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FOR EDUCATION IN THE
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UNEVOC

International Project on Technical and Vocational Education
Projet international pour l'enseignement technique et professionnel

REGIONAL TRAINING SEMINAR ON
TECHNICAL AND VOCATIONAL EDUCATION CURRICULUM
DEVELOPMENT IN THE ARAB STATES

FINAL REPORT

AMMAN - JORDAN

23-27 October, 1994

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REGIONAL TRAINING SEMINAR
ON TVE CURRICULUM DEVELOPMENT
IN THE ARAB STATES
AMMAN - JORDAN: 23 - 27 OCTOBER, 1994

1. ORGANIZATION OF THE SEMINAR

- Introduction:

In implementation of UNESCO'S Programme and Budget for 1994-1995 [The International Project on Technical and Vocational Education (UNEVOC), 27C/5, para. 01223], UNESCO Regional Office for Education in the Arab States (UNEDBAS), in cooperation and coordination with the Jordan National Commission for UNESCO-Ministry of Education, a Regional Training Seminar on TVE Curriculum Development in the Arab States in Amman, Jordan was organized during the period 23-27 October 1994 at Jerusalem International Hotel.

UNESCO Regional Office for Education in the Arab States (UNEDBAS), in coordination with the National Commissions for UNESCO in the Arab States, earlier arranged for a group of experts and specialists in Technical and Vocational Education Curricula to prepare three main working papers along with a number of country reports on TVE Curriculum Development which were submitted for the seminar in order to enhance deliberations and highlight efforts exerted by the Arab States toward developing Technical and Vocational Education curricula.

This seminar is a continuity of the accomplishments during the Regional TVE-UNEVOC Expert Meeting in the Arab States which was held in Bahrain 20-24 March 1994, and which highly emphasized the role of Curriculum Development in Technical and Vocational Education as a mechanism for developing and upgrading the efficiency and effectiveness of TVE in educational systems.

- Objectives of the Seminar:

The objectives of the seminar are to promote the use of modern techniques and methods for developing Technical and Vocational Education curricula through the following:

1. Linkage of Technical and Vocational Education curricula to the world of work.
2. Integration of TVE subjects and other subjects in the curricula.
3. Promotion of girls and women in Technical and Vocational Education programmes.

Furthermore, guides (models) for prototype TVE Curriculum Development will be discussed and prepared later in order to be disseminated in the Arab States for the use in TVE Curriculum Development within the framework of UNEVOC Regional and National Networks.

- Opening Ceremony:

The seminar was inaugurated on Sunday 23 October 1994 at 9.30 a.m. under the auspices of Mr. Saud Mahmoud-Assistant Secretary General, representing H.E. Minister of Education and Chairman of Jordan National Commission for Education, Culture, and Science. The ceremony started with the Royal Anthem and a recitation of verses from the Holy Qur'an. Then Mr. Ali Nasrallah, Director of Vocational Education at the Ministry of Education in Jordan, made a statement in which he welcomed the auspices of H.E. the Minister of Education and his representative, Mr. Mahmoud-Assistant Secretary General to the seminar. Also he welcomed the participants and representatives of International and Regional Organizations taking part in the seminar. Mr. Nasrallah stated that Curriculum Development in Technical and Vocational Education has been chosen as a main topic for this seminar because of the importance underlying the need to determine the contents and output efficiency of such education. He also noted that Curriculum Development in Technical and Vocational Education is necessary in view of the changes

and development taking place in the Arab Region. In particular, the emerging trends to tackle new situations and circumstances. These trends generally call for expanding employment opportunities in production and services industries, promotion of privatization and self-employment, and keeping pace with extensive technological advancement. In view of these changes, the development of TVE curricula is viewed as an ongoing process worthy of overall investment and emphasis. Mr. Nasrallah stated the objectives of the seminar and emphasized the importance of producing teaching materials and prototype curricula to be distributed and used in the Arab States.

