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A MODEL FOR ENHANCING THE QUALITY OF VOCATIONAL EDUCATION GRADUATES THE COLLEGE OF TECHNOLOGICAL STUDIES, KUWAIT, AS A CASE STUDY

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ABSTRACT

Vocational and technical education emphasizes the acquisition of knowledge, skills, and attitudes. It can be described as a unique type of education that focuses on preparing students for the work world. Its success reflects to some extent the ability of lecturers to transfer the right knowledge, skills, and attitudes most needed by the industry in question. Therefore, vocational and technical education cannot be provided properly unless the lecturers thoroughly absorb the college's mission statement and its objectives are embodied in the departmental plan. A high quality of specific teaching skills, a high standard for workshops and laboratories, continuous upgrading of the curriculum and a proper evaluation scheme for both lecturers and students would raise the quality of graduates. A model is suggested for enhancing the quality of learning in vocational and technical education. The model is designed so that lecturers can address how to maintain high standards in transferring the knowledge, skills, and attitudes required by industry. It embodies several stages that may be useful in generating a quality mix of coursework, workshops, and laboratories. This paper suggests a learning model to create guidelines for the lecturers at the College of Technological Studies (CTS) for providing local industry with skilled and semi-skilled labour. The study consists of a review of the literature, personal interviews with a sample of staff from selected departments at the CTS, interviews with department heads, and selected supervisors in industries in direct contact with CTS graduates. The paper concludes that there is an urgent need for the application of a proper learning model that allows both the CTS and industry to determine the knowledge, skills, and attitudes most in demand. The learning model can also be deemed a performance indicator of both the lecturers at the CTS and the level of industrial contribution in shaping the standards of the CTS graduates.

Keywords: Vocational and technical Education, quality assurance, developing Indigenous Manpower, Interaction between vocational and technical education and local industries, enhancing vocational graduate's capabilities, Kuwait.

INTRODUCTION:

Nowadays, the increased demand and rapid change in modern workplace has placed a great pressure on educators and industries to employ highly skilled and independent creative thinkers. High school and vocational colleges create an opportunity for students to explore academic preference and plan their pathway for either future education or a specific career. (Lichtenberger E., et. al., 2013). Learning in vocational and technical colleges and workplace are considered the two main ingredients of vocational education. (Schaap, H., et.al. 2011)In the 21st century, workers require skills such as decision making, solving real work problems, time management, risk-taking and communication skills in order to be accepted to work in industries. (Robinson, Garton, & Vaughn, 2007).

Students in vocational and technical education colleges need to incorporate knowledge, skills and positive attitude (Baartman and De Bruijn 2011), while they present need to develop and enhance a recognised identity (Achtenhagen and Grubb 2001). Students need to know about organizational structure, labour market required knowledge, skills and attitudes, job seeking and job keeping skills. They also need to understand how to gain and utilise information, develop their skills, solve real work problems, manage and adapt technology that is mostly used in related industry. (James R. 2005). Therefore, researchers have suggested that the future of technical education should be flexible enough to prepare students for both industry and college simultaneously (Roberts & Ball, 2009).

Through Total Quality Management (TQM) and various modes such as up gradation of graduates as clients and meeting the customer requirements, the importance of delivering qualified vocation and technical education is measured in previous studies. The professionals who are well-versed in Technology should know how to apply these concepts. In turn, there must be notable changes in the curriculum of industrial technology with special reference to technical management subjects. Sarapin and Vorvoreanu (2000) stressed the importance of terming "Supervision", as 'Supervision and team work building'. However, other researchers focused on improved curriculum standards since they firmly believed that vocational education must meet students as well as the industrial requirements. Further, the strengths and limitations of the existing curriculum should be evaluated (Yildirim and Simsek, 2001). In spite of the discussion about the variations of issues, the consensus is on the objectives of forging vocational and technical institutions, i.e. ensuring that the students graduating from such institutions possess the required knowledge, skills and attitudes to sustain the market place; 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.

Several authors and organizations have discussed the issue of quality of Technical and Vocational Education Training(TVET). (National Centre for Technical and Vocational Education and Training development, 2006, Inter-Agency Working Group on TVET Indicators, 2012). TVET can be defined as "the totality of characteristics of a learning programme and of its provider, through which the expectations of the beneficiaries and the quality standards are met (Law no.87/2006, Quality assurance in education Law P.2)".In its turn, the national quality assurance Framework in TVET consists of those principles, methodologies, procedures, actions and evaluating instruments through which quality in TVET is assured, at both levels (system and suppliers).It is worth mentioning that the quality principles are based on the European Common Quality Assurance Framework in VET model which take into consideration the five elements which are namely, Methodology (e.g. quality management), Planning (e.g. management responsibility and resources), Implementation (e.g. teaching, training and learning), Evaluation (e.g. improving quality) and Revision (e.g. quality management, evaluation and improving quality).

