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ANALYSIS OF COMMUNICATION BARRIERS IN TECHNICAL VOCATIONAL EDUCATION SYSTEM IN LIBYA

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ABSTRACT

Education, in the form of technical and vocational training, helps to develop sound individual progress in scientific and technological areas, and requires extensive technical competence and professional skills in addition to specific functional capabilities. Therefore, the education system requires technical and vocational training in order to develop the knowledge and skills that will help the workforce to become more flexible and responsive to the needs of the local labour market, enhancing the possibility of competing in the global economy. Within the Libyan context, there is a need for centres of technical and vocational education and training to reform their professional education programmes, and to seek to integrate theoretical education with training appropriate for the labour market. There is also an urgent need for the system of technical and vocational education and training in Libya to open up opportunities by providing comprehensive education and training for all, including marginalized people. Such opportunities would enable Libyan citizens across civil society, including inhabitants of villages, to equip themselves with the necessities for a decent and productive life, and are vital for the prosperity and welfare of the Libyan community as a whole.

KEYWORDS: TVE, Libyan Technical education, E-learning, Information Technology

INTRODUCTION

The Current TVE Structure in Libya: There is no doubt that technical education and training plays an important and strategic role in moving the wheels of development and progress in any society as it looks forward to the future. Thus, it is essential to focus on this type of education and to provide support for it in terms of both material and human resources, since this is important in providing the community with a human capacity which is technically qualified to a high level, and which can function in various fields of economic and industrial productivity. To ensure this strategic role, it is imperative that the outputs and outcomes of technical education are of a high quality and aligned with the country's development needs and the needs of the market on both a quantitative and qualitative level. The development of technical and vocational education in Libya can make an effective contribution to advancing the country's development, and to achieving social and economic prosperity for all members of society. There are currently numerous educational and training institutions at different levels, including approximately 382 institutions in the cities of Libya which offer technical education, and these institutions provide training for more than 160,000 students in different disciplines. Learners generally enter these institutions at the age of 16, after finishing their education at intermediate school, and the duration of study varies from three to four years. In the first year, students study general modules like mathematics, English language, Arabic language, electrical engineering and basic mechanical engineering. There are different engineering specialisations in the second year, when students select suitable courses according to their interests and performance, such as the mechanical route or the electrical route. After fulfilling the course requirements, there are several types of certificates in various subjects which graduates may be awarded, including diplomas in artistic media, higher technical diplomas and technical bachelor's and master's degrees (Merhi, 2009).

The mechanical route, for example, comprises practical and theoretical modules in classroom sessions, including specialisations such as Machines, Fabrication and Automotive Welding. The electrical route includes practical and theoretical modules which include specialisations such as Telecommunications Engineering, Electrical Engineering, Instrumentation and Control, Computer Technology and Electronic Engineering. In the final year, in addition to the classroom sessions, the learners undertake work placement sessions related to their specialisation for two days each week. This programme therefore delivers real work experience.

Learners who pass the exams in the last year will be awarded the Medium Technical Diploma. Some students prefer to continue in higher vocational and technical training to obtain a Higher Technical Diploma. Other students, who have good practical ability, join the labour market directly after completing their studies. For further details, see Figure 1.

