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FOLLOW-UP SYSTEM DEVELOPMENT REPORT  
VOCATIONAL TRAINING ASSISTANCE  
JORDAN  
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THE VOCATIONAL TRAINING CORPORATION  
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## INTRODUCTION

This report concerns the long-range development of a follow-up system. It was prepared by the National Center for Research in Vocational Education's short-term consultant to the Vocational Training Commission (VTC) of Jordan. Subsequent to a review of appropriate follow-up system techniques, strategies, and materials in the United States, the consultant visited Jordan between 18 September and 8 October 1981 to consult with VTC staff. This visit coincided with that of the National Center's guidance and counseling consultant to the VTC. The VTC's guidance counselor served as the principal counterpart for both consultants. Site visits and meetings in Jordan were the same for both consultants since their areas were viewed as related.

The central purpose of the follow-up system, as stated in the National Center's project plan is the "external validation of the entire training program through the collection of information during the third year of study and after students have graduated and moved on to full-time employment." However, the follow-up system is not intended to be a single study of program completers. Instead, it will be a comprehensive and continuous system for collecting, analyzing, and interpreting data on the VTC. In this regard it will be considerably more inclusive than a traditional follow-up study.

As a result of the consultant's visits with the VTC Director General and the Technical Manager, it was determined that the follow-up system will consist of three stages. Stage One, which

is to be conducted during the third year of VTC program participation (i.e., the full time work experience period), will be an external validation of the first two years in the program. Stage Two, which is to be conducted after national service, will be a study of the effects of national service on skills acquired by VTC program completers. Stage Three, which is to be conducted after Stages One and Two are operationalized, will be a comparative study of VTC in-plant and the Ministry of Education's institutional training. Specifically, the VTC would like to accomplish the following objectives in their follow-up system:

Stage One (Full time work experience period, i.e., third year at VTC)

- Objectives:
1. External validation of training programs
  2. Tendency toward changing employers
  3. Comparative study between those who received their training in small and large enterprises in regard to:
    - work habits
    - performance

Stage Two (After national service)

- Objectives:
1. Effects of national service on skills acquired
  2. Trainee loyalty toward where VTC training was received
  3. Turnover rate

Stage Three (At any time)

- Objective:
1. Comparative study between VTC in-plant and MOE institutional training programs in regard to:
    - effectiveness of training
    - cost of training

Although recommendations will be made for all three stages, this report will deal principally with Stage One since the VTC is only at the planning phase of the follow-up system and no

follow-up staff or procedures are in place (the first large class being graduated at the time of the consultant's visit). As requested, the substance of the report will address practical, operational concerns rather than theoretical considerations. Further, where possible, samples and prototypes designed expressly for VTC will be offered as a means of expediting implementation.

## CHRONOLOGY OF ACTIVITIES IN JORDAN

As part of the short-term advisor's assignment, interviews and conferences were conducted in Jordan with key VTC personnel, apprentices, and employers. These activities were the same for the follow-up and the guidance advisors. The following is the chronology of events, itinerary, and contacts made.

### Chronology

- September 18 - Arrival (met at airport by VTC Guidance Director and VTC Training Officer)
- September 19 - First meeting at VTC, Vocational Training Corporation, King Hussein Street (P.O. Box 925837) Amman, Jordan, Telephone 67197/8; introductions to VTC staff; visit to Trade Training Center (TTC)
- September 20 - AID orientation at U.S. Embassy (meeting with AID staff); review of project materials in files
- September 21 - Meeting with VTC Director General; visit to oil refinery (large employer), Zarqa
- September 22 - Visit to metal fabrication plant (medium employer); visit to window and door frame shop (small employer); orientation meeting with AID Director
- September 23 - Review of registration materials and forms; meeting with VTC Chief Training Officer
- September 24 - Organizing and reviewing notes from visits and meetings
- September 25 - Holy Day
- September 26 - VTC graduation, King Hussein's Sporting Palace
- September 27 - Meeting with VTC Technical Director and other VTC staff