Several steps are though essential for building an efficient and effective TVET proposed by the Inter-Agency Working Group on TVET (2012) Indicators to include the followings, "evaluation of the existing situation in the TVET sector; elaboration of a strategy; evaluation of the reform impact; continuous monitoring the performance in the sector". (Inter-Agency Working Group on TVET Indicators, 2012, p.46). The report also stressed that the TVET sector needs to be thoroughly absorbed in the overall economic and social context of the country and connected with other major policies, strategies and other programs of the government (e.g. education and training strategy, labour market and employment policies) (Inter-Agency Working Group on TVET Indicators, 2012, p.47).Therefore, political and economic key figures in the world recognize that the workforce skill level is what determines the economic performance (Benjamin et al. 2012). Globalization and rapid change in science and technology stress on the need for labour that not only have specialist knowledge, skills and attitudes, but have developed the generic skills required to adapt, manage, and maintain the new technologies in various industries (UNESCO, 2012).

As a result, education policymakers and politicians in the Gulf States have focused on partnerships among vocational, technical institutions, local industries and businesses to reduce dependence on expatriates, particularly in the sectors that are most important for the national economy (e.g., oil, electricity and water, and finance).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, 91,000 expatriates 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).

It is considered very important that the vocational, technical education and the workplace to be interactive for developing and refining the competencies, attitudes and the knowledge the modes of technical methods and techniques (both formal and informal). The most significant learning environment lies in the interaction between vocational education and workplace for the acquisition and integration of skills, knowledge, attitude and interests between the two parties(Gulikers et. al, 2008).It can be concluded from the above that the interaction between vocational, technical institutions and related industries and businesses as much as possible will ensure to close the gap between the students and the industry who are well prepared for their careers. It is generally conceived that the employers must play an important role in training and education of future indigenous labour which can be expressed in various forms such as joint research, pre-apprenticeship, the involvement of employers in forming future workforce strategies and plans, joint seminars, curriculum development, safety and health procedures, regulation in workshops and selecting and testing machines

The Public Authority for Applied Education and Training (PAAE&T) was established in Kuwait for creating the skilled and semi-skilled national labour as a response to the urgent needs. A total of nine institutions forms the PAAE&T such as Higher Institute for Communications and Navigation, the College of Business Studies, the College of Health Service, the College of Business Education, the High Institute of Energy, College of Technological Studies, the Sabah Al-Salem and Shweekh branches of the Industrial Training Institute and the Institute of Nursing. The PAAE&T took specific efforts in order to identify the factors that actually contribute to the development of a student in terms of knowledge, skills and attitude in turn, measure the perception of the employer about the PAAE&T graduates. The current study was conducted with the purpose of assisting decision makers to develop an appropriate strategy, ensuring the capability of indigenous labour to deal with imported technology, and reducing or removing dependence on expatriates.

RESEARCH OBJECTIVES:

1. To identify and examine the CTS's strategies and objectives in respect to the enhancement of the quality of graduates.
2. To identify and examine lecturers perception to the quality of graduates.
3. To identify and examine those factors related to the enhancement of the CTS graduates.
4. To present a model that would enhance the quality of the graduates.

The outcome of this research would help key figure in the Public Authority for Applied Education and Training (PPAE&T) in general and the CTS in specific, in adapting an appropriate model. The proposed model would be expected to guide decision makers in both institutions (PAAE&T and CTS) including the recipients of the CTS graduates (local industries) to apply and monitor certain stages and indicators that would enrich student's knowledge, skills and attitudes. Consequently, providing industry with the needed requirements that are able to adapt, manage and maintain the imported technology to suit local requirements. In addition to that, enhancing indigenous capabilities and reducing dependence on expatriates. Otherwise, the country would depend on expatriates for years to come.

How would the proposed model enhance the quality of graduates?

