INTRODUCING A MODEL FOR ENHANCING LECTURERS SKILLS IN VOCATIONAL AND TECHNICAL EDUCATION INSTITUTIONS: THE COLLEGE OF TECHNOLOGICAL STUDIES, KUWAIT, AS A CASE STUDY

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ABSTRACT

The development of human capabilities is one of the major concerns of the Kuwaiti Government. Kuwaiti decision makers have thoroughly realized the importance of reducing dependence on expatriates particularly in vital sector (e.g. defence, oil, electricity and water), thus encouraging local capabilities to manage, develop, and adapt the imported technology. As a result, attention was devoted to encourage high school graduates to enrol in the College of Technological Studies as a nucleus for training Kuwaiti with the needed knowledge, skills and attitudes mostly required by related industry. This paper presents a model that encourages interactions between the College of technological Studies, CTS, and local industry which eventually would have a direct impact on the quality of graduates. The study also examined the degree to which the graduates meet the requirements of local employers. The study consisted of: a review of the literature; interviews with a sample of staff in selected departments; interviews with department heads; and selected supervisors in related industry who has direct contact with the CTS graduates. This paper would conclude that there is an urgent need to apply a proper model that would encourage close interactions between both parties (CTS and industry), in order to ensure that graduates from CTS are well equipped with the required knowledge, skills and attitudes that meet industry requirements.

Keywords: Vocational and technical Education, developing Indigenous Manpower, Interaction between vocational and technical education and local industries, Kuwait.

INTRODUCTION:

The importance of vocational and technical education in supplying the market place with skilled and semi-skilled manpower has been well documented in the literature. (Kevin, 2013, Raymond, 2012, Michael., et. al., 2010). The studies on vocational and technical education have tackled the importance of delivering quality in vocational education through Total Quality Management, enhancing the level of graduates as clients and meet customer needs. Technology professionals need to know how to apply these concepts in the workplace. In return, significant changes in industrial technology curricula, particularly in technical management subjects, need to be followed. "Supervision," for instance, might be better termed supervision and team work building. (Marvin., et. al., 2000) Others concentrated on curriculum development and stressed that the standardized curriculum in vocational education must meet the requirements of students and the industry. (Idialu, 2013, Bin Daud, 2013)

In addition, existing curricula needs to be evaluated in terms of their limitations and strengths. (Ali, et. al., 2001) However, despite the variations in the issues discussed, the consensus is on the objectives of forging vocational and technical institutions, i.e. to ensure that graduates from such institutions are well-equipped with knowledge, skills and attitudes required at market place i.e.; the acquisition of knowledge, relative to the purpose and objective of the organization, management development system, organizational challenges, acquisition of skills in reference to task performance, communication and planning and acquisition of attitudes in terms of respect, appreciation and honesty.

Due to the rapid changes in industrial mix, science, technology and education rules and legislation in some countries (Australia, UK, Romanian), new philosophies and models of transferring knowledge, skills, and attitudes were adopted in order to enhance the nation's vocational and technical education to better equip students as a globally challenging workforce. Vocational and technical education was designed to "teach more complicated skills than high school vocational class-with the intention of serving students by preparing them for employment and serving industries by supplying them with trained workers". (Cohen., et. al., 2003). Employers are no longer interested in a candidate who has knowledge in certain area, but rather specific skills and positive attitudes for a specialized field of work. Vocational and technical institutions are challenged now-a-days to evaluate their internal and external capabilities including their management strategies, planning, courses and determine whether they can meet industrial and business requirements. This would also imply adopting or developing a well define philosophy that will make the best investment in the available resources to meet the needs of workplace.

