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*TVET and the Labor Market*

*VTC Piloting in Linking Training Programs and Curriculum  
Development with the Labor Market.*

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## ***VTC Piloting in Linking Training Programs and Curriculum Development with the Labor Market.***

### **Abstract:**

*Over the past years the economy of some Arab States developed rapidly and markedly, but this development was not sufficient to absorb the annual flow of the new job seekers. In addition, low productivity, high unemployment and low percentage of economically active population recorded a marginal increase of per capita GDP in the past decade. In addition, TVET sector were producing non-committed workers with a low level of training and unqualified proportionately workers to the modern labor market. This problem is exacerbated by the lack of active participation of the private sector in all levels of education and vocational training, and uncorrelated output of education and vocational training with employment opportunities and the actual needs of the labor market, Where this absence by widening the gap between the needs of the private sector and skills available to graduates. Moreover, the unemployed is suffering from the difficulty in finding jobs through the government employment and private institutions, due to the dispersion and ineffective of these institutions, which led to breed frustration among many of them and drives them to discontinue job seeking. Based on the foregoing, effective mechanisms of employment support theme must be determined, supporting the TVET reform through the employer driven skills development to increase its effectiveness and efficiency and quality of its outputs by focusing on the goals of support initiatives for employment and vocational training as follows: (1) Increase the employability of manpower through adequate training and appropriate training programs to the actual needs of labor market, (2) Enhance labor market flexibility and productivity by increasing the flexibility of the laws and by laws governing the labor market in parallel with the establishment of safety nets, (3) Increase the size of the workforce through effective operation and broadening the base of economically active population. With regard to organizing and managing the vocational training sector, harmonizing vocational training programs with the labor market needs and demands, initiating adequate training programs for unqualified workforces, rehabilitating disabled, and increasing the participation of women in the workforce, in addition to, other initiatives focused on increasing the flexibility of labor by laws, awareness-raising and education campaigns for all programs and services.*

**Keywords:** TVET, Training Model, Training Programs, MCBET, Delphi Study, Labor Market.

## **1. Introduction**

*Arab countries are featuring of having profuse young human resources compared with the countries of Europe and America and some countries in the developed world, that consider as hindrance pushing on the economic and social resources if they haven't been transformed into productive capacity equipped with the knowledge, experience and skills, renewable capacity and competition through training and development of their abilities and their production efficiency. The third millennium has witnessed the commencement of the a real crisis in the strategic planning process for human resources, intellectual capital and knowledgeable, so rampant unemployment to go up to twice the global rate among learners and graduates of vocational training. It should be noted the recession rate of Arab workforces employment became (23%) of the imported labor force to work in Arabic countries. Tracer explores growing phenomenon that most research findings in the area of comparison between expats and national employment it attributed to the problem of the low level of qualification of educational outcomes in various stages without established international criteria in the quality system of education and vocational training. Due to that, Employers seek in various sectors to recruit expats according to the required jobs standards. Based on the foregoing, it has become a strategic demand for all to harmonizing the outputs of various vocational training programs in all stages with the labor market needs and its demands of knowledge and skills, otherwise, disregarding the demand driven training would lead to decrease the national employability workforces and it will not be able to compete in available jobs opportunity which estimated around 2.5 million in the Arab states. As indicated it is very important to formulate clear milestones, that will eliminate the gap between the needs and demands of the labor market and the rehabilitation of existing TVET programs to accommodate the expectations of employers and the new developments of labor market needs from TVET outputs that promising up to the requirements of the integration environment. In this context, a lot of efforts in this conference should be made to create new channels of dialogue between TVET experts and consultants for potential solutions, think tanks and strategic decision makers concerned with the quality of education and vocational training, national bodies and others, as well as identifying the mechanisms that lead to the achievement of quality standards of education and training across the Arabic countries, the imposition of a State of a logical and realistic confident welcomed by employers when they meet the minimum Of the demands of the labor market and needs of national employment.*

## **2. VTC Restructuring Project (Piloting Training Programs and Curriculum Development with the Labor Market)**

### **2.1 Background**

*Based on the targets set by the Jordan National Agenda (NA) 2006-2015 and the recent National Employment Strategy (NES), and As one of three projects of the EDSDP second component on Restructuring of the VTC, there is a critical need to radically reform the*

