry experts after the closing of the program. The respondents stated that the industry experts had a main contribution to the program and the curriculum in the planning phase. However, their role ended at that point leaving the outcomes of the projects and the program to be evaluated internally.

The research findings confirm that the evaluation method for evaluating the UAE vocational education program needs to be enhanced. Based on the literature review and the analysis of the MORE approach framework, it has been proposed as an appropriate method for the institute for the following reasons:

The characteristics of the approach are highly aligned with the nature of the vocational education programs. The MORE method is characterized by "Active stakeholders' involvement" Barclay and Osei-Bryson (2009). Agarwal & Rathod (2006) argued that the involvement of stakeholders improves communication and facilitates the management of expectations. The institute's outcomes evaluation method includes an inactive involvement of stakeholders. The involvement is limited to students' happy sheets and correspondence from third parties in the planning phase of the program. The institute relies on generic contributions of industry experts and the jobs posted by Tawteen Council. Interactive involvement as suggested by MORE method will have a positive impact on the performance

as well as the outcomes of the programs. The communication should be based on a shared vision and continuous collaboration throughout the programs timeframe. Due to the nature of the educational programs, the involvement of the external stakeholders must be extended to after the closure of the projects that forms the programs. The success of the vocational program is related to the performance of the learners in the work place. By assessing their contributions in the work place, the institute can use the feedback in enhancing its internal activities and practices. This includes the academic part of the project such as the curriculum and the competencies of teachers and managers. By using MORE approach, the result will be a better realization of the program benefits and advantages.

The second MORE method characteristic is the "Formal elicitation of objectives and Measures" Barclay and Osei-Bryson (2009). The responses of the managers showed that the institute's key performance indicators (KPIs) are limited to the administrative outcomes and to course content only. As an educational institute with a mission to provide the market with competent workers, specific KPIs related to the academic outcomes and the employment achievements must be developed. To enhance the quality of outcomes, KPIs should be decided in cooperation with the internal and external stakeholders with a careful consideration to the ever changing needs of employers. The advantage of formal elicitation of objectives and measures characteristic is reducing error and identifying the "taken-for-granted" areas that could cause underestimated and underreported outcomes. This gives the key people a guide to what exactly should be evaluated and when the evaluation should take place and by whom. Developing measurements that are closely related to the objectives with careful consideration to the needs of external stakeholders would improve the evaluation process in general.

The third characteristic is the "Formal program measurement design" According to Barclay (2008), the measurement framework should be viewed as a decision model in order to create reliable methods to support performance and project practices. Therefore, the institute's evaluation should have a formal design to assist stakeholders in understanding the program vision and objectives. When this goal is achieved, the stakeholders can make informed decisions of "where, why, what, and how" in relation to the program and its desired outcomes. The stakeholders include both; the internal and the external stakeholders. The measurement design should be communicated effectively to everyone. This may result in a change in the learners, teachers, managers' behavior knowing that the evaluation process will cover all the practices and outcomes. The involvement of the employers in the formal program measurement design will enhance the trust of employers in the outcomes of the

vocational programs. This will have a positive impact on the employment rates hence will contribute to the objectives of the institute's partners such as the Emiratization Council.

The fourth characteristic is the "Continuous performance analysis and monitoring" Barclay and Osei-Bryson (2009). This element adopts. MORE approach integrates the "plan-do-check" cycle of project management principles and practices (PMI, 2004, 2006) in its evaluation process. This mechanism is applied in a form of meta-evaluation that includes a learn system. The interviews did not reveal a learning system integrated in the evaluation method of the institute. By applying the MORE model, the institute will ensure that the analysis process and the realization process disclose critical learning opportunities in relation to the progression of program evaluation. The outcome of the learning system contributes to the evaluation of other programs and projects within the institute. This characteristic in specific will reduce the number of future obstacles and problems. The institute will be able to anticipate future issues and consider them in the initiation, planning and execution phases.

The fifth characteristic is the "Management of objectives realization" Barclay and Osei-Bryson (2009). Although the institute manages by objectives and the KPIs are related to the goals and objectives, the gap is in their direct relation to stakeholders. By using the MORE method, the institute will have an integrated evaluation process that asserts objectives are identified clearly and monitored effectively throughout the program. In this case, it is suggested that the evaluation process should be extended to the work place to be evaluated by their future employers. The feedback of employers should be part of the formal evaluation rather than being limited to informal conversations. The result is delivering the right objectives based on the needs of the different stakeholders.