Mr. Sulieman A. Sulieman, Programme Specialist in Technical and Vocational Education at UNESCO Regional Office for Education in the Arab States (UNEDBAS), and representative of UNEDBAS Director at the Opening Ceremony, made a statement in which he conveyed to the participants, the greetings of Mr. Federico Mayor, Director General, of UNESCO and the greetings of Mr. Abdel Gader El-Atrash, Director of UNEDBAS. Mr. Sulieman expressed his appreciation to H.E. Minister of Education and his representative, Mr. Mahmoud for taking part in the seminar and their participation in the opening ceremony. He also conveyed his thanks for the efforts exerted by the Ministry of Education and Jordan National Commission for Education, Culture, and Science in the preparation and organization of the seminar. Mr. Sulieman noted that Curriculum Development in Technical and Vocational Education can play an important role in upgrading the efficiency of Technical and Vocational Education programmes within the education systems and in preparation for the world of work (labour market requirements).

Mr. Saud Mahmoud, Assistant Secretary General and representative of H.E. Minister of Education and Chairman of Jordan National Commission for Education, Culture, and Science, in his speech stressed the following:

- It is necessary to give more attention to Technical and Vocational Education owing to the importance underlying the development of human resources and the need to cope with rapid technological progress.
- The ratio of students' enrollment in Technical and Vocational Education is still below the desired levels. Students enrolled in this type of education constitute 32% male, 20% female of Jordanian students in secondary education during the academic year 1994/1995.
- Curriculum Development in TVE must be a continuous process in order to cope with advancement and development in technology.
- The importance of taking early measures in basic education to formulate positive attitudes of students toward technical and vocational jobs, and provide opportunities of employment and career oriented skills for the future.

In this regard, the Ministry of Education in Jordan is adopting pre-vocational education subjects which are being taught to all students in basic education (classes one to ten).

- **Procedural Session:**

The opening ceremony was followed by a procedural session in which the following were elected as members of the seminar bureau:

CHAIRPERSON:	Mr. Ali Nasrallah, Jordan
VICE CHAIRPERSONS:	Mr. Ibrahim M. Al-Akraf, U.A.E. Mr. Ahmad Wild Dahah, Mauritania
GENERAL RAPPORTEUR:	Mr. Emile S. Alsafadi, Lebanon

A drafting committee was formed under the leadership of the General Rapporteur and consisted of the following members:

Mrs. Manar Shawarib, Jordan

Mr. Muhammad Al-Anati, Jordan

Mr. Ahmad Nur Al-Badri, Bahrain

Mr. Sa'ad Abdel Rahim, Iraq

Mr. Abdel Wahhab Al-Ghashm, Yemen

The participants reviewed the provisional agenda of the seminar which was distributed earlier by UNESCO Regional Office for Education in the Arab States (UNEDBAS). The provisional agenda was discussed and amended in light of comments made by participants on the timing of evening sessions. The approved agenda of the seminar is presented as Annex (A).

– **Participants:**

Twenty-nine participants took part in the seminar including 12 representatives from Jordan, and 10 representatives from other Arab States (Bahrain, Iraq, Lebanon, Mauritania, Oman, Qatar, Sudan, Syria, U.A.E., and Yemen). Participants included one representative of Arab Federation for Technical Education (AFTE), Arab Labour Organization (ALO), and UNESCO/UNEDBAS; two representatives of UNRWA; and two resource persons on Curriculum Development in Technical and Vocational Education. The list of participants is presented as Annex (B).

– **Documents of the Seminar:**

Through previous coordination between UNESCO Regional Office for Education in the Arab States (UNEDBAS) and the National Commissions for UNESCO in the Arab States, the following documents were distributed to participants before and during the seminar:

1. Information documents:

- Provisional agenda
- Provisional list of participants

2. Main working documents:

- Curriculum Development in Technical and Vocational Education: Linkage of the Curricula to the World of Work, prepared by Mr. Sulieman A. Sulieman, (UNEDBAS/TVE-94-09).
- Curriculum Development in Technical and Vocational Education: Integration of TVE Subjects and Other Subjects in the Curricula, prepared by Mr. Ahmad A. Hiasat and Mr. Adnan Faris, (UNEDBAS/TVE-94-11).
- Curriculum Development in Technical and Vocational Education: Promotion of Girls and Women in Technical and Vocational Education Programmes, prepared by Mrs. Eidah Al-Mutlaq, (UNEDBAS/TVE-94-11).

3. Country reports submitted by representatives of participating Arab States.

4. Reference documents which include:

- Final Report of International Workshop on Curriculum Education Development in Technical and Vocational Education, Turin, Italy, 30 August to 3 September 1993.

- Final Report (Part II) of Regional TVE-UNEVOC Expert Meeting in the Arab States, Bahrain, 20-24 March 1994.