- September 28 - Meeting with Follow-up Coordinator, Ministry of Education; meeting with Guidance Chief, Ministry of Education; visit to comprehensive secondary school for girls, Schmeisani, Amman; Embassy Reception
- September 29 - Development of background for report
- September 30 - Meeting with American Embassy staff, regarding study of women's career aspirations in Jordan; work on report outline
- October 1 - Visit to areas north and south of Amman
- October 2 - Holy Day
- October 3 - Work on recommendations for project
- October 4 - Review of work-to-date with VTC staff
- October 5 - Continuation of work on recommendations; debriefing meeting with U.S.A.I.D. staff
- October 6 - Review of work-to-date with VTC staff
- October 7 - Feast day (all offices closed)
- October 8 - Departure

## BACKGROUND INFORMATION

The background information was gleaned partially from reports on the Vocational Training Corporation and from interviews conducted between 18 September and 6 October of 1981 (per Chronology of Activities on pages 4 to 5).

### Status of Follow-Up Activities at VTC

Project assistance specifically related to follow-up system development is timely because the VTC has recently graduated its first large class of apprentices and will in the very near future open its own first training facility. The development of a follow-up system can ensure that changes in future programs are the result of a systematic approach to gaining relevant information and applying it to curriculum and training improvement.

The newness of the VTC training programs has precluded the development of any durable follow-up activities. Existing activities do attempt to check the internal training process in terms of whether the students are acquiring the necessary knowledge and skills, whether they are achieving satisfactory, personal adjustment, and whether technological changes in industry are being reflected in the training program. The first group of graduates recently completed a questionnaire, enlisting their reactions and suggestions. However, studies of completers and their employers have yet to be done.

The proposed follow-up system will be an ambitious undertaking considering that at this time there is no staff assigned to

this function and there are few precedents pertinent to the VTC to build upon in terms of strategies, instrumentation, data management tools, and the like. At this stage the questions stated in the National Center's project plan reasonably do reflect the current status of considerations for development of the system: what should be the scope of the system, what activities should be included in follow-up, who is responsible for conducting follow-up activities, and what measures should be taken to assure objectivity in the follow-up process.

#### RECOMMENDATIONS

This section includes the recommendations of the short-term advisor for follow-up, including suggestions for activities, procedures, resources, staffing, and staff development. The recommendations are listed in the sequence in which they should be acted upon. The decisions made regarding early steps will in turn affect all subsequent recommendations. Therefore, stress has been given to start-up activities and to Stage One--the external validation of the third year of the VTC program. Recommendations for Stages Two and Three reflect preliminary thinking in hopes that advanced planning can take place while Stage One is being implemented. The recommendations for this section are outlined as follows:

- 1.0 Establishment of the Follow-up Unit
- 2.0 Data Management Component
- 3.0 Follow-Up Studies of Third-Year Apprentices

#### 4.0 Effects of National Service

#### 5.0 Comparative Study of In-Plant and Institutional Training Programs

##### Establishment of the Follow-Up Unit

Since the VTC does not have staff assigned to follow-up activities, the first step to assuring success in the long-range development of a follow-up system will be the establishment of the follow-up unit within the VTC. In the long run this unit will function as part of a larger unit in charge of planning, evaluation, and follow-up. For the time being, the follow-up unit will doubtless consist of one person who will coordinate follow-up activities with other VTC staff assisting him/her at critical times in the follow-up process. These recommendations are made for the establishment of the follow-up unit. The chart on the following pages suggests the activities, procedures, resources, staffing, and staff development needed to establish the unit.

##### Recommendations

1. A follow-up unit should be created with its coordinator reporting to the Technical Manager (or other administrator responsible for planning).
2. The person to be hired as follow-up coordinator should be familiar with follow-up methodology and with the computer wares. A training period of 4 to 8 weeks at the National Center should capacitate a VTC staff member in these areas. Since the follow-up coordinator must

make many personal contacts to collect data, he/she should be selected preferably from existing program staff if possible.