The model would contribute to the following achievements:

- Raising management awareness of the need to review the CTS's overall objectives and to implement an effective action plan that would enhance and strengthen the level of collaboration with related industries

- Encouraging the establishment of an industrial liaison office and promoting strong collaboration with industries in various fields (e.g. through Research and Development, visiting staff, curriculum development, seminars, staff evaluation schemes, workshop and laboratory upgrades, and the emphasis of safety rules and procedures)
- Enhancing lecturers' competencies, particularly in the areas most required by related industry, as well as allowing opportunities for lecturers to be exposed to new technology applied in their areas of specialisation on industrial premises
- Developing a curriculum that corresponds to the needs of both the CTS and related industries, as well as emphasising the need to bestow the students as well graduate of the CTS with positive attitudes, considering work ethics in the design of the curriculum
- Establishing proper evaluation methods for students that meet the specifications of both the CTS's lecturers and industry
- Ensuring that the workshops and laboratories meet industry demands and that safety role and procedures are not neglected
- Developing a proper learning environment in which the CTS and industry have forged a strong link that allows for the subsequent transfer of knowledge, skills, and attitudes to meet the interests of both parties.

Therefore, the proposed model would provide guidelines for lecturers since it encompasses those factors determining the level of knowledge, skills, and attitudes needed by industry. It is a crucial opportunity for lecturers to determine whether their course objectives are being met and their teaching techniques are obtaining fruitful results. The proposed model considers the recipients of the CTS graduates, thus ensuring that lecturers would not be functioning in "a black box".

RESEARCH METHODOLOGY:

DESIGN:

This research consists of a descriptive survey designed to measure the perceptions of a selected sample in terms of the validity and efficiency of the proposed model.

SAMPLE:

The target population in this research consists of lecturers (holding a PhD degree or less) who teach subjects that involve the analysis of case studies, the application of problem-solving methods, and the use of machines and tools in the coursework, workshops, and laboratories. The population comprises of personal interviews with seven HODs (Head of Department) in the College of technological Studies from the departments such as Manufacturing Engineering, Electrical Engineering, Petroleum Engineering, Civil Engineering, Electronics Engineering, Chemical Engineering, and Marine & Automotive Engineering.I n addition, a questionnaire was designed, tested and distributed to selected staff in each of the six selected departments. In total, 45questionnaires were completed to represent the seven selected departments.The selection criterion for the three departments is that they serve a vital role in the country's economy through the oil industry, electricity and power stations.

Several issues were investigated and discussed with the selected heads of department as well as with lecturers. Among which were their views towards the proposed model that would enhance the quality of the CTS graduates, awareness of the CTS mission and objective statement, the college action plan, the departmental general objectives and the action plan required to achieve the setting objectives, whether the selected sample have direct contact with the direct supervisors of their departmental graduates, the awareness of the level of knowledge, skills and attitudes required by the direct supervisors in related industry, the level of industrial participation in evaluating the standard of the CTS graduates, and whether industry are satisfied with the standard of the CTS graduates. A personal interview would also be conducted with the dean of the CTS, the assistant of academic affairs, and the head of the industrial liaison office to determine their perceptions of the proposed learning model.

Personal interviews would be also conducted with the direct supervisors of CTS graduates (in related industries) who have had close contact with them. The two essential sectors selected for this purpose would be the oil industry and electricity and water. Two direct supervisors would be chosen from each of the two sectors. The criterion for their selection is their direct contact with a large number of graduates from the seven chosen departments of the CTS Among the issues to be investigated are the validity and efficiency of the proposed

model; the degree of industry involvement in enhancing the level of learning; and industrial assessment of the standard of the CTS graduates.

INSTRUMENTATION:

The target population for this research consists of those lecturers at the CTS (holding a PhD degree or less) who teach subjects that involve practical learning in the classroom and in workshops.

STATISTICS AND PARAMETERS:

The statistics pertain to the **sample**. The parameters pertain to an entire population.

The research parameters are as follows:

(a) Selected heads of department as well as lecturers at the CTS.
(b) The dean of the CTS, the assistant of academic affairs, and the head of the industrial liaison office.

The research sample is as follows:

(a) Seven heads of departments and 45 selected staff at the CTS.
(b) Two direct supervisors of CTS graduates from each of the two selected industrial sectors.

RESEARCH FINDINGS:
The Characteristic of the Research Sample:

The research sample is (7) heads of departments at the CTS and total of (45) lecturers represented the selected departments. All selected sample were male and 75% were Kuwaiti .In respect to qualifications, 75% of selected sample hold Ph.D. degree, 15% hold Master degree, and 10% hold Bachelor's degree. In regards to teaching experience, 55% of the selected sample has nearly 17 years teaching experience, 35% between 12-17 years, 10% between 1-5 years of teaching experience. However, when asked to indicate number of working years in related industry, 70% of the selected sample has working experience between 1-5 years, 25% who had worked between 6-11 years, and only 5% with more than 18 years working experience.
As far as the Ministry of Electricity and Water, Interview has been conducted in West Doha Power Station with the general Supervisor, Mechanical Section and a Trainer in Mechanical Power and Air Conditioning Section. In Al-Zoor Power Station, an interview has been conducted with the General Mechanical Supervisor and head of Operation Supervisor. An interview was also made with the head of Manpower Development Section in the Ministry of Electricity and Water. In respect to the oil sector, Petrochemical Industry Company (PIC) has been chosen and interviews have made with - the head of Human Resources Development Team, the head of Inspection and Corrosions Team, the head of Technical Support Unit. In Kuwait Oil Company (KOC), interviews have been made with two senior training offices. In Kuwaiti National Petrochemical Company, interview has been conducted with the controller operation in the refinery department. The main objective was to examine the validity and application of the proposed model from the industrialist's point of view.