Learning in vocational education and workplace are considered the main components of vocational and technical education (Harmen., et. al., 2011). Vocational education and workplace are inferred as the most significant learning environment in order to acquire and integrate those knowledge, skills, and attitudes that meet the interest of both parties. (Gulikers., et.al., 2008) However, It is common that students would experience some difficulties relating to the integration of knowledge, skills, and attitudes (Barrtman., et. al., 2011), since vocational institutions are primarily based on the rationales of learning and theory, while workplaces are based on the rationales of real working and practice. (harmen., et al., 2011)

The interaction between the place of learning and the place of work, can be noted in the United Kingdom by the so-called "sandwich" education at first degree level. This type of education is claimed to have been started by Glasgow University from 1840s. The research into sandwich education indicates substantial benefits to be derived from this type of education. Another form of collaboration between educational institutions and employers is in the form of cooperative education. It is defined by the World Council of Cooperative Education as "where productive work in an employer's premises on a 'real task' is an essential component of the learning, to be integrated with more academic work in an educational institution". In other word, a key factor for cooperative education is industry-based learning as an integrated part of the programme leading to a qualification.

In most developing countries, especially in the Gulf States (e.g. Kuwait, Saudi Arabia, Qatar), the need for skilled and semi-skilled native workers is the highest priority for government in national human resource development. In the Gulf States, expatriates constitute 58% of the total workforce. In the United Arab Emirates and Qatar, expatriates form 80% of the total workforce, followed by (63%)

Kuwait, Oman (61%), and Saudi Arabia (30%). (Al-Arabia. net. 2015). In fact, Kuwait has classified as the third country with smallest ratio of national to expatriate workers in the Gulf States. However, in 2015 the total amount of money transfer from Kuwait by expatriates reached $15.2 Billion. (Arabia Business.com, 2015) This implies a wide gap between national labour and expatriates in Kuwait and other Gulf States.

The domination of expatriates is visible in most sectors in Kuwait. Almost, 91000 expatriate working in the Public Sector in Kuwait. In the private sector, Kuwaitis make up only 2% of the workforce in the country's private sector. The number of expatriate workers increased by 2.5% between 2013 and 2014. (Ministry of Social Affairs and labour, 2015)

As a result, education policymakers and politicians in the Gulf States have focused on partnerships between vocational and technical institutions, local industries and businesses to reduce dependence on expatriates, particularly in the sectors that mostly contribute to the national economy (e.g., oil, electricity and water, and finance). Closing the gap between such institutions and related industries and businesses as much as possible will ensure that students are well prepared for their careers. A common belief is that employers must play a vital role in the training and education of future indigenous labour. This role can manifest itself in various activities, including pre-apprenticeship, joint seminars, joint research, the involvement of employers in forming future workforce strategies and plans, curriculum development, selecting and testing machines, safety and health procedures and regulation in workshops.

In most vocational and technical schools, apprenticeships are considered a unique way to forge collaborations between schools, related industries and businesses. 'Apprenticeship' is a work-study training scheme that exposes students to learn certain knowledge, skills and attitudes in classroom and providing them with the opportunity to transfer what has been learned in classroom into real workplace. However, there are many criticisms about the lessons taught in classroom which actually differs from employers' expectations. Educators spend a considerable time discussing and elaborating on certain theories, while employers focusing on tangible results and solving existing problems. Industries have exerted efforts to employ a variety of techniques to enhance the development of professional skills; education at the postsecondary level more habitually depends on conventional teaching methods that often do not allow adequate development of palpable skills (Healy., et. al., 2011). This unfortunate situation would indeed hinder the development of national capabilities, particularly countries such as Kuwait which is eager in enhancing indigenous skilled people in order to reduce dependence on expatriates.

With respect to the quality of vocational and technical education, it is important for the curriculum to be work-oriented. The involvement of industry and business should add great value to the content of any curriculum that considers industrial requirements. In addition, collaboration between schools and enterprises should greatly enrich the quality of vocational and technical education.

Students in vocational and technical education should graduate with employable skills and knowledge, professional certification, and occupational skills for present and future work needs and lifelong learning. A clear strategy between schools and related work places would prepare students for a high level of performance in specific occupations. In addition, occupational profiles must be described in a more open and dynamic way compared with the past (Heidegger, 2000). Various aspects must be taken into account as motivation for enhancing a student's knowledge, skills and attitudes, including the following: (a) linking theory and practice; (b) obtaining broad work experience within a specific function; (c) gaining individual insight, including job preferences; (d) enrolling in a professional role; (e) obtaining knowledge of the workings of a particular industry; (f) acquiring knowledge, skills and attitudes related to future learning; (g) exercising thinking skills in a specific context; and (h) developing individual maturity (Ashworth., et. al., 1989).