- **Closing Session:**

In the closing session, Mr. Ali Nasrallah, Chairman of the seminar, made a statement in which he praised the efforts exerted by the participants, cooperation, and care displayed by all in order to achieve the objectives of the seminar. Mr. Nasrallah thanked representatives of Regional and International Organizations for their participation in the discussion and deliberations of the sessions. He also thanked UNEDBAS for their efforts to convene the seminar in Jordan, and expressed appreciation for the hard work of the administrative and supportive staff for services and organization of activities during the seminar.

Mr. Ibrahim Al-Akraf, Vice-Chairman and U.A.E. representative, made a statement on behalf of the participants. In his speech, Mr. Al-Akraf thanked the Chairman and members of the Bureau for their administrative efforts, and also thanked Jordan and the Ministry of Education in particular for hosting the seminar. Mr. Al-Akraf commended the hospitality and generosity which the participants noted during their stay in Jordan.

Mr. Sulieman A. Sulieman, Regional Programme Specialist: Technical and Vocational Education, made a statement in which he thanked Mr. Ali Nasrallah, Chairman of the seminar, for his intensive efforts to achieve seminar objectives and for his administrative skills during the sessions. Mr. Sulieman also commended the participants from the Arab States, and representatives of Regional and International Organizations for their participation and contributions during the seminar. He thanked the General Rapporteur and the Drafting Committee for their efforts in preparing the draft Final Report. Thanks were also expressed to the administrative and supportive staff which facilitated and provided convenience and success of the seminar.

II. WORKING SESSIONS AND DISCUSSIONS

First Working Session: Sunday 23 October 1994

Topic: Curriculum Development in Technical and Vocational Education: Linkage of the Curricula to the World of Work.

The main working-document in this area was presented. The document included a review of the International Project on Technical and Vocational Education (UNEVOC) activities and major accomplishments in Curriculum Development in TVE and its role in increasing the effectiveness of TVE in the educational system and in preparation for the world of work (labour market requirements). The document highlighted the results and recommendations of the Regional TVE-UNEVOC Expert Meeting in the Arab States, Bahrain, 20-24 March 1994. In particular, those related to Curriculum Developing in Technical and Vocational Education and the need for coordination between the educational curricula, socio-economic development plans, employment, and the introduction of productive work into Technical and Vocational Education curricula.

Moreover, the document stated UNESCO's efforts in activating the role of the Technical and Vocational Education in the educational systems and in preparation for the world of work (labour market requirements). For example, the Convention on Technical and Vocational Education adopted by UNESCO's General Conference at its Twenty-Fifth Session, Paris, 1989, and Resolution 1.8 of the Twenty-Sixth Session of the General Conference in 1991 on the initiation of the International Project on Technical and Vocational Education (UNEVOC). The document explained the results and recommendations of the International Conference for Development and Improvement of Technical and Vocational Education, Berlin, 1987. These results and recommendations stressed the role of the Technical and Vocational Education in national development along with the recommendations as a result of working groups on Planning and Administration, and Innovations in Curriculum Content and

Methodologies (Curriculum Development). The document proposed a number of models for linkage of TVE curricula with the world of work, such as: Job Analysis Techniques, Developing A Curriculum (DACUM), and Technology Preparation Curriculum (Tech Prep).

The document emphasized the need to activate the role of Advisory Committees and joint cooperative programmes in practical training to establish more cooperation between TVE institutions and enterprises.

Participants' discussions of the topic included the following:

- Regional pilot programmes and projects such as applications of the Modular Approach in Lebanon and Bahrain, the Training Modules System in Jordan, Pre-Vocational Education Curriculum in Basic Education, and the Twinning Programme between Technical and Vocational Education institutions and public and private enterprises involved in business, industry, services and maintenance in order to reduce costs of TVE and increase employment opportunities of students.
- The role of employers, trades and professional associations, labour unions, and chambers of commerce and industry in the curriculum development of Technical and Vocational Education and in the adaptation of these programmes to development and employment plans.
- The role of teachers, parents and local communities in increasing interaction between TVE programmes and local communities through the process of Curriculum Development in TVE.
- Designating an appropriate working mechanism whereby TVE Curriculum Development can be achieved and linked to the world of work (labour market requirements) provided that this mechanism is in line with social customs and traditions.
- The rapid changes and advancements in trades, professions, and jobs and their impacts on Curriculum Development and its relevance to the world of work (labour market requirements).
- Development of vocational apprenticeship programmes, (i.e., the dual system) as a pattern for qualifying and training manpower according to development and employment plans, and skills required of graduates. Opportunities of transfer from one profession/ trade/ responsibility to another should be also provided through the educational programmes for easy mobility of manpower.
- Cooperation between educational institutions and enterprises in order to determine qualifications and skills of graduates and to open opportunities for workers to adapt easily to new jobs and responsibilities.
- It is necessary for Technical and Vocational Education curricula to include entrepreneurship skills and capabilities in order to develop opportunities for self-employment among graduates as an important mean of reducing unemployment rates in the society.
- It is imperative to open channels between TVE levels and programmes (Integration and Articulation) to motivate students and give them opportunities in higher education and lifelong education.