*Vocational Training Corporation (VTC) so that it can contribute more effectively to skills upgrading and better meet the needs of the workforce as one part, and upgrading its technical capacity on the other. VTC Restructuring project is financed by International Bank, and executed by consulting firm K-UTECH Sdn Bhd / Universiti Tun Hussein Onn Malaysia (UTHM) for a period of 30 months. The VTC project involves the design and implementation of Business, Training and Governance (BTM) models which are recommended based on: document analysis, countries profiles, ground visits and interviews, and 3 rounds of Modified Delphi survey participated by Jordan's TVET experts and practitioners. It also took into consideration Jordan's National aspirations as detailed by its National Agenda. The proposed models for VTC has seen as the starting point of a progressive and evolutionary organization that would continually improve itself based on its capabilities and labor requirement dynamics. The models would be implemented based on the organizational audit and regulatory framework of the VTC to create an organization characterized by responsiveness, relevance, cost-effectiveness, efficiency, accountability and sustainability. The Delphi Survey Results conducted by the Consultant with TVET and industry experts/practitioners point out overwhelmingly that the current laws need to be amended to effectively restructure and implement a new VTC. It is envisioned that transformation and decentralization of basic functions to make more effective, responsive and committed structures to the market needs.*

## **2.2 The Modified Delphi Survey Findings.**

*The Modified Delphi study involved expertise that gave inputs (quantitative and qualitative data) needed as feedbacks for the development of the sustainable VTC model- training, business and governance. It involved 30 selected experts from among the key stakeholders of the Vocational Training systems in Jordan. The items imposed to the respondents are based on the requirements and criteria of a sustainable TVET institution. At the same time, these items also served as "themes" for discussion as part of a semi structured interview of the respondents. Apart from giving the related rating on the degree of agreement towards the statement, the provocation of questions related to the items/statement, by the consultant, leads to further rich qualitative data/information and justification on the ratings of each items.*

## **2.3 Delphi Survey Analysis**

*The result of the final round of modified Delphi on the quantitative data is shown in Figure (1) below. The results of the Delphi questionnaires and interviews have been divided into 3 sections:*

1. Program Educational Objectives/Knowledge, Skills and Aptitude.
2. Training, Business and Governance Models
3. Change Management of the New VTC.

From the Delphi results, it can be concluded that the VTC transformation plan will be able to produce workforce in the industries, who is:

1. Competent vocational workforce that support the related industries.

2. Professional and entrepreneurial in sustaining their marketability in the industry.
  3. Possessing lifelong learning attributes to pursue higher level of training and education.
- The attributes of VTC graduates would be:

Skills consisting knowledge, skills and attitudes. Soft skills such as communication skills. Personal – fit and presentable. Entrepreneurship – business minded. Methodological in learning and training. Generic education in science, mathematics etc.)