In Kuwait, the Public Authority for Applied Education and Training (PAAE&T) has been established to respond to the urgent need for skilled and semi-skilled national labour. The PAAE&T consists of the College of Technological Studies, the College of Business Studies, the College of Business Education, the College of Health Service, the High Institute of Energy, the Sabah Al-Salem and Shweekh branches of the Industrial Training Institute, the Institute of Nursing, and the Higher Institute for

Communications and Navigation. Special efforts were made to identify those factors that significantly shape students' knowledge, skills and attitudes and to measure employer's perceptions of the standard of PAAE&T graduates. This research was conducted to assist decision makers in developing an appropriate strategy, ensuring the capability of indigenous labour to deal with imported technology, and reducing or removing dependence on expatriates.

RESEARCH OBJECTIVES:

a. To identify and examine the College of Technological Studies (CTS's) strategies and objectives in respect to the enhancement of interactions with local industries.
b. To identify and examine the types of linkage with local industries.
c. To identify and examine the obstacles (if any) confronting the CTS in forging a strong linkage with local industries.
d. To present a model that encourage interactions between the CTS and local industries.

Indeed, the anticipated outcomes of this research would help decision makers, particularly at the CTS, in reforming a new strategy and plan that would enhance the interaction with local industries, in order to ensure the preparation of an appropriate learning environment for both students and lecturers. As well as, setting guidelines for both the College of Technological Studies and related industries in enhancing students knowledge, skills and attitudes that meet industrial present and future requirements

RESEARCH METHODOLOGY:

The study would consist of related literature review; a questionnaire that would be distributed to a sample of lecturers at the College of Technological Studies (6 lecturers in each of the three departments chosen for the purpose of this study); Personal interviews with the heads of three departments (those departments dealing with the oil sector and electricity power stations); dean of industrial liaison offices; and the department trainee's direct supervisors in local industry and electricity power stations. Research Sample: A stratified (6) lecturers sample would be chosen for the purpose of this research in each of the three selected departments. The selection of the departments would be based on that department serving the oil industry and electricity power stations due to their vital role in enhancing the country's economy. A personal in-depth interview would be conducted with the heads of the three selected departments, assistant academic affairs, head of the industrial training programs, and graduates direct supervisor in the industrial sector. The data collected would be analysed by using frequency and cross-tabulation (SPSSX) to answer the research objective framed.

Table (1): Distribution of selected sample

[Department	Academic Staff (with PhD)	No. of Chosen Staff (%)
Manufacturing Engineering	22	6 (27%)
Petroleum Engineering	18	6 (33%)
Electrical Engineering	22	6 (27%)

RESEARCH FINDINGS:
THE CHARACTERISTIC OF THE RESEARCH SAMPLE:

A total of 18 Lecturers (6 from each-kindly confirm) were selected from three departments such as manufacturing engineering, Petroleum Engineering, and Electrical Engineering. All selected sample were male and 57% were Kuwaiti and 43% were non Kuwaitis. In respect to qualifications, 71% of selected sample hold Ph.D. degree, 5% hold Master degree, and 24% hold Bachelor's degree. In regards to teaching experience, 67% of the selected sample has more than 18 years teaching experience, 14% between 12-17 years, 14% between 6-11 years, 5% between 1-5 years of teaching experience. However, when asked to indicate number of years working in industry, 29% of the selected sample has no industrial working experience, 14% has less than 1 year experience, 43% have between 1-5 years

working experience, 10% have between 6-11 years working experience, and 5% has more than 18 years of working experience. Selected industrialists (3 students' direct supervisors) were also interviewed to understand their opinions on the quality of the graduates and the efficiency of the industrial training programs. The selected industries were in the Oil Sector (Kuwait Oil Company, Kuwait National Petroleum Company, and Petrochemical Industries Company).