MEASURING STAFF AWARENESS TOWARDS THE CTS STRATEGY AND OBJECTIVES:

Vocational and technical education has unique characteristics than any other formal education. It requires specific knowledge and skills that enable those who manage such institutions to achieve the objectives set in accordance with industrial and business requirements. The fact is that, managing a university is completely different from managing a vocational and technical institution. Nominated heads of departments in vocational and technical institutions have to undergo extensive training courses so that they can thoroughly absorb the requirements of such education. Heads of departments also have the complete responsibility in setting their own departmental objectives that have to complement the overall college mission, strategy and objectives. The department staffs have to be well aware of those objectives and their role in setting their departmental action plan must be appreciated. Overall, it is a team work that would finally hope to contribute in achieving the objectives set in respect to their college's current and future aspiration in specific and enhancing their country economic status in general.
The findings of this research revealed that 45% of the selected samples are not aware of the overall college's mission statement nor its general objectives. Selected sample were asked if they have the opportunity to

examine the college action plan, the majority (65%) provided negative answer. Despite the awareness of the departmental objectives (75% of the selected sample), 85% have not participated in the setting nor in reviewing the departmental objectives. In fact, 44% of the selected samples have not had the chance to examine the departmental action plan. In respect to industrialists point of view, all interviewed personal have in the Ministry of Electricity and water and the oil sector, have strongly agreed that all staff at the CTS must absorb the college strategy and objectives. A senior staff in the maintenance department, Kuwait Oil tank, stated that *"It is essential for staff in the CTS to understand what they are aiming at in a certain period of time. They cannot work with isolation from their objectives. Their strategy is viewed as guidelines to achieve their objectives in respect of producing skilled graduates"*. Another view from an engineer staff from a control room in Kuwait Oil tank, stressed that *"the CTS objectives embodied in their action plan is act as a criteria for measuring the success of their performance"*.

MEASURING THE DEGREE OF INDUSTRIAL INTERACTION:

The interaction between vocational and technical education and related industry and business is highly significant.*"Global competition, technological change, increasing consumer demands and the shift to a knowledge-based economy continue to drive changes in the nature of work, the requirements of employers, and the skills that workers need."*(Education Services Australia, 2014). Interactions would allow staff at vocational and education level and industries to discuss vital issues related to the quality of vocational and technical education.