Second Working Session: Monday 24 October 1994

Topic: Curriculum Development in Technical and Vocational Education: Integration of TVE Subjects and Other Subjects in Curricula.

The main working document in this area was presented which include regional and international trends as they are related to integration in TVE curricula and the importance of curriculum integration in the effectiveness of TVE programmes. The integration will help TVE to meet national human resources development and socio-economic development plans, also society and individual needs will be taken into consideration. Integration could be a vital mean in solving problems related to unemployment and

advancement in sciences, technology, and information. Curriculum Development in TVE through integration will play an important role in organizing and controlling labour market trends through trades and professions classifications and descriptions with emphasis on work values and ethics.

In light of the above-mentioned considerations, the Curriculum Development in TVE through integration constitutes a basic element of upgrading the outputs of TVE. Another important field to Curriculum Development is the integration of theoretical and practical parts (knowledge and skills) of the educational curricula. Curriculum integration is designed to provide horizontal and vertical contact between different specializations and levels of Technical and Vocational Education. Accordingly, the transfer from one specialization or level of education to another will be provided through such curriculum with a minimal degree of difficulty. Curriculum integration is based on a gradual acquisition of removing any contradiction between different levels or specializations of TVE programmes. It is also the purpose of curriculum integration to observe harmony between educational subjects such as sciences, mathematics, languages and technology sources. The integration is aimed to show that curriculum content can be harmonized and obtained through developing educational information and procedures to meet individuals and society needs.

A number of recommendations and implementation procedures for Curriculum Development in TVE were presented in the document. However, linkage of theory to practice in TVE programmes was a major area for integration.

The participants' comments and discussions on integration of TVE curricula included the following:

- Study Plans of Technical and Vocational Education Programmes: The study plan must comprise scientific and cultural aspects of knowledge needed for practical applications to achieve desired qualifications of graduates in order to secure progress and promotion at work. The participants called for giving attention to subjects related to computers and their applications, labour legislations, project management, ethics in the workplace, and costs, economics and measurements to be included in TVE curricula.
- Vocational Guidance and Counselling Programmes: It is necessary to include vocational guidance and counselling in other educational subjects at different phases and levels of education to create orientation for work and employment. Such topics will acquaint students with the scope of trades and professions, employment requirements and establish early positive attitudes toward vocational work.
- Scientific Subjects must be Oriented Toward Vocational Specializations: The curriculum resources of mathematics, physics, chemistry, languages and other subjects are required to serve vocational specializations. In this regard, several examples were presented highlighting practical experiences of participating Arab States.
- Applications of Modern Technologies: Participants concentrated on the importance of preparing computer programmes (software applications) in order to be used in Technical and Vocational Education Programmes. Such applications and programmes will provide the necessary skills to cope with scientific and technological advancements, and illustrations will help students in linkage of practice in TVE.
- Financial Funds: Participants focused on the need to secure the necessary funds for Curriculum Development in TVE and the importance that development takes place on close intervals taking into consideration the vast changes in technology and manufacturing. In particular, those subjects and vocations related to areas where quick rates of development and improvement is expected.

Third Working Session: Monday 24 October 1994.

Topic: Curriculum Development in Technical and Vocational Education: Promotion of Girls and Women in Technical and Vocational Education Programmes.

The main working document in this topic was presented in this session noting several challenges are facing Technical and Vocational Education in the Arab States. Among them the number of students enrolled in TVE compared to general education. Emphasis was placed on female enrollment and reasons for low participation of girls and women in TVE, which vary from one country to another.