3. There is a need for a shared understanding of what follow-up means and why the follow-up study is being conducted. Clear definitions are needed to collect reliable and valid follow-up data. The definitions and objectives of the follow-up must be clearly communicated from administrators who develop the follow-up plan and procedures to those responsible for collecting the data and to the respondents who will provide the data.
4. VTC should make an effort to coordinate their activities with the Ministry of Education. For example, the VTC's external validation of third-year students could be coordinated with the Ministry of Education's follow-up study of their two-year program.
5. If VTC does not add a staff person formally trained in follow-up and quantitative analysis, then they should consider regular consultants from the Jordan University or similar institutions especially during the design of the studies and instruments, and in particular, in designing the analysis.

1.0 ESTABLISHMENT OF FOLLOW-UP UNIT

Activities	Procedures	Resources Needed	Staff/Responsibility	Staff Development
1.1 Create follow-up unit	1.1.1 Determine scope of follow-up action for first year and size of follow-up unit required		VTC Director, Technical Manager and other central office staff	
	1.1.2 Determine follow-up unit coordinator's place on the organizational chart. (Suggest the coordinator report directly to Technical Manager)		Office staff	
	1.1.3 Announce creation of follow-up unit, its function, and benefits to VTC			
1.2 Select and train follow-up unit coordinator and other personnel	1.2.1 Determine criteria for selecting coordinator (preferably someone familiar with VTC operations and knowledgeable in follow-up studies)		VTC Director	
	1.2.2 Select coordinator	Office space	VTC Director	
	1.2.3 Select university training site for coordinator		VTC Director	
	1.2.4 Train coordinator at university site for a period of 4-8 weeks	University training site	Cooperating university	Training should include developing an understanding of follow-up data collection, analysis, and reporting techniques. The staff development activities should focus on specific needs of the coordinator to do his job (e.g., developing a questionnaire that will actually be used)
	1.2.5 Hire clerical support staff for follow-up unit	Dependent upon sophistication and range of data collection	Coordinator	Clerical staff must receive explicit training on record keeping. They must be constantly monitored to ensure quality data

1.0 ESTABLISHMENT OF FOLLOW-UP UNIT  
(continued)

Activities	Procedures	Resources Needed	Staff/Responsibility	Staff Development
1.3 Define role and function of follow-up unit and how it will operate	1.3.1 Determine effective strategy for doing follow-up work		Coordinator	While at the university training center, the coordinator should find out everything possible about the problems that will be encountered and how to solve them. For example, considerable skill will be required to get others to provide or collect reliable and valid manner
	1.3.2 Clarify role and function and spell out relationships with other VTC staff		Director, Technical Manager, Coordinators	
	1.3.3 Inform other VTC staff of their responsibilities to the follow-up unit	Memorandum or meeting	Director and Coordinator	If a meeting is held, this will be an excellent opportunity to begin staff development on how staff can help to ensure collection of reliable and valid data
1.4 Establish coordination mechanism with Ministry of Education	1.4.1 Inform MOE of creation of follow-up unit	Memorandum	Director	
	1.4.2 Conduct joint meeting of MOE and VTC follow-up units	Meeting space	Coordinator MOE follow-up unit	In sharing goals and objectives of the two units, mutual problems can be identified and strategies determined for resolving them. Attention should be given to avoiding duplication of efforts and to coordinating field activities with employers

1.0 ESTABLISHMENT OF FOLLOW-UP UNIT  
(continued)

Activities	Procedures	Resourced Needed	Staff/Responsibility	Staff Development
1.5 Establish working relationship with follow-up experts	1.5.1 Identify follow-up experts in the business and university communities of Jordan and outside		Consultants as needed	Consultants can provide direct assistance to the follow-up unit when supplemental help is required but consultants should be used systematically for staff development (especially when hired for other purposes)
	1.5.2 Conduct periodic reviews of progress and products of follow-up unit			

## 2.0 Data Management Component

Data management for the follow-up system will require considerably more resources than has been required previously for VTC record keeping. Data on thousands of respondents must be maintained in an accurate and easily-accessible fashion if the follow-up system is to be effective. These recommendations are made regarding data management. The chart in the following pages suggests the activities, procedures, resources, staffing, and staff development needed for data management.