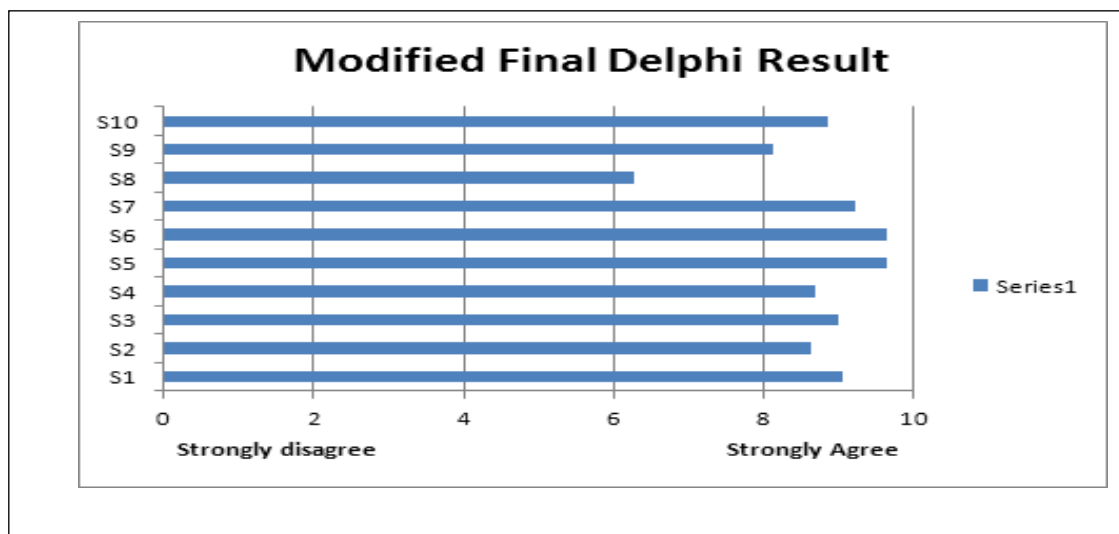


Figure (1): Modified Final Delphi Result (refer to Appendix I for list of questions).

### 3. VTC New Training Model

#### 3.1 Development of VTC New Training Model

The transformation of the Vocational Training Corporation has a significant impact on the three key sub-components of the restructuring of VTC. These components are Business Model, Governance Model and Training Model. The integration of the three sub-components is intended to implement the reforms of the new image of VTC. This paper highlights the restructuring of VTC as impacted by the new training model. The content describes the development of training model according to the changes with business and governance models. Mandated by the Term of Reference (TOR), The New Training Model will be based on employer driven training principles and will be characterized by responsiveness, relevance, cost-effectiveness, efficiency, accountability and sustainability (Figure 2). The model will outline the training cycle including a process for system-wide planning, needs assessment, training identification, design, delivery, and standardization and evaluation, using a competency based approach. It will define the roles of Headquarters and Centers in planning for and evaluating training and responding to industry needs. It will address accreditation and certification and will include standards and processes to ensure trainers

are up-to-date and current in their skills and knowledge. The Training Model will link the VTC to the external partners in TVET including the Centre for Accreditation and Quality Assurance, the TVET Council and other training providers. It will include a clearly defined role for industry. TVET system has not yet achieved close employer involvement in directing and assessing TVET. Employer involvement is strong downstream in the training process of the VTC, as noted above, but little effective participation exists for the social partners upstream. Jordan has so far had limited success in achieving employer involvement upstream in the training process – in planning, setting standards, designing content, and testing the competencies acquired.

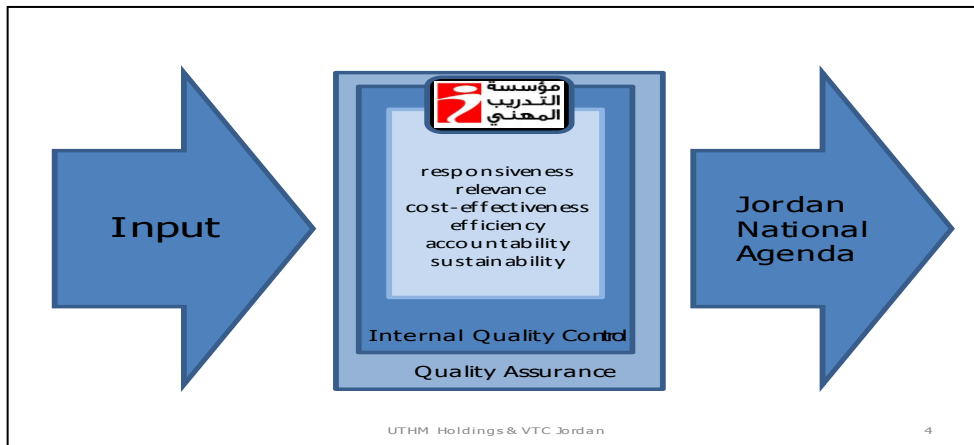


Figure 2: Characteristic of the New Training Model from the TOR

From Figures 3&4, estimates indicate that only 6% from the school dropout were channeled to VTC. The number of enrolment has been reduced yearly causing the number of VTIs to be underutilized.