MEASURING INSTRUCTORS AWARENESS TO THE CTS STRATEGIES & OBJECTIVES:

The issue of staff awareness of the overall organisation's objectives and strategies is one of the management's priorities. It is though that through a proper understanding of such objectives, staff can dedicate their efforts and use the available organisational resources in a way which will serve the overall organisational objectives. It is also management's responsibility to monitor the application of the organisational objectives and strategies so that the quality can be maintained. In the case of vocational and technical institutions, due to the rapid change in technology, management must ensure that objectives are well understood and absorbed by all staff.

The level of qualified graduates would be significantly influenced by such an issue, since faculty member plays an important role in shaping their knowledge, skills and attitudes. Furthermore, local industries can easily detect whether graduates are well equipped with the required skills. In this study, an attempt was made to measure staff awareness of the CTS's strategies and objectives. The findings indicated that all 18 instructors at the CTS, as well as the Head of Industrial Training Programmes were well aware of their college objectives.

However, instructors were found to be unsure of the future strategy of their department in specific and the CTS in general. In other words, there is no sign of any updated data on the expected number of graduates or their specialisation, which is required by industry. This unpleasant situation would not help the heads of the CTS departments in setting, to some extent, an accurate departmental plan for meeting future industrial requirements. The Head of Industrial Training Programmes stressed the need to know the future requirements of industry from the CTS graduates. Details such as the number of graduates, gender, level of competencies, specializations, and attitudes toward working in industry are some of the vital areas of information required by those who are designing, implementing, and evaluating industrial training programs.

THE CURRENT STATUS OF LINKS BETWEEN THE CTS AND LOCAL INDUSTRY:

Vocational instructors will not be able to satisfy industrial needs unless they have a positive attitude towards meeting with industrialists to agree on the standard of required knowledge, skills and attitudes. Instructors' attitudes will not evolve positively unless the management of Vocational Education and Training appreciates the role of instructors in the organisation. Therefore, motivating VET instructors is considered as a crucial factor in achieving VET objectives. Furthermore, industrialists need to experience and trust the credibility of vocational education as a means of providing them with the required manpower. This can be attained through close collaboration in various areas such as: curriculum development, research and development, planning committees, assessment of graduates, seminars, and the interaction of staff. The Kuwaiti government needs to assume an active role by encouraging closer links between VET and local industry, since industrialists are reluctant to employ and retrain VET Kuwaiti graduates, preferring to rely on expatriates who are paid less than Kuwaitis and are ready to work longer hours in a tougher working environment.

The findings of this research revealed that the only method of collaboration between the CTS and selected industry is through industrial training programmes. Interviewed industrialists were concerned about the quality of graduates from the CTS. They need dedicated graduates with the following qualities: the willingness to work long hours in an outdoor work environment, a creative mind, a positive attitude, self-discipline, strong motivation, aptitude for problem solving, reliability, the ability to adjust to work requirements, the ability to communicate with colleagues and superiors, and the ability to initiate. (see table 2)

Table 2: Types of links with industry

Have you participate with industry in the following activities:	Yes	No
- preparing a plan to improve the standard of graduates.	10%	80%
- curriculum development.	0	100%
- research and development.	20%	80%
- up-grading the standard of workshops and laboratories.	10%	90%
- industrial training programs.	100%	0
- visiting industrial premises.	30%	70%
- evaluating the standard of graduates.	0%	100%

Unfortunately, these skills are lacking in the CTS graduates and possess threats, due to the absence of involvement of industrialists in the various activities of the CTS. (see table 3)

Table 3: Industry's perceptions of the CTS' graduates

Elements	Weighted Mean	Description
- Ability to read manuals.	2.58	Faire
- Ability to perform job on time .	2.78	Poor
- Ability to detect problems .	2.25	Poor
- Ability to present new ideas .	1.65	Very Poor
- Ability to write work reports.	2.22	Poor

*The above are some of the results obtained from a very recent research conducted by the author Titled" An Assessment of Lecturers Ability in transferring the necessary skills in Classroom: The College of Technological Studies, Kuwait; As A Case Study".