The number of girls and women in TVE is a reflection of females' participation in labour force and involvement in socio-economic development, especially in non-traditional jobs and trades.

The Arab States have recently paid noticeable attention to girls and women enrollment in Technical and Vocational Education. The most prominent feature of this situation embraces development of Arab labour legislations toward women participation in workforce, and increasing and diversifying of women employment opportunities in the Arab States.

These developments call for essential improvements in Technical and Vocational Education, increased training opportunities, and expanding options for girls and women in TVE. They also call for establishing a close relationship between general education, Technical and Vocational Education, and enterprises. In the meantime, such developments seek to set-up an objective system of vocational classification and description, and guidance and counselling to avoid discrimination on the basis of gender within current vocational classification. Also, communities, women themselves, and employers are supposed to acquire new roles for women in society as well as in sectors of economy.

The presentation included development in management, technology, information, informatics, socio-economic development, and food security and their impact on TVE for girls and women in the Arab States.

The participants' discussions and comments included the following:

- **Girls and Women Capabilities:** Women can do many jobs which used to be limited to men in the past. This tendency has been brought about with the help of training programmes and the use of technology which regulates labour and reduce muscular effort needed to carry out such jobs.
- **Fields of Work:** It is possible to direct girls and women to employment opportunities in information and informatics professions which have become a prerequisite for progress and comprehensive development. Also employment opportunities in the services sector instead of the overall trend to work in the public sector.
- **Pre-Vocational Education:** This subject can be included within the study plans of basic and secondary education in order to be studied by girls and boys. Female students will, therefore, acquire vocational and practical skills which will familiarize them with the professions required by the community, and they will be more qualified to choose the kind of education which is compatible with their interests, abilities and readiness. Above all, gender-related barriers and other aspects of discrimination (if any) can be easily avoided.
- **Legislations and Facilities Related to Women Employment:** It is necessary that work legislations include sufficient pregnancy, delivery and maternity leaves. The legislations must provide for facilities at the training and work sites such as nurseries, kindergartens and health services. However, social customs and values which are common in the various countries must be taken into consideration insofar as they are consistent with women's fair rights.
- **Women's Associations and Organizations:** Associations of women can take part in preparing sound Technical and Vocational Education programmes for women. They can create employment

opportunities for women and prepare legislations which are acceptable and reasonable to women's role in the society.

Fourth Working Session: Tuesday 25 October 1994.

Regional and International Cooperation in TVE Curriculum Development.

The efforts of participating International and Regional Organizations were presented and discussed which include: The Regional, and National Networks of UNEVOC and how to activate the associate UNEVOC Centres in programme and Curriculum Development in TVE and identification of needs. UNRWA's experiences in TVE Curriculum Development were presented with applications on programme development in Lebanon, Syria, Jordan, Gaza and the West Bank.

As for the Arab Labour Organization (ALO) and the Arab Federation for Technical Education (AFTE), their role comprised the steps being followed by each organization to provide means of regional coordination of activities in cooperation with Member Arab States. Such activities, of course, included Curriculum Development in Technical and Vocational Education as a mean of improving and developing TVE programmes in the region.

Discussions during the session emphasized the importance of coordination and cooperation between International and Regional Organizations concerning Curriculum Development in Technical and Vocational Education. High cost of Curriculum Development was stressed among participants, and the need to take the necessary measures to reduce such cost to ensure progress and continuity of development projects.

Furthermore, discussions highlighted the necessity of involving the private sector in TVE Curriculum Development and praised its role in this area. Examples: computer programmes and software development; for contributions of International and Regional Organizations and bodies' toward encouraging Member States to incorporate modern technologies within TVE programmes.

The participants discussed methodologies of making use of TVE workshops whenever they are not used for teaching and training programmes, i.e., summer vocations and involvement of students in real productive work assignments.

Participating Country Reports:

Within the framework of prior coordination, UNESCO Regional Office for Education in the Arab States (UNEDBAS) and National Commissions for UNESCO in the Arab States, participating representatives submitted a country report which reflects the efforts, experiments, and experiences of each country in TVE Curriculum Development. The outline of the Country Reports include the following:

- A brief description of TVE system(s) in the country.
- A review of methodologies used in Curriculum Development in Technical and Vocational Education.
- Difficulties and obstacles facing Curriculum Development in Technical and Vocational Education.
- The innovations exerted by the country in development of TVE curricula and programmes. In particular, those items related to the main themes of the seminar.
- Future trends and prospects in Curriculum Development of Technical and Vocational Education.
- During the seminar, Country Reports were exchanged and discussions and comments of participants emphasized the most important experiences in the Arab States within Curriculum Development of Technical and Vocational Education. Country reports will be an integral part in preparing Curriculum Development guides (models) according to the objectives of the seminar.