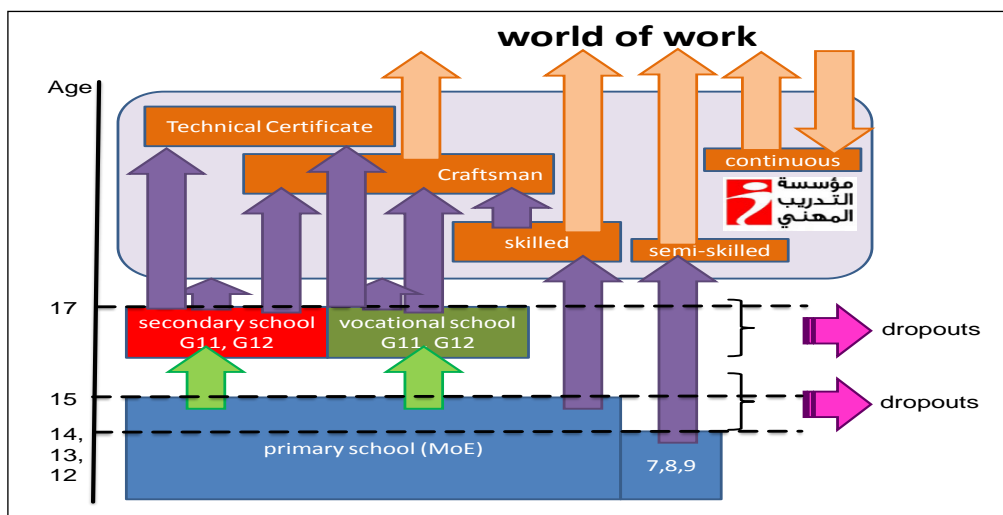


Figure 3: Structure of the Jordanian TVET system

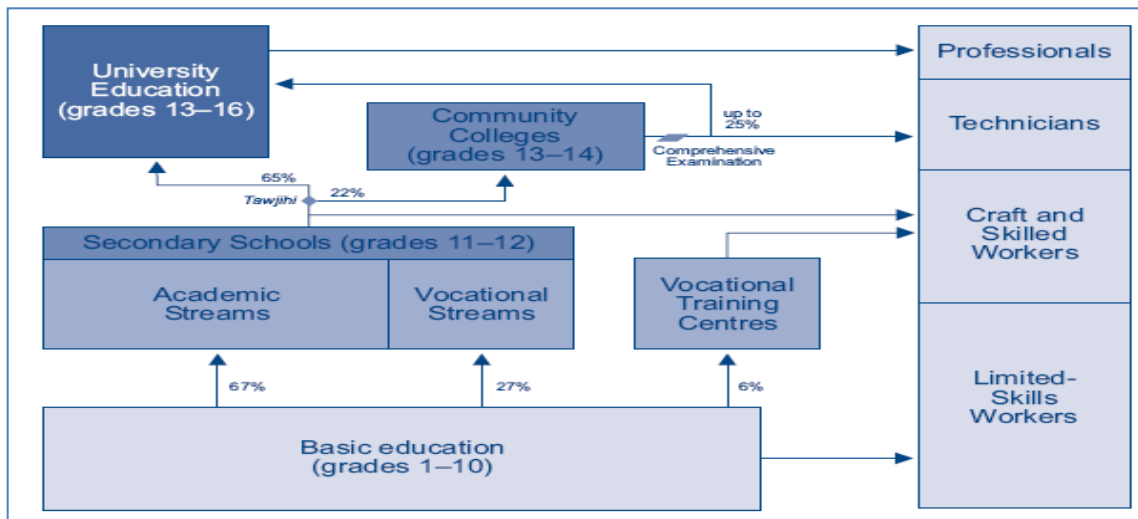


Figure 4: Jordanian Education System

The structure of the Jordanian labor market does not function well in terms of allocating human resources to their best use and maximizing productivity of human capital through proper incentives especially at the time when the Jordan economy is undergoing transformation from tourism background to the diversified industrial economic sectors. These are challenges to the graduates to ensure their skills remain relevant to industries prevailing in Jordan. Among the skills that are to be acquired and developed by graduates are technical skills, knowledge, attitude, soft skills, personal, entrepreneurship, methodological and general education/ basic education and the skills of applying the theory and current technology in the real world of work. The industry at present does not only depend on the skills achievement itself, but they are also very concerned with the skilled workers' technical knowledge, soft skill, life skills and other 21st century skills as indicated above.