Mean Level	Description
4.20–5.00	Very Good
3.40–4.19	Good
2.60–3.39	Fair
1.80–2.59	Poor
1.10–1.79	Very Poor

Links between the CTS and local industry must be on a national level, and constant reviewing, monitoring, and evaluation of results must be one of its main priorities. The current status of collaboration is indeed not encouraging. The majority of the interviewed instructors (75%) agree with selected industrialists that the CTS is not able to prepare students with the required knowledge, skills and attitudes needed by industry. 95% of the total instructors agreed on the need to retrain the CTS graduates in related industry.

In the oil sector, interviews have been made with four senior supervisors in different departments, who rate graduates work commitments as "good" as far as there is a penalty imposed on those who fail to attend work on time. In respect to initiatives at work all supervisors stressed on the need to push graduates to complete the work assigned and ensure such allocated tasks finished on time. Graduates were also found, in some cases, to either forget or ignore orders from their direct supervisors, especially if his direct supervisor is not a Kuwaiti nationality. Surprisingly enough, all direct supervisors noticed the lack of level of knowledge and skills for those graduates from the College of Technological Studies.

This was also worsened by the unfamiliarity of graduates with the type of machines and tools used in oil industry. Selected direct supervisors gave a "negative" answer towards the question whether if they have collaborated with the College of technological Studies. In fact, they seemed to be eager to provide assistance to the college management and staff. However, they feel that they have been either forgotten and/or ignored. It is worth mentioning at this point, that graduates direct supervisors are in strong favour of employing non Kuwaiti manpower and thus not supporting to some extent the concept of

relying on Kuwaiti manpower. A senior Supervisor in the oil sector, revealed in a personal interview that skills standards would indeed help vocational educators to be more effective and efficient. He also added that "the present status of the workplace requires not only those skills which indicate how to operate and maintain a certain machinery, but also requires someone with specific skills such as: innovation, the ability to solve problems, effective communication with colleagues and superiors, and displaying a positive work attitude".

With respect to evaluation of the perception of graduates direct supervisors in the Ministry of Electricity and Water. Interviews with six graduate's direct supervisor were conducted in Doha Power Station and Al-Zoor Power Station. All interviewed graduates' direct supervisor rate graduates attendance at work on time as "good". When asked to rate graduates work initiative, graduates' direct supervisors answered differently. Only two graduates' supervisor who rated as "very good", compared to four supervisors who have rated as "good". Despite such rating, all supervisors agreed that graduates must be encouraged and in most cases forced to complete the work assigned by themselves without the interference from the direct supervisors. In respect to obeying direct supervisors orders all selected supervisors rated "good".

Graduates seem to follow health and safety procedures well, and thus were rated "very good". Surprisingly enough, all selected supervisors have rated the level of graduates knowledge and skills in their field as "very poor". Selected supervisors stress the need of graduates who must absorb the concept of respecting and passion towards the type of work that they are performing. They added "*graduates dislike the type of work and must be trained on how to cope with working with machines and tools and expose to high temperatures*". Again, selected supervisors found rejecting the idea of replacing Kuwaiti for non-Kuwaitis in such vital sector. They all agree that the majority (90%) of graduates dislike the type of work, but also unable to show a sincere willingness towards working for long period in such type of field. Another senior supervisor in the Ministry of Electricity and Water, Doha Power Station, stated that: "*Skills standards make vocational education more relevant to the workplace. It deals with actual work situations and circumstances, which are directly related to the workplace*".

A MODEL TO ENHANCE COLLABORATION BETWEEN THE CTS AND LOCAL INDUSTRIES (FIGURE 1):

CONDUCTING SWOT ANALYSIS:

SWOT analysis can be simply understood as the assessment of vocational and technical institutions' internal strengths and weaknesses, and its surrounding environments, opportunities, and threats. In fact, it is a common method designed to assess key figures in setting institutional strategies and planning that respond to internal and external factors. According to Pride and Ferrell (2000) the SWOT Analysis is "*an assessment of an organization's strengths, weaknesses, opportunities, and threats. Strengths refer to competitive advantages or core competencies that create an advantage in meeting the needs of its target markets. Weaknesses refer to limitations an organization might face in developing or implementing a marketing strategy. Opportunities refer to favourable conditions in the environment that could produce rewards for an organization if acted upon properly. Threats refer to conditions or barriers that may prevent the organization from reaching its objectives*" (p.43). Strengths and weaknesses are internal factors; opportunities and threats are external. It is easy to see how SWOT can be adapted to a vocational and technical educational program.