The Country Reports include the following Arab States: Bahrain, Iraq, Jordan, Lebanon, Mauritania, Oman, Qatar, Sudan, Syria, United Arab Emirates (UAE), and Yemen.

Proposed Guides (Models) for Curriculum Development in TVE:

The objectives of the seminar stressed the need and importance of preparing guides (models) for Curriculum Development in Technical and Vocational Education to be used by curriculum specialists and concerned professionals in the Arab States. The guides are also intended to expand the scope of participation in the process of Curriculum Development and modernization involved in TVE to incorporate other categories of personnel such as management, teachers, students, parents, local communities, and development and production sectors.

Thus, it has been the purpose of the main working documents, Country Reports, and seminar discussions to focus on innovations and new methodologies in TVE Curriculum Development in the Arab States to be compiled later into guides (models) for Curriculum Development in the region. It is expected that such guides will have a positive impact on improving TVE programmes, and will take into consideration special circumstances and requirements of development in the individual Arab States. The guides (models) will be according to the main three topics discussed during the seminar, namely:

- Curriculum Development in TVE: Linkage of the Curricula to the World of Work (Labour Market Requirements).
- Curriculum Development in TVE: Integration of TVE Subjects and Other Subjects in the Curricula.
- Curriculum Development in TVE: Promotion of Girls and Women in TVE Programmes.

Fifth Working Session: Thursday 27 October 1994.

The Curriculum Development specialists/resource persons whom prepared the main working documents for the seminar made presentations on how seminar discussions and Country Reports will be used in preparing the drafts of the Regional Guides (models) for Curriculum Development in Technical and Vocational Education.

The participants also stressed in their comments the importance of this issue and the necessity of cooperating together (Member States, Regional and International Organizations) in the production of such documents to reinforce and support the results and recommendations of regional meetings. Such measures will be an example of tangible results and means for regional projects on TVE Curriculum Development in the Arab States.

His excellency: Mr. Munthir Al-Masri, Secretary General of the Ministry of Education in Jordan, participated in the final session of the seminar. He expressed his interest in following up on the issues related to the development and improvement of Technical and Vocational Education in the region. Mr. Al-Masri highlighted the role of TVE in socio-economic progress and development, especially that many countries including the Arab States are preparing for their educational systems to meet future needs and requirements.

Mr. Al-Masri welcomed again the representatives of the Arab States and valued their participation and contributions in the seminar. He emphasized a number of crucial issues which are directly related to the Curriculum Development in Technical and Vocational Education, these issues are:

- The role of educational curricula in the economics of education and the need to take into consideration the cost factor in the curriculum planning and development along with cost reduction.
- The role of educational curricula in serving particular vocation and also facilitating higher levels of education.

- The role of education curricula in preparing the student to perform a wider range of skills or jobs and also concentrate on certain specialization.
- Technical and Vocational Education for women and the need to focus on this aspect during secondary education.
- Upgrading the efficiency and effectiveness of Technical and Vocational Education through paying attention to teachers, students, curricula and equipment and their role in development.

The Chairman of the seminar presented a brief review of the draft Final Report which was distributed to the participants the day before. Agreement was reached on the methodology of discussing the draft Final Report in order to be adopted by the participants.

The General Rapporteur read the draft Results and Recommendations of the seminar as proposed by the Drafting Committee. Several amendments and comments were made by the participants. The participants asked the Chairman to include their comments and modifications in the Final Report of the seminar. Therefore, the draft Final Report was adopted accordingly by the participants.