### 3.2 Studies from previous project

Document analysis on three major joint projects carried out by JICA, USAID and the EU have found out that VTI decentralization need to be implemented, a training center must have a clear goal of training, performing regular and systematic monitoring approaches and relationships with industry should be established to ensure implementation of the program work process effectively. Examples of practices in previous project that may be useful to follow-up are reported as below;

**3.2.1 JICA Reports** – The project for Strengthening the Capacity of Training Management of VTC found that the training course should meet the labor market needs. Competency Based Training approach has been applied in the training model. The database which has been developed by the JICA project will be useful for VTIs to upgrade their management strategy in the future. The report also proposes the strengthening of monitoring and evaluation capacity for instruction by instructors.

**3.2.2 USAID Reports** –implementing model of the real work process. This has been applied in numbers of VTIs on hospitality.



**3.2.3 EU Reports** – To provide capacity building for the human resources information providers on both the supply and demand sides. Centre of excellent for reusable energy and water treatment and other project from EU are addressed to increase employment opportunities through improving education and training quality to meet the needs of skills required in the basic economic sectors.

**3.2.4 Canadian Project** – develop a training program for industrial safety in Jordan to assist in meeting the requirements of Jordanian national legislation. Providing suitable bases for more advanced or specialized training models, technical assistance provide sufficient flexibility to allow for both in-house and external delivery models.

### ***3.3 Other countries best practices***

Most training takes place on the job, in either the formal or informal economies. However, given the dispersion, it is difficult to quantify and analyze. Targeted Enterprise-based Training has raised skills in the workforce of many countries (Japan, Thailand, Republic of Korea, and Singapore). Many countries made serious effort to upgrade training of workers in industry and included a corporate program for in-industry technical training; Indonesia also promoted in-service training for workers while Germany, Australia, Malaysia, United Kingdom and Singapore applied modular approach in support with industries for their training models. Popular model such as National Dual Training System (NDTS), School Enterprise Model (SEM), Teaching Factory Model and Competency based Training approaches are among many training models have been successful implemented by the different countries.

### ***3.4 Methodology in Developing Models***

The „Modified Delphi Method“ has been applied with active involvement of the Stakeholders and other members within the National TVET framework. A process formulated based on input from the training model workshops (28 & 30 November 2011) has been conducted involving the participation of the aforesaid members of the Advisory Board and Stakeholders. The input and information gain has been analyzed and processed by the Project Consultant, then caused the formulation of an integrated output for the purpose of analyses and model designing. Repetitive process from the Delphi questionnaires/interviews [Delphi 3 rounds] resulted in concrete decisions on the proposals for the new training model. Findings from the Delphi responses have been compared with the previous reports and studies and support the common findings that were inputted in designing of the new training model.

### ***3.5 Concept of the New Training Model***

*Jordan so far had limited success in achieving upstream employer involvement in the training process – in planning, setting standards, designing content, and testing the competencies acquired though not for the lack of trying. Numerous sector-specific training committees and curriculum groups have been formed over the years, at least initially with employer participation. However, it has proved difficult to sustain employer interest, given the time involved and the deferred results. Reports (JICA 2009) proposed the training by specific*

competency model to ensure graduates be able to accommodate the industry work tasks. In general, industries do not only train new workers, but also retrain (on-the-spot training) others to enhance worker skills in an attempt to keep pace with production and technology changes. On-the-job (OJT) vocational training gives students the opportunity to be trained and to improve their skills directly at the work place. They are trained by veterans of the company/factory or qualified instructors were brought in from training centers. Or they can learn theory at the training centers, and practice at the factory/company.

### 3.6 Modular Competency Based Education and Training (MCBET)

MCBET have been identified as strategic training approach. Based on finding analysis from the three stage Delphi questionnaire and the training workshop, it shows that consequent findings lead to CBT as the preferred approaches. MCBET was developed to overcome the constraints of lack of competency among students who were unable to fulfill basic knowledge and is designed to prepare and expose the students with the skills and knowledge that they will experience in the actual workplace. MCBET can also be seen as a preparatory tool to help students familiarize themselves with the actual working environment in the industry. The MCBET combines market production with systematic vocational learning. The teaching personnel are compelled to undertake continuing educational courses to adapt to new market conditions and to introduce new curricular conceptions adapted to new technological processes (Figure 5). The introduction of production assumes to bring the institution closer to the realities of life, particularly the world of work. It is also justified by the need to find new ways of teaching and learning so as to increase trainees' interest and motivation in their studies/training. An important aspect of MCBET is the factor of motivation for effective learning through combining learning with production, in that the training underlines the importance of visibility of future returns. Through the synthesis of education and production, technical and vocational education institutions are expected to exploit new financing options for meeting training costs.