The findings of the research have confirmed the need for a more sophisticated and detailed evaluation method for evaluating the outcomes of the UAE vocational program. The research has met its objectives by proposing and justifying an appropriate model of evaluation. The research flow has led to adding a new step to the MORE model which is extending the evaluation of educational programs to after the closure of the project/ program. To explore this proposed addition to the existing theory, a future research should be conducted. In addition, the suggested theory needs to be experimented in real life situation to examine its effectiveness.

7. Conclusion and Recommendations

The paper investigated the outcomes evaluation method of vocational programs in Abu Dhabi. The case study approach was used which facilitated the acquirement of inside data from one of the biggest. The research revealed that the currently used method is basic and traditional. The main gap that was pointed out is the limitation of the current evaluation method in evaluating the long term objectives of stakeholders. MORE approach has been proposed as an alternative solution. The MORE approach is recommended to enhance the measurement of the outcomes in relation to both, the institute and the stakeholders' objectives and needs. The proposed framework not only will help in designing an effective evaluation process, it will also enhance the understanding of stakeholders' requirements through extending the evaluation beyond program closure. This process will consequently enhance the planning and execution of the future programs. The practices will be better planned and implemented thus reflecting positively on the outcomes of the programs. MORE aligns the program phases with stakeholders' needs and institute's strategic goals. The four steps evaluation of the MORE frameworks covers all the program phases and outcomes. It will also facilitate innovation through the analysis of lessons learned and contributes to the decision making process of senior management.

8. Limitations of the Research

The key limitation of the study is that the research has been done in one vocational institute only. The institute is one of the biggest institutes in the country thus it is anticipated that the evaluation method is also in other institutions. The managers interviewed requested to keep the name of the institute as confidential, thus the reviewed documents cannot be published to support the research findings. The outcome of the research cannot be generalized to other vocational institutions. However, the proposed evaluation method can be used by other institutes that need to enhance their outcomes evaluation method. Another limitation of the research is marginalizing the tools currently applied in ABC evaluation. The reason for the minimal focus on the tools is the refusal of managers to provide the researcher with samples of the reviewed documentations. However, the tools have been stated as they support the researcher's argument in relation to the lack of in-depth evaluation and the avoidance of stakeholders' active involvement.

To achieve a more in-depth investigation, several studies should be conducted in relation to the subject. The research focused on the parts of the outcome evaluation related to stakeholders' satisfaction in relation to the educational outcomes of the programs. Future research need to consider a wider range of objectives and map them to MORE approach. Moreover, this paper discussed the MORE frameworks in some details yet without adequate description of the GQM and PPS dimensions. Future research may emphasize more on the role of these techniques in enhancing the MORE approach in evaluating the outcomes of the vocational education programs. Moreover, this research has to be conducted in several vocational institutes in order to be able to generalize the findings. The MORE method and the proposed theory of extending the process to after the closure of project/program need to used and evaluated in the context of vocational education programs to confirm its effectiveness. A further research is required using the observation method of research over a long period. Such research will enable the researcher to examine the effectiveness of the MORE method in real –life context. It will also allow a comparison between the outcomes of the program when the institute moves from traditional methods of evaluation to MORE approach proposed in this paper.

9. Suggested Future Research

This research targeted a very critical segment in Abu Dhabi which has significant impact on the county's future economical projections. The research could be a start to further exploratory studies in the field such as:

- The research also should be conducted in other institutions to generalize its findings.
- Student receptiveness to new pedagogical strategies designed to increase practical knowledge. It has been established by this study that the cardinal sin of vocational educational programs in both the UAE and elsewhere is a lack of emphasis on practical skills and knowledge. Pedagogical models traditionally relied on in the UAE have been found to be inadequate. Ipso facto, future research might center on how receptive students are to new pedagogical models, and how well these models are being implemented.
- Better ways to streamline the linkage between industry, enterprise, and education: while many have already been suggested, this is so broad and yet so important a topic that the treatment here can in no sense be regarded as exhaustive. As vocational

education progresses, it will continue to be important to study how to optimize the process for the students and the companies.

- As this study was mainly concerned and focused on the role of stakeholders, a future study may investigate other factors that influence the effectiveness of the method used. Namely, a future study may examine the agents and the tools of evaluation.

- The reasons behind the absence of effective assessment measurements in vocational schools in the UAE.

- Conducting a comparative study of the on the different success measurements of vocational education in the UAE.

- Exploring the implications and effectiveness of vocational education on the UAE market employment demands.

- A comparative study of best practices used to assess vocational education worldwide vs the UAE vocational context.

- Explore the reasons behind the absence of external consultations and advisors in the field of service and skill effectiveness of vocational education graduates in the workforce.

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