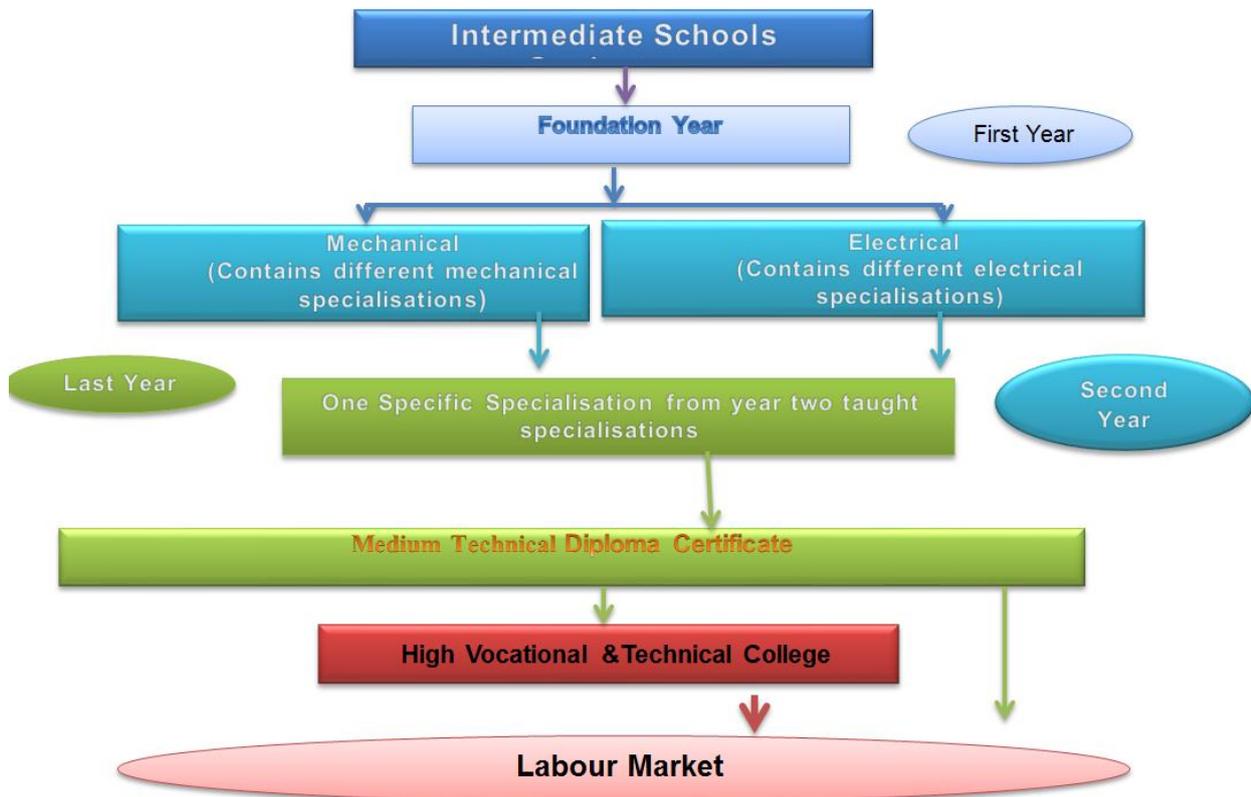


Figure 1: Structure of TVE system in Libya

This paper will deal with a historical overview of the evolution of the TVE system in Libya, evaluate the most important achievements and future challenges facing this sector, and discuss some of the important issues associated with work placement skills. It will focus mainly on impediments to the development of this type of education, and on what can be done to overcome these obstacles. It will also provide a set of proposals designed to activate and enhance the development of technical education and technical support in Libya, in order to keep pace with global developments and meet the requirements and needs of the labour market. The goal is to convert the Libyan economy and society to a more technological society.

The Educational Context of the TVE System

The key aim of the TVE system in Libya is to provide TVE graduates with the work ethics, knowledge and skills required for the labour market, for example in the fields of building services, telecommunications engineering, electronics, computer technology, the petroleum industry and mechanical engineering. In the educational context, there is a two-tier system of education in Libya, which includes classroom sessions and also work placement, the latter involving specialised practical modules (for industry skills) and supportive modules (for general employability skills) (Ramadan, 2001).

1. **Pyramid organisation of the workforce in Libya within different employment sectors:** The organisation of the workforce in different employment sectors in Libya is in the form of a pyramid. The base class of workers is comprised of those with limited skill, on the grounds that no preparatory training is available to them and they rely only on the experience they have gained from their work. These are followed by graduates of vocational training centres, and these can be considered for work that is more skilled if they are able to gain practical experience. Graduates of professional schools of different types make up the level of professionals, since they have spent two years studying a professional career at high school. Some of them may have studied some of the basics of vocational education at the upper primary stage, and passing the public exams for secondary professional training has successfully prepared them for this level in the workforce pyramid. Graduates of community colleges make up the level of technicians, while college graduates who have continued their higher studies to become experts achieve the level of specialists. Figure 2 represents the workforce pyramid.