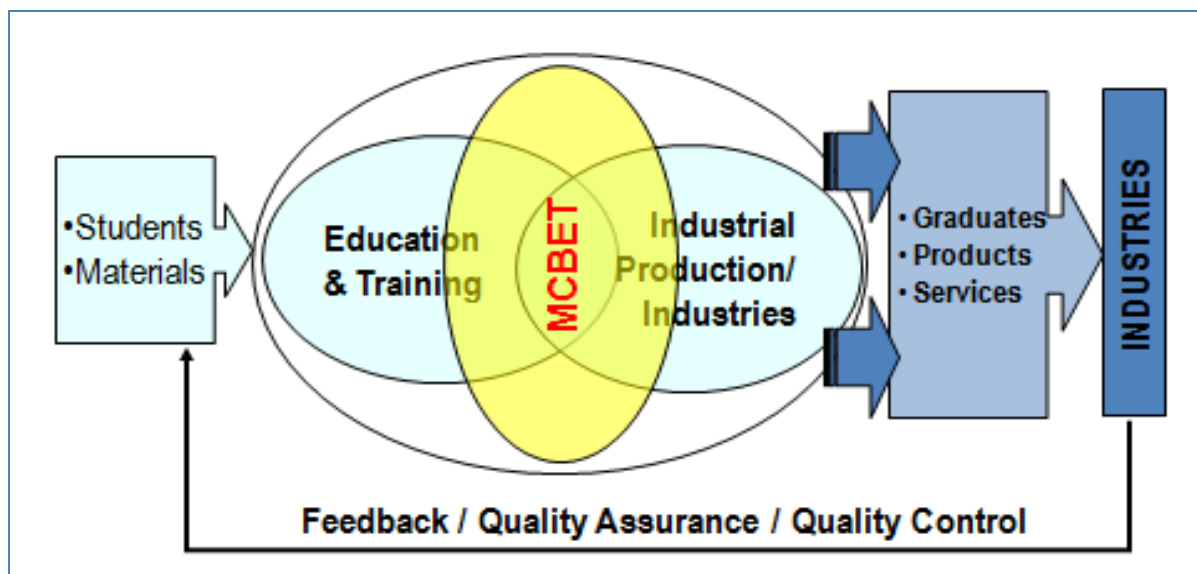


Figure 5: The process of The Modularization Competency Based Education and Training

The conceptual framework for Modular Competency Based Education and Training (MCBET) is shown in Figure 6. It includes two fields or contexts of "working" and "learning". Education and training form part of the broader domain of learning, whereas productive enterprise forms part of the world of work. Each domain has its own characteristics and typical sets of activities. The major focus in combining the two domains lies in using productive enterprises as instruments to reinforce and enhance systematic and reflective learning, and for the sake of improving the relevance of education for later employment and self-employment as well as for sustainable socio-economic development of local communities and regions. The notion of MCBET is an approach to learning involving an organized and direct interaction between the development of knowledge, skills, and attitudes and values (competencies) with the nature of industry workplace environment. The subject is involved in both processes and there is some degree of planned and intentional interaction between learning outcomes and work process knowledge. The proposed of MCBET institutes concept adopts the Australian (TAFE) Competency Based Training system and German Dual System which also best practices from western countries TVET system. Industrial maturity and support, autonomous technical and vocational education with government policies to initiate partnership between industries and the educational and training institution will ensure the success of MCBET. In the implementation of MCBET, good relationships between the institutions and private sectors are imperative. This form of Public Private Partnership is more attractive because it is a win-win partnership due to its symbiotic nature of relationship.