Therefore, it is essential for the management of the College of Technology Studies to undertake SWOT analysis to determine its strengths, weaknesses, opportunities and threats. Based on the SWOT analyses done at the CTS, it is found that the CTS's strengths are (e.g. staff competencies, research and development skills, problem solving services, consultation, financial resources). Weaknesses are (coping with technological change, meeting industrial requirements, satisfying national demand for indigenous work force, standards of workshops and laboratories). Opportunities are (e.g. enhancing indigenous capabilities and reducing dependence on expatriates are the objectives of the government-can it be taken as opportunity for the CTS? Since CTS' one objective is to train indigenous people. Not an opportunity. Threats are (e.g. failing to respond to industrial needs, less responsibility shown by

Kuwait students, less stress on industrial collaboration as per one supervisor, low number of graduates, high demand of indigenous skills and semi-skilled national manpower). Indeed, the management of the College of technological Studies needs to know all aspects mentioned above, so that it can determine if they are in the position to move to the next stage for establishing an industrial liaison office.

PROMOTING GENERAL AWARENESS TOWARDS COLLABORATION WITH INDUSTRY:

The success of the initiative of building a strong collaboration with local industry would depend on a positive attitude from all staff in the CTS (academic and managerial) in closing the gap between both parties (CTS and industry). Therefore, it is essential for the management of the CTS to ensure that all staff are well aware of the need to strengthen the relationship with local industry. A motivation scheme must be applied by the management of the CTS in order to encourage staff to play effective part in such initiative.

FORGING INDUSTRIAL LIAISON OFFICE:

It is responsible for linking the College of Technological Studies with local industries. The office would be provided with skilled personal with marketing experience to conduct a marketing research and to determine the types of services mostly required by industries. Among the services that can be provided are (e.g. consultation, joint research and development, seminars, workshops and laboratories high equipped with high technology, visiting lecturers, curriculum development).
The office would be responsible in bringing both key personal from industries and from the College of Technological Studies face to face and to promote a strong interaction in various areas. The office would be managed by a committee comprising the head of the industrial liaison office, the assistant dean for academic affairs, the head of industrial training department, and the heads of department. A representative from related industries would be also considered as a member of such committee. The outcome of the industrial liaison office would improve the standard of the CTS graduates in one end and to provide the mostly needed service by industry on the other end. It is framed that achieving mutual understanding and benefits for both parties (CTS & local industries) would enhance the relationship and overall in meeting the national demand of indigenous work force.

DEVELOPING WORK MECHANISM:

The head of the industrial liaison office at the CTS would be responsible for establishing an effective and efficient work mechanism that would, to some extent, satisfy both parties (CTS and local industry). The fact is that both parties need to know how often that they can meet? Who should attend? What is work plan? What are the evaluation criteria's? and, how to evaluate the outcomes? The head of the liaison office would jointly determine work priorities and an assigned team would form from both parties to follow and evaluate the results and to undertake action when obstacles occurred. The concept of win-win strategy would be significantly fruitful when applied, since mutual interest and benefits are shared by both parties.

IMPLEMENTATION PROCESS:

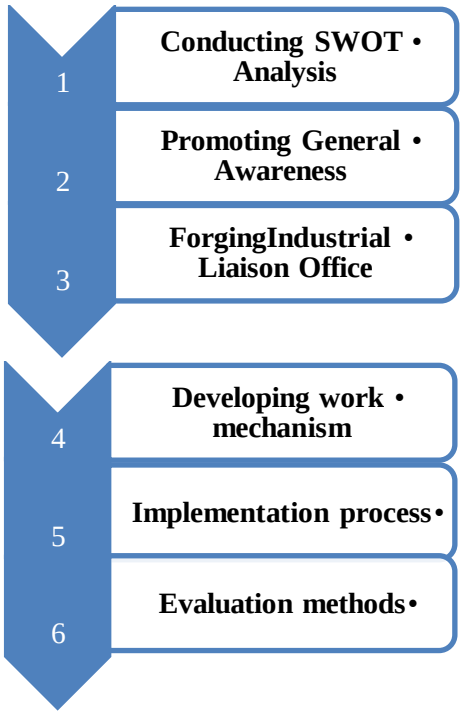
A contact with key figure in local industries would be initiated by the head of the industrial liaison office. The aim is to meet face to face in order to translate the action plan set in work mechanism stage in reality. A joint supervision from both parties is highly recommended to monitor the progress on the implementation of action plan and to overcome any obstacles which might hinder the achievement of the setting objectives.

EVALUATION METHODS:

An effective evaluation method has to be applied with an agreeable criteria to ensure that objectives is obtained. The notion of evaluation for the purpose of development but not for the evaluation itself has to be absorbed by both parties. This would imply that the purpose of evaluation is to dedicate efforts

and time for improving the quality of collaboration with tangible results rather than for the evaluation process itself.

Figure: 1 A Model for enhancing collaboration with local industry



CONCLUSIONS:

The issue of collaboration between vocational and technical institutions and industry and business is highly discussed in related literature. In fact, there is a common agreement among researchers and observers that closing the gap between both parties would indeed help in meeting the industrial and business requirements on one side and upgrading the quality of learning on other side. Vocational and technical institutions can work jointly with related industry and businesses in various fields. Among which are: joint research and development, seminars, curriculum development, upgrading workshops and laboratories, health and safety scheme, setting strategies and plan, industrial training programs. Kuwait and any Gulf States suffer from an obvious shortage of indigenous skills and semi-skilled manpower in various sectors, particularly in vital sector such as the oil, electricity and water.

The Kuwaiti Government hoped that with the establishment of the College of Technological Studies would help, to great extent, in providing such vital sector with the required national manpower. However, the results of this research showed that industry is totally unsatisfied with the outcome of such institute. There is a significant gap between the CTS and local industry except in minor area (e.g. industrial training program). This unpleasant situation has contributed in providing industry with national manpower with significant lack of knowledge, skills and attitude. Therefore, industry has faced a serious challenge either to re-train those unskilled graduates or to continue rely on expatriates. Unfortunately, the later seems to be preferable inmost sectors. Thus, key figure in the educational sector must encourage the establishment of industrial liaison office in vocational and technical institutions. A close monitoring and assessment scheme must be also established to ensure that objectives are met. The fact is that, unless mutual understanding and benefits initiated for both parties (CTS and industry) no or less tangible results can be achieved. A wide national awareness among Kuwaitis, particularly those attending vocational and technical institutions of the importance of building indigenous capabilities have to be promoted by the government. The government also has to provide incentive for Kuwaiti graduates from such institutions in order to discourage or minimise the number of students withdrawn from significant sectors. Attention must be dedicated to those who run

vocational and technical institutions. A differentiation has to be made between those who run an academic institution from those who run vocational and technical institutions. The management of the vocational and technical institutions cannot be expected to obtain satisfactory results if they follow a "black box" management style. They have to conduct an industrial needs analysis in terms of level of knowledge, skills and attitudes mostly needed by related industry. A joint evaluation committee has to be formed by both the CTS and related industry in order to assess the quality of learning for students attending first to last semester. A setting criteria have to be agreed by both parties for the expected quality of graduates. The CTS must adapt a practical model that encourage closing the gap with local industries. Obstacles may occur while applying the proposed model in this research. However, building a strong relationship with key figure at the recipients of the CTS's graduates would indeed facilitate and overcome any difficulties. In addition, creating staff awareness (managerial and academic) towards the importance of working jointly with related industry is highly recommended. Staff particularly academic at the CTS, must thoroughly absorb the concept of "win-win" strategy when dealing with local industry. A mutual trust and benefits to serve the need of national manpower in vital sector (e.g. oil and electricity and water) must be stressed. Otherwise, the country would rely on expatriates for years ahead.

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