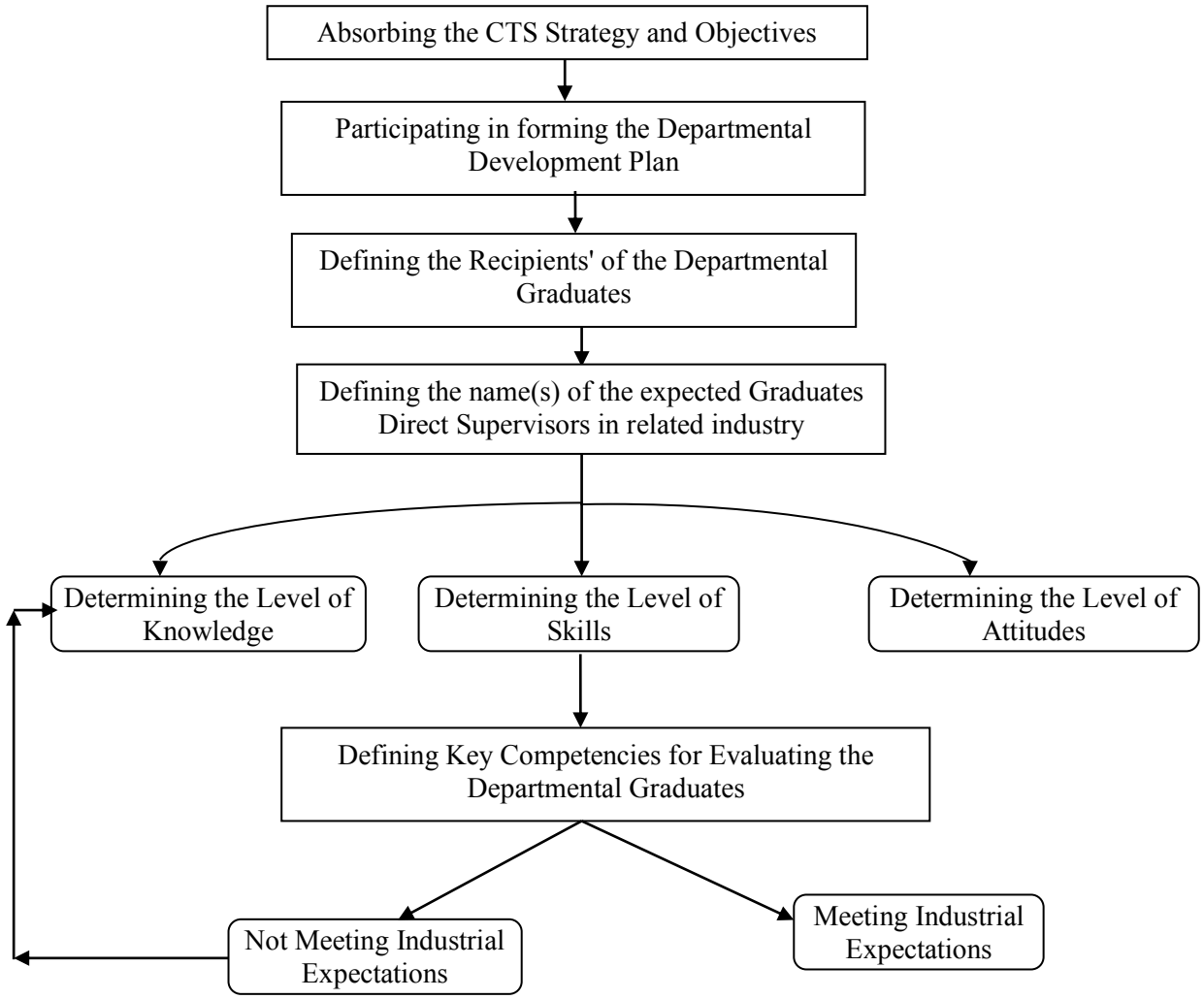
Among the issues that can be raised and examined are the level of knowledge, skills and attitudes require by the recipients of vocational graduates, the standard of workshops and laboratories to enhanced both staff and graduates competencies, research and development opportunities, methods of evaluating students as well as graduates capabilities, health and safety apparatus and procedures, and consultation in problem solving methods. Despite the importance of forging linkage with related industry, 70% of the selected samples do not have any contact with the departmental graduates' direct supervisor in related industry.

When interrogated to indicate whether selected staffs at the CTS are aware of the level of knowledge, skills and attitudes required by related industry the results revealed that 65% of the selected staff has no idea regarding the level of knowledge needed, 60% have no information related to skills requirements, and 80% were unaware of the type of attitudes level mostly needed by industry. Unfortunately, industrialists have not played any role in evaluating the standards of departmental graduates and thus supported by 85% of the selected sample.

When questioned to indicate whether departmental staffs have participated in practical visits to industrial premises for the purpose of evaluating the standard of their graduates, 85% of selected sample gave negative answer. It is though essential for departmental staff to know whether their graduates have met industrial requirements or not. Indeed, this would involve extensive efforts and resources from both parties (vocational and technical institution and related industry) to review and assess the current and future competencies. The findings of this research showed that 45% of the selected samples were unaware of degree of industrial satisfaction of their graduates, 35% gave negative answer, and only 20% were positive that their graduates had met industrial expectation. In this regards, a senior supervisor in Doha Power Station stated that *"unless staff at the CTS thoroughly realised the importance of close interaction with our activities, graduates would continue maintaining low standard of performance"*.

Another senior supervisor in Al-Zoor Power Station shares the same view and added *"the CTS must concentrate on enhancing positive attitudes otherwise students who visit our premises and graduates who are already employee would consider shifting to another job which is more suitable to their preference"*. In addition, the head of job description in the Department of Training and Development, Ministry of Electricity and Water, she stressed on the necessity to forge a close linkage with the CTS, so that mutual information can be exchange in the benefits of both parties, particularly those related to upgrading the standard of the CTS graduates". Link with the CTS must not be limited in assessing the standard of graduates, but also in the several activities that contribute positively in shaping the standard of graduates". A former engineer in the operation section at Petrochemical Industry Company (PIC) indicated *"Indeed we are ready work closely with the CTS staff in various areas such: curriculum development that would be more related to what is being taught and practice in our premise, research and development, upgrading the CTS workshops and laboratories, and in assessing the quality of the industrial training programs"*.