III. RESULTS AND RECOMMENDATIONS

As a result of the seminar working sessions and discussions, a number of recommendations were adopted by the participants on Curriculum Development in Technical and Vocational Education in the Arab States. The recommendations were classified according to the topics of the seminar as follows:

A. Linkage of the Curricula to the World of Work:

1. The use of job analysis techniques in TVE Curriculum design and development which include identification of tasks, duties, and skills for the curriculum content taking into consideration the Unified Arab System of Professional Classification and Description issued by the Arab Labour Organization (ALO). The Unified Arab System includes the job description of TVE programme graduates.
2. The necessity of participation of employers, workers and employees, trade unions and associations in designing and developing Technical Vocational Education curriculum.
3. Curriculum Development of TVE should take place over a short period of time and on a continuous basis in order to keep pace with changes in labour markets, and in order to adapt to vast advancements in technology around the world.
4. The importance of having a flexible TVE curriculum, such as the modular system, which is suitable for use in different areas and programmes. Also it is easy to develop and update such modules and units.
5. The necessity of including common areas of knowledge and practical skills in the curriculum to facilitate integration between similar jobs, and to increase employment opportunities for graduates including apprentices.

B. Integration of TVE Subjects and Other Subjects in the Curricula:

1. The necessity of having the theoretical part of general education (languages, art, and science) in addition to technical-vocational, and practical areas of the curriculum to achieve a satisfactory balance of skills and theory as required by the world of work.
2. The importance of including computers, projects preparation and management, cost assessment, and ethics of vocations in TVE curriculum.

3. To avoid unnecessary repetition or duplication in secondary and post-secondary TVE topics, and to facilitate integration and articulation of the two programmes through Curriculum Development.
4. An articulation mechanism between secondary and post-secondary TVE programmes should be encouraged and promoted in the region through new policies and legislations for Technical and Vocational Education.
5. The importance of having necessary funds for Curriculum Development with emphasis on labour market requirements.
6. The core of curriculum in Technical and Vocational Education should be centered around the students, and their capabilities to achieve learning and training skills (i.e. Competency Based Instruction), also the curriculum should include knowledge and skills on how to meet new challenges in the labour market.

C. Promotion of Girls and Women in Technical and Vocational Education:

1. More attention should be given to the training of girls and women and encourage them to join non-traditional specializations such as information, services, agriculture and industry.
2. Expand the scope of Technical and Vocational Education for girls and women in order to provide them with productive employment at home, and self-employment opportunities.
3. Prepare guides for home-based production and employment, and design the programmes and curricula which serve this purpose.
4. Acquire the participation of Women's Associations leaders, members of trade unions, and employers in preparing the curricula in order to make it more appropriate for women employment opportunities.
5. Provide on-the-job training for working women in order to increase their productivity and improve their promotion opportunities.
6. Open medical clinics, kindergartens, and nurseries at training sites and places of employment.
7. The development of legislations, when it is necessary, in order to motivate girls and women to join vocational work. These legislations must include maternity leaves, insurance, social security, retirement, etc.
8. Review contents of educational programs and materials, and make necessary amendments to avoid forms of bias against girls and women (if any) to cope with new and changing roles of family members.

D. General Recommendations:

1. Regional and International cooperation in Technical Vocational Education Curriculum Development to include:
 - Clear and effective coordination, and a communication mechanism between TVE institutions and Regional and International Organizations.
 - Translation of documents published by International Organizations into the Arabic language in order to transfer results and experiences to more people in the region who are concerned with Technical and Vocational Education.
 - Practical applications to follow-up on recommendations and results of meetings, seminars, and symposiums. For example, UNEVOC Networks and preparation and production of Guides for

Prototypes Curriculum Development in TVE.

- Coordination of efforts between International and Regional Organizations in regard to the transfer and adaptation of modern technologies into the Arab States.
- 2. Linkages should be established between the number of students enrolled in TVE programmes and employment opportunities to ensure normal and better manpower structures.
- 3. Increase the effectiveness of communication mechanisms between TVE institutions, employers, and sectors of economy and production.
- 4. The importance of Teacher Education and Training programmes in TVE in order to cope with vast advancement in science and technology, and to provide TVE teachers with proper incentives for development and upgrading.
- 5. Introduce pre-vocational education in basic education, and general vocational education in academic secondary education owing to their role in directing students toward TVE and the utilization of innovative experiences in the Arab region.
- 6. To enhance private sector participation and share in the cost of Technical and Vocational Education.
- 7. Promote field studies and research on linkages and adaptation of TVE curricula to the needs of the world of work.
- 8. Promote the development of policies and legislations of TVE in the region in order to cope with national development in each country.
- 9. Creative thinking, innovations and problem-solving skills should be included in Technical and Vocational Education curricula.