### ***3.7 MCBET Characteristics***

The characteristic that has been identified for the training model are as follow (Figure 6):

- Competency based Training (CBT) is actually learning by doing and by coaching. It is necessary to incorporate the principles and methodology of CBT into the formal technical and vocational education system. The delivery of quality TVET is also closely linked to the building of strong, professional management and leadership capacity as well as a suitable qualifications framework and monitoring mechanism to drive the entire system.
- Six (6) component of Graduate Profile – Skills (KSA), Personal, Soft Skills, Methodological, Entrepreneurship and General Education.
- Open entry and open exit system -The intake of students based on the terms set by the VTIs. However, they allow enrollment with any VTIs that offered related courses and module which fulfill their complete packages. Duration of training modules based on the content being developed based on fieldwork related to production work flow.
- Educating (soft skills, personal and methodological skills) while training – the skill that embedded in the learning content for competency curriculum as required by the industry.
- Highly modularized – system introduced to ensure graduates be able to take their preferred training based on specific job task. Each unit is planned in such a way that it can be possible to connect it with the other units (or other credits acquired in a

different form rather than training courses). A module-based training package consists of several units of the module. The combination of these modules will qualify for the achievement of students'' awarded certificates at a certain level.

- Actual work place environment setting – Students will be able to experience actual work environment. They will be given exposure, opportunities and real work experience.
- Production as a source of training – work process knowledge toward a process of designing, develops and implementing of the product based material.
- Awarded at the level of competency – certification will be awarded to students based on achievement by their completed module packages.
- Continually learning - graduate should be able to further their study after completing set of training packages.
- Didactic mapping – process of comparing curriculum content with actual work process based in actual environment workplace in industry.
- Lifelong learning has a beneficial effect on the development of a high quality TVET system. This is because the skills of the workforce can be continually upgraded through a life-long learning approach. This also means that learners who have had limited access to training in the past can have a second chance to build on their skills and competencies. In later stage, RPL will be utilized and would be easily sync with CBET.

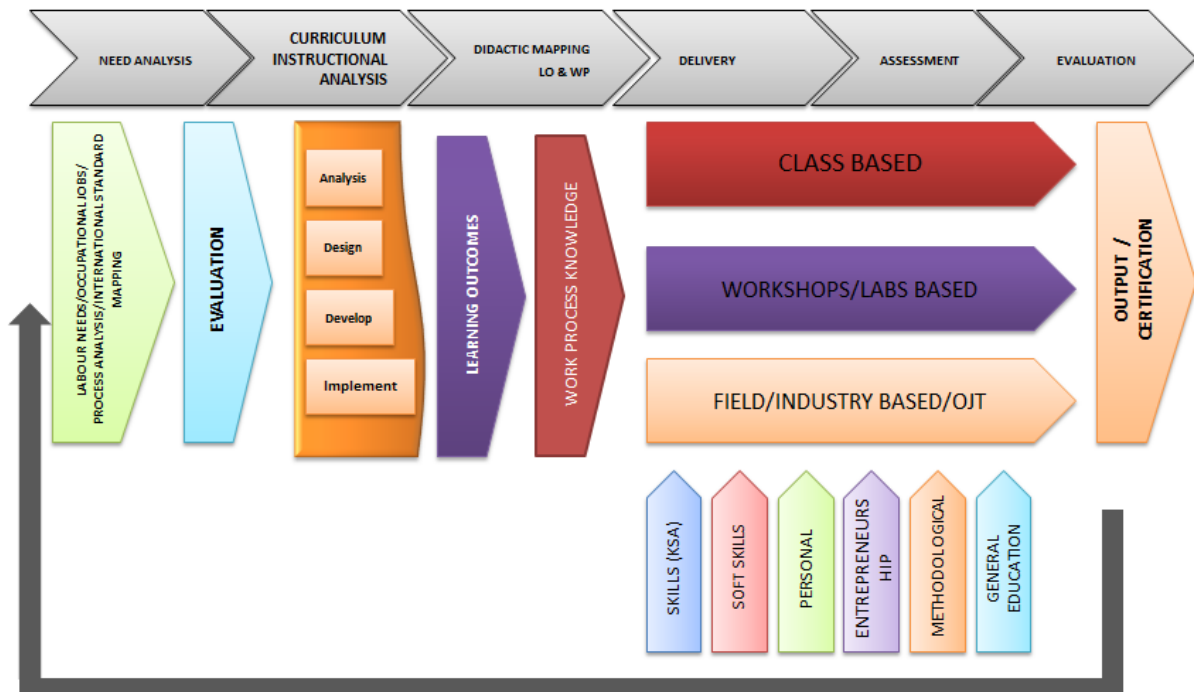


Figure 6: Modular curriculum development framework for VTIs

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- [2] JNA, Jordan National Agenda,2006-2015.
- [3] JDS, Jordan Department of Statistics, Reports,2011-2013.
- [4] Personal Experience.