Figure: 1 A Model for Enhancing the Quality of the CTS's Graduates



CREATING AWARENESS TOWARDS THE CTS'S STRATEGY AND OBJECTIVES:

It is totally the management's responsibility to ensure that all staff (academic & managerial) is well aware of the CTS's strategy and objectives. This can be accomplished through various means including orientation sessions, seminars, meetings, and advertisements. The management has to ensure that all staff thoroughly absorb the college strategy and objectives and allowing the chance to respond to any query or questions that may arise to clarify any unclear issue impeded in the overall strategy and objectives. Staff must be aware that the main objective of forging the CTS is to serve related industry in specific and to enhance the capability of the economy in general. In addition, staff must be aware that the success of the CTS would heavily rely on the capability of the CTS is providing related industry with indigenous manpower that able to manage, adapt and maintain the imported technology. The college strategy and objectives has to take into consideration the country's manpower plan which aimed to reduce dependence on expatriates.

SETTING THE DEPARTMENTAL DEVELOPMENT PLANNING:

The departmental development plan would have to be derived from the CTS strategy and objectives. The head of the concerned department have the responsibility of setting the development plan taking into consideration various academic and managerial activities. Among which are: curriculum development, teaching techniques, evaluation methods, staff competencies, workshops and laboratories, and setting criteria's for improving the quality of graduates. Staffs in each department have to participate in the formation of their own departmental development plan. This would enhance the concept of team work approach as well as involving staff in taking afull responsibility for either the success or failure of the implementation of the agreeable objectives. It is worth mentioning at this point, that the departmental development plan may consider at this stage as a primarily plan

since industry is not effectively part of such plan. However, industrial involvement would be noted in the forthcoming stages of the proposed model.

IDENTIFYING THE NAME OF DEPARTMENT(S) THAT GRADUATES IS EXPECTED TO BE EMPLOYED AFTER GRADUATION:

It is essential for the heads of departments to know the exact location that would receive their graduates. The establishment of a proper linkage with the recent department would indeed facilitate and enhance the standard of graduates. In fact, staff competencies in both the supplier (CTS) and the recipient (industry) would be expected to develop in accordance with the criteria agreed by both parties. Staff at the departmental level in the CTS must be aware of those departments in various industries that would receive their graduates. Any changes that may occur in the recipient sector in relation to expanding activities or applying new technology or eliminated some of the activities must be notified to the supplier of graduates.

IDENTIFYING THE NAME(S) OF GRADUATES' DIRECT SUPERVISORS IN THE RELATED INDUSTRY:

The heads of the departments at the CTS must be aware of the name(s) of the direct supervisors in the recipient sector who normally receive the CTS graduates. A clear and updated record of those direct supervisors (e.g. name of department, specialist, and telephone number), must be kept handy for the concerned staff at the CTS. This would enable staff at the CTS to initiate a close contact and relationship that would be in the favor of both parties.

IDENTIFYING THE LEVEL OF INFORMATION, SKILLS AND ATTITUDES REQUIRED BY THE RELATED INDUSTRY:

"Employers, educational policymakers, and others are calling on schools and colleges to develop "21st century skills," such as teamwork, problem-solving, and self-management that are seen as valuable for success in the workplace, citizenship, and family life". (Hilton, Margaret, Summer 2015)Therefore, to respond positively to industrial requirements, the CTS cannot work in a "black box". A close interaction with the recipient of the CTS graduates is highly beneficial for both parties. Industrialists and academics must meet regularly and the level of knowledge, skills and attitudes must be defined. In each specialization, staffs have to be well aware of the type of knowledge, skills, and attitudes that are mostly required by the direct supervisor in the recipient departments. A close monitoring of the changes in the level knowledge, skills and attitudes is highly recommended so that action be implemented without delay.

DETERMINING THE CRITERIA'S REQUIRE TO ASSESS THE STANDARD OF THE CTS GRADUATES:

Since vocational and technical education has unique characteristics, setting an agreeable criteria's would be one of first management priority. The heads of departments at the CTS and graduates direct supervisors in the recipient sectors must meet face to face to discuss issue related to the expected standard of graduates. Among the issues that have to be discuss: number of graduates needed by the recipient sector, gender of graduates, the required GPA for graduates to join the recipient sector, the required grade in passing the recipient entree exams, level of knowledge in the specialized field, level of skills, and level of attitudes. Indeed, a mutual understanding of both parties would contribute positively into enhancing not only graduates standard but also staff competencies. Overall, both parties may share the same concept of success. Vocational and technical education would focus on preparing students for the world of work. As the Australian government agree that students should:

"…be on a pathway towards continued success in further education, training or employment, and acquire the skills to make informed learning and employment decisions throughout their lives

…have the confidence and capability to pursue university or post-secondary vocational qualifications leading to rewarding and productive employment". (Education Services Australia 2014**)**

MEETING INDUSTRIAL EXPECTATIONS:

"... employers look for skilled and flexible workers who can navigate the world of work; interact with others; plan and organise; make decisions; identify and solve problems; create and innovate; and work in a digital world. Many employers expect school leavers to have already had some practical experience, enabling them to

quickly become productive in a new job". (Education Services Australia, 2014).Therefore, Industrialists and academics must determine whether graduates have met industrialist expectations or not and decide the require action. A regular assessment of the standard of the CTS in industrial premise is considered fruitful. The feedback information to the heads of departments at the CTS would certainly help in correcting any deviation in the criteria's set by both parties. A re-training of graduates in industrial training centres would increase graduates capabilities and enhance academic staff competencies. It is essential for the head of departments to know the exact location that would receive their graduates. The establishment of a proper linkage with the recent department would indeed facilitate and enhance the standard of graduates. In fact, staff competencies in both the supplier (CTS) and the recipient industry.

MEASURING PERCEPTION TOWARDS THE PROPOSED MODEL:

An attempt has been made to measure the perception of selected heads of departments (7 departments), academic staff (in total 45 academic staff), head of industrial training program, the assistant academic affairs, and the dean of the College of technological Studies towards the proposed model. In addition to, the view of selected graduates direct supervisors in the Ministry of Electricity and Water (4 supervisors and head of Manpower Development Section in the Ministry of Electricity and Water) and the oil sector a total of (6) supervisors have been interviewed for the purposed of this research.

The aim is measure the validity and application of the concept of the proposed model in respect to the interest of both the CTS and related industry.The findings revealed that there is a common agreement in almost all interviewed persons in the CTS and those interviewed in selected industry, that industry must play a significant role in shaping the standard of the CTS graduates. Overall, industry is considered as the recipients' of the CTS graduates where graduates success or failures would be judged by their performance in a real work place. Staff (academic and managerial) at the CTS must thoroughly absorb the college strategy and objectives and play an active role in setting their own departmental action plan that coincided with the overall college plan.

Despite the unawareness of the role of graduate's direct supervisor in related industry, selected sample at the CTS and related industry stress on the need to strengthen the linkage with industrialists in order to allow a smooth flow of information between both parties. Industrialists are eager to participate in the setting, implementing and evaluating the CTs departmental plan to tackle any deviation that would have a significant impact on achieving satisfactory outcomes. Selected sample in the CTS have also shown great interest in determining the level of knowledge, skills and attitudes that graduates have to obtain before enrolling in related industry. In fact, selected sample in related industry voice certain complain regarding graduates attitudes in either during industrial training program or after being employed.

Thus, it is essential that both parties identify and agree on the criteria's that would assess the standard of the CTS's of graduates. As shown in the proposed model, meeting the expectation on graduate's direct supervisor in related industry is crucial. Last but not least, the majority of the selected sample in both the CTS and graduates direct supervisor in related industry impressed with the proposed model and shown a notable interest in testing the validity and application of the proposed model hoping to achieve tangible results.

DISCUSSION AND CONCLUSION:

The findings of this research urge the management of the College of Technological Studies to take a serious action with regards to improving the quality of its graduates, particularly those graduates directed to serve in oil sector and Ministry of Electricity and Water. The role of heads of departments in improving the standard of graduates is highly significant, particularly in vocational and technical education. The heads of department have to ensure that their graduates meet industrial requirements and be able to manage, adapt and maintained the imported technology. The departmental plan must meet national manpower plan which stressed on improving indigenous capabilities and reducing dependence on expatriates.

This would implies a serious efforts in reviewing related curriculum, improving the standard of workshops and laboratories, setting evaluation criteria for expected graduates, and upgrading standard of lecturers competencies. Managing a department in vocational and technical education is different from managing any academic department in formational education system. The philosophy of such education which responds to the demand of industries must be pass to all existing and future staff regardless to their gender, qualifications, and working experience. A continuing recruitment of staff is highly recommended since science and technology is in continuing change in related industries. Regrettably, 50% of the selected heads of department at the CTS

were unaware on the overall mission statement, strategy and objectives. In fact, they were, in some reasons, isolated from playing a vital role in setting their own departmental plan.