Figure 2: The workforce pyramid in Libya

2. **Skills gap in Libyan TVE:** Technical and vocational education in Libya is still growing very slowly, and will take a long time to be able to stand on its own feet. The Ministry of Education has inherited a heavy legacy in terms of the negative attitudes of the population towards vocational education. Those who are enrolled in this type of education are perceived to have failed in academic education, and they are seen as having the lowest salaries in the educational ladder (Merhi, 2009).
3. Moreover, there is a gap between the training curriculum in the education system, including the vocational and technical training available in most Libyan educational institutions, and the needs of the labour market. The curricula and study plans of many Libyan institutions lack sufficient flexibility in implementation and application to meet the needs of the labour market and keep pace with technological development, and the curriculum is not updated to pursue these changes. There is a lack of facilities, equipment and training methods in many training institutions, which negatively affects the level of graduates. In addition, equipment is not updated or maintained, and sometimes there are inadequate levels of occupational health and safety in the hands-on training sites.
4. **Libyan TVE policies:** Technical and vocational education and training in Libya still suffers from a separation between academic education and applied education, whereby the education of craftsmen and technical workers is deemed to be of less value than academic education. While outstanding students are accepted at universities and encouraged excel academically, there is a lack of support within public education for those enrolled in vocational and technical training, as well as an absence of professional guidance and counselling within most vocational and technical training institutions in Libya. The education system is not linked to the idea of work and production. Great efforts have been made in Libya to address these problems, but these efforts have mainly focused on increasing enrolment in technical and vocational education and training, rather than dealing with the lack of appropriate quality in the output of these systems.
5. **Vocational education:** VE is a pattern of formal education which includes educational preparation and provides manual skills and professional knowledge. It is taught by educational institutions at regular high school level with the purpose of preparing skilled workers in various disciplines, such as the industrial, agricultural, health and administrative fields, among others. Such training normally lasts for 3 years following the stage of basic education. Vocational education graduates are expected to have the ability to perform tasks assigned to them, and to contribute to production on an individual or collective basis within their specialties, as they form the link between the technical and the unskilled labour force in the pyramid organization. This concept includes vocational training in specialised centres, and is linked to the productivity of any institutions benefitting from the outputs of these centres. (El-Hawat, 1996)
6. **Technical or technological education:** TE is a pattern of higher education that includes both educational preparation and the acquisition of skills and technical knowledge. It is taught systematically by educational institutions for a period of not less than two years after high school, and is designed to set up a framework of expertise in various disciplines within the industrial, agricultural, health, administrative and other fields. Graduates of this training will have responsibility for operation, maintenance and services. In terms of level,

these technicians form a link between specialists (university graduates) and skilled workers, and high school graduates or professionals. However, the technological and scientific developments that took root in the information revolution have affected both the means of production and the need for technical services. This has resulted in a need to produce advanced technicians with a higher level of competence (knowledge and skills) than those characterized by graduates of intermediate institutions. Therefore, so-called technical or technological colleges have been established, offering study of 4-5 years duration after secondary education. The VET sector is expected to achieve a system of education and training which meets the following purposes: to prepare students for working life, and to provide people with the knowledge and skills necessary to enter a professional field of work.

The Main Pillars to Determining Future Needs:

The process of determining the future needs of the workforce in the technical disciplines depends entirely on determining the future direction of the labour market in Libya, and the study and analysis of future policies of the industrial sector in this country must be considered in relation to the industrial and technical progress that the world is now witnessing. Over the past decade, the world has seen a period of scientific progress and technological development in which states and communities have evolved in a way that has never been seen before. There is no doubt that the results of this phase have influenced the world more than the changes that accompanied the Industrial Revolution. The following are the most fundamental pillars to be considered in determining future needs: -