## ***Figures:***

- Figure (1): Modified Final Delphi Result (refer to Appendix I for list of questions).
- Figure 2: Characteristic of the New Training Model from the TOR
- Figure 3: Structure of the Jordanian TVET system
- Figure 4: Jordanian Education System
- Figure 5: The process of The Modularization Competency Based Education and Training
- Figure 6: Modular curriculum development framework for VTIs

## ***Appendix:***

*Appendix:1* Author C.V. SUMMARY

*Appendix:2* Modified Final Delphi Result - Round (3)

## C.V. SUMMARY



*Eng. Ibraheem Ahmad Al-Tarawneh, undergraduate PHD in TVET Reforming – International Governance in TVET Sector at UTHM Malaysia. Master Degree in Engineering Management-2008 from Mout'h University – Jordan. Diploma Degree in E-Government – 2008 from Jordan University-Jordan. Master / BS Degree in Mechanical Engineering - Thermal and Power Machines-1989 FROM Romania. Have obtained many international Certificates: Certificate in Managing the Vocational Training Institutes -2005, from Dortmund Germany, Certificate in Developing curriculum from Germany, Certificate in Vocational Training Systems from Australia, Certificate in HR Planning and Management from Japan, Training Emission Reducing an TVET from Germany, Certificate in Management Seminar Training from Germany, Certificate in TVET Systems and Policies from S. Korea, Certificate Vocational Training Methodology from Australia, Certificate in Training Needs Assessments from Egypt. In addition to that, he has attended so may training Courses in Management, Strategic Planning , PM, Problem Solving, Teaching and Lecturing Methodology , Train of Trainers.. Etc. He presented so many papers in workshops and conferences such as Malaysian Conference for TVET and 14 Countries Experiences in TVET and VTC Reforming Conference on BTM. His work Experience started at VTC in 1994 as Vocational Training Coordinator, VTI Director 1999-2006, Planning Director 2006-2009, HR and Administrative Director 2009- to date in addition to Counter parts Team Leader for VTC Restructuring since 2011 to date. He has very Effective and Active participation in national and internal Associations and Syndicates right now he is member in Jordan Eng. Syndicate, Member in IVETA – USA, Member in UNEVOC – Germany, Member in Enabling and Enhancing VTC – Institutes Committee in corporation with JICA, Member in Steering Committee for sabiq fund USAID, Member in COE-International Debate INWENT-Germany, Member in COE MOF, and Member in Steering Committee for VTC Restructuring, WB Commission Rapporteur for VTC Development. He participated as lecturer and presenter in many countries such as Oman, Dubai, Turkey, Egypt and Jordan.*

## Appendix 2

### **Modified Delphi Method Questionnaire: Final Round**

#### Statement 1

*The Training processes in the New VTC Model should be able to transform the trainees onto the expected level of industrial competencies.*

#### Statement 2

*The New VTC will use modular Competency Based Education and Training (CBET) in its training of trainees. The related industry will be very supportive to the modular CBET initiative as it will be beneficial to both parties.*

#### Statement 3

*In the practices of modular CBET, to develop capacity of the staff to provide timely and adequate financial and procurement services required by the clients.*

#### Statement 4

*The decentralized new VTC Training Institution will be responsible for developing their own capacity building programs.*

#### Statement 5

*The VTC Communication Plan is highly important for the New VTC to be understood, visible to the stakeholders.*

#### Statement 6

*The existing By-laws (Finance, Procurement, Human Resource) are insufficient to allow for the Transformation to the New VTC.*

#### Statement 7

*The climate for Change for VTC is timely and in tandem with the National Government priorities.*

#### Statement 8

*The Leadership (Board of Directors) of VTC is capable of engaging and enabling VTC for the Change.*

#### Statement 9

*All staff of VTC is ready to move through the change.*

#### Statement 10

*The New VTC Training, Business and Governance Model is capable of sustaining Change*