This unpleasant situation would indeed affect the efforts made (if any) in improving the standard of the CTS graduates. A close link between the overall management plan and departmental action plan is highly recommended. The heads of departments at the CTS must be aware of the number of graduates require ineach year and the concern sector that would be expected to accommodate their graduates. The overall plan of the CTS and the concerned department must also respond to the requirement of the overall manpower country plan since there is a serious concern from key figures to reduce the dependence on expatriates. It is essential that all staff (managerial and academic) to be aware of the CTS overall plan in order to share the responsibility in the success or failure of such plan.

As far as the role of industry in forming the overall and departmental plan, the findings of this research revealed that there no sign of industrial input in either setting or monitoring the progress of the CTS plan. Industrialists were found eager to have their own inputs in the CTS plan, particularly those objectives that determine the criteria's for evaluating the standard of graduates. In this respect, a senior supervisor at Kuwait National Petrochemical Company, KNPC, stated that *"our input in the overall college plan is so significant, we can provide the right and specific information that would determine the exact level of knowledge, skills and attitudes that must be acquired by potential graduates"*.

Interaction between vocational and technical education and industry is highly stressed in related literatures. Industrialists would expect that graduates from vocational and technical institutions have the right level of knowledge, skills and attitudes. *"Vocational education is central to Australia's economic growth and business productivity. Australia needs a vocational education and training (VET) system that ensures qualifications are focused on providing the skills that employers need from their employees, and will boost the employment outcomes derived from the VET sector"*.(Vocational Education and Training Reform, July 2015) This would be only accomplished if both parties (vocational and technical institutions and related industry) share common interests. *"One of the biggest challenges in developing skills for the labour market is to ensure that learning meets the needs of the workplace. One of the best ways of doing this is to make the fullest use of the workplace as a powerful learning environment, and to find effective mechanisms to link employer interests to the mix of training provision"*.(Department of Education and Training , July 2015).

Despite the significant role of industry in shaping vocational and technical graduates, the research revealed that 50% of the selected heads of departments have no contact with the direct supervisor of their departmental graduates. This was worsening by the unawareness of the level of knowledge, skills and attitudes mostly needed by related industry. This situation indeed would hinder the achievement of objectives set by the CTS management and the expectations set by key figures in the country to reduce dependence on expatriates. The interaction between heads of departments, particularly in vocational education, and graduates direct supervisor in related industry is so essential. In fact, the stronger is the relationship between both parties, the more fruitful in the outcomes.

The concept of working within a "Black Box" must be rejected. This means that neither the heads of departments at the CTS nor the graduate's direct supervisor in related industry are aware of the required level knowledge, skills and attitude for graduates. For instance, the Swiss Vocational Education and Training System, employers play a significant role in program development and standard setting. In fact, employers also play a crucial role in determining the right number of apprenticeships that can be offer each year to accommodate the expected students in their premises. The Swiss employers "view the VET systemas one that is designed to meet their long-term workforce needs…"(Center on International Education Benchmarking of the National Centeron Education and the Economy, March 2015).

When asked to indicate whether the graduates direct supervisors in related industry have participate jointly with heads of departments at the CTSin assessing the standards of the CTS's graduates, only 50% of the selected heads of department gave a positive answer. In addition, only 50% of the selected staffs at the CTS have participated in industrial visits to assess the standard of their graduates. Surprisingly enough, when asked to indicate if the graduates direct supervisors in related industry are satisfy with the standard of their graduates, 40% of the selected heads of departments at the CTS gave a negative answer "no", 30% "do not know", and 30% "yes".

The link with related industry must not be limited to the heads of departments at the CTS. In fact, staff, particularly academic staff must forge a contact with their graduates in related industry as well as their direct supervisors. This would enable staff at the CTS to monitor graduates performance and examine their weakness and strength. This in its turn would help in adjusting the contents of curriculum and the standard of workshops

and laboratories in the CTS to suit industrial requirements. Meeting industrial expectation is not easy to maintain as mentioned earlier due to the rapid change in science and technology. In addition, to the standard of students enrol is vocational and technical education. In fact, many perceive vocational and technical education as the "back gate" of a university. Most students fail to achieve the grade needed to enrol in a specific specialisation in a university, and thus find vocational institutions as the last option. The lack of preference, well, motivation and outdoor working are some of the other reasons for not meeting industrial expectations. However, the management of the CTS must overcome such unpleasant situation and adapt a new philosophy that changes the concept of vocational and technical education in the country. Industrial participations in all stages of the learning process, motivating and changing students' attitudes to share the responsibility of building indigenous capability in the country, enhancing staff competencies are some of the solutions for meeting industrial expectations and thus reducing dependence on expatriates.

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