- 1. *The information technology revolution:*** The information technology revolution and the accompanying development of advanced industries is considered to have changed the basic structure of the global economy, and the term 'digital economy' best expresses the importance of this revolution in terms of its effects on the economies of individual countries. Some of the features of this effect can be seen by comparing the GDP of developed countries and developing countries. In developed countries, the information technology revolution has created new opportunities at all levels and in all directions, and has also contributed significantly to facilitating access to and exchange of information. This has led to the establishment of industrial projects involving global specialists in this area, generating annual profits estimated at tens of billions of dollars and providing new career opportunities for thousands of unemployed who are looking for work. In developing countries, however, the information technology revolution has led to a widening gap between those communities and their counterparts in developed countries. This revolution may therefore be considered elitist, because of the exclusive employment it provides for the rich and educated, because of the high cost of the necessary hardware, and the high cost of the services provided by companies operating in the field of Information Technology in terms of per capita income. From this perspective, the importance of this study is to propose clear plans to facilitate the deployment of the necessary technical awareness in Libya, in order to help the country's people to absorb modern technology and keep up with technological changes in the world, thereby enabling them to become active in the international community, rather than just consumers.
- 2. *Industrial development and educational outcomes:*** One of the most important factors contributing to an increase in the number of unemployed, which exists alongside a widespread desire to bring in foreign workers, is the lack of a clear relationship between the educational system, both primary and tertiary, and the industrial development plans adopted by governments. Libya has suffered a lot in this respect, not least in the dramatic increase that can be observed in the number of migrant workers coming to Libya over the past few years, specifically for jobs and career opportunities. The problem of the poor participation of Libyan nationals in the country's leading employment sectors is mainly due to the inability of these workers to keep up with rapid changes to the labour market. Of course, the presence of palaces institutionalized by the Libyan government gives a clear indication of matters relating to the future trends of industrial development; the progress which must be adopted by this government will take some time, either because of a lack of plans and specific projects, or due to a lack of material resources needed for implementation.

Future Needs in Technical Disciplines: It is clear from the foregoing that the process of determining future Libyan needs in the technical disciplines depends on several factors, some of which are overlapping or associated with each other. These factors range from industrial development policies adopted by the Libyan government, and passing laws that set the overall structure of commercial markets, to programmes and curricula that will determine educational outcomes. However, the general lines of future needs will be affected, in one way or another, by global labour market trends in terms of specialisation or numerical growth. In this sense, the most important future needs of the GCC countries can be summarized within the following technical disciplines.

- 1. *Functions related to information technology:*** Followers of Libyan government trends clearly note this government's quest to keep pace with rapid developments in global technology by announcing a desire to shift to e-government. There is no doubt that this process of transformation needs to be integrated with the policies and plans of Arab countries, in order to benefit from the previous experience gained by governments such as that of the Emirate of Dubai in the United Arab Emirates. On the other hand, the consequences of this shift are

likely to be positive in general, at the level of both individuals and governments. At the level of individuals, it is expected that this shift will create many new jobs that require specific technical skills directly related to the use of the computer. Therefore, there is expected to be an increased demand for these kinds of disciplines and for people who have the skills to use a public computer.

2. **Technical jobs in computer applications:** It is anticipated that these kinds of jobs will involve the use of computers to carry out transactions in artistic skills, such as drawing and structural engineering, technical design in advertising, web-page design and maintenance, and similar applications. There will, of course, be an increase in the demand for such skills because of the radical transformations undergone by the Libyan state in terms of both demographic and attitudinal growth. Some indicators of this can be seen in the large size advertisement that has appeared in the Libyan country during the past few years.
3. **Economic activity and e-commerce:** The huge profits that can be gained through e-commerce will undoubtedly attract many Libyan investors to enter this dynamic industry. As the infrastructure underpinning this sector differs from relatively traditional markets, it will create new opportunities for the young people of Libya to engage in the sector through investment or work. The need for individuals who are appropriately trained, and able to deal with the electronic devices required for e-commerce, will contribute to the creation of quality new jobs in the near future.
4. **Electronic communication devices:** The increasing prevalence of the use of modern electronic devices such as mobile telephones and computers, and satellite receivers, may open a new door and create a freestanding sector in terms of size of investment and maintenance. With the passage of time, the need for such devices in the hands of the national workforce will require a certain level of technical skill, and the services provided by this sector will increase continuously.

CONCLUSION

The developments and changes that are occurring rapidly in the present day make it imperative for educational and training institutions in Libya to be more open to the wider community and labour market. For these institutions to achieve their goals and serve the community as a whole, they must be more than just places for granting qualifications, moving individuals up the social ladder, or enabling people to work to meet the basic needs of life. These institutions are the source of knowledge and their members, from students and faculty members of the board to the leaders of the institutions, must interact with the community and be sensitive to its concerns and problems. They must identify the sources of underdevelopment through training, and link their research and studies to the problems of society.

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