### Recommendations

1. A centralized data bank should be maintained to collect and store follow-up data in a systematic way.
2. A small investment should be made in computer hardware and software--the unit need not be sophisticated nor expensive. It should be able to store and retrieve data so as to maximize access and simple analyses.
3. Follow-up data is often analyzed with data from student records. Therefore, these records should be kept in ways to facilitate access for follow-up studies. Standardization of all record keeping would definitely make the work of the follow-up unit easier.
4. Serious consideration should be given to using computerized, statistical techniques. At the VTC, this will mean providing personnel to code data. Key punching and statistical analysis can be performed elsewhere where they have the equipment and technicians. If the study and

questionnaires are properly designed, the statistical services required be small and the quality of the analysis will be greatly improved.

2.0 DATA MANAGEMENT SYSTEM

Activities	Procedures	Resources Needed	Staff/Responsibility	Staff Development
2.1 Establish centralized data bank	2.1.1 Designate space specifically for the purpose of data storage	Office space	Director	
	2.1.2 Select data storage and retrieval system	Computer and disks or tapes	Coordinator/Director	
	2.1.3 Design program for data management			
	2.1.4 Train staff		Coordinator and clerical staff	Coordinator should be trained in system purchased. He in turn should train clerical staff who will store and retrieve data
2.2 Standardize all record keeping on apprentices	2.2.1 Revise all current forms used in record keeping to ensure compatibility to data access system		Coordinator Clerical staff Additional programming staff may be needed	Coordinator should carefully review up-to-date methods of record keeping, choosing those most cost-efficient and feasible for VTC
	2.2.2 Enter data on current enrollees into data access system according to method used in 2.2.1 if possible			
	2.2.3 Maintain all records of future enrollees per revised system			
2.3 Select subcontractor for computerized statistical services	2.3.1 Determine needs for statistical services (e.g., coding, keypunching, analysis)	Statistical services	Coordinator Consultant	Subcontractor should provide staff development from the beginning on its services and coordinator must communicate clearly the kinds of services needed
	2.3.2 Select subcontractor			

### 3.0 Follow-Up Studies of Third-Year Apprentices

Stage One of the follow-up system is devoted to studies of apprentices who are in the full time work experience period, that is, the third and final year of the VTC program. It is appropriate to "follow-up" the apprentices at this time to achieve an external validation of the training programs. Also, the follow-up system can investigate apprentices' tendency toward changing employers and it can compare apprentices who received their training from small and large firms in terms of work habits and performance. Numerous other studies can be conducted. Stage One of follow-up can help to:

1. Define the extent to which third-year apprentices are applying their vocational training.
2. Identify the types of jobs that apprentices prefer.
3. Identify employment problems of apprentices.
4. Determine the apprentices' and employers' perceptions of the training received.
5. Determine the apprentices' and employers' perceptions of ways the VTC program should be changed to improve performance on the jobs.
6. Determine the extent to which apprentices are satisfied with their jobs.
7. Determine employers' satisfaction with apprentices.
8. Determine the relevance of job skills and knowledge received in training to those required in their jobs.
9. Determine the extent of mismatches between individual characteristics and jobs obtained.

The means for conducting these studies will be posttest questionnaires administered to employers, apprentices, and VTC staff to assess the effectiveness and adequacy of the training

components. All apprentices and their employers should be given the questionnaires. Descriptive data (e.g., number of respondent type, training centers, occupational fields, size of company, and training history) can be made. Regression analyses should be used if computers are available. Activities for conducting Stage One are detailed on the following pages. These recommendations are stressed to ensure successful completion of Stage One.

### Recommendations

1. Follow-up instruments need to be designed in such a way as to collect data for immediate objectives and still be a source for post hoc analysis. Therefore, the questionnaires to be used with employers, students, and staff must be thoroughly reviewed and pilot-tested before any large-scale data collection. If the follow-up coordinator comes to NCRVE, he/she should bring Miguel's prototypes of the questionnaires to be used so that technical experts can suggest ways to effectively format them to expedite high quality analyses tailored specifically to VTC needs.
2. In order to increase the probability of obtaining reliable and valid data, attention must be given to certain procedures in instrument development, sampling, data collection, and data analysis. Reliability here refers to consistency in obtaining the same results again. Validity refers to whether the instrument and procedures measure what they are supposed to measure.

There are many measurement problems in follow-up studies. The main problem is sorting out true differences in the measure sought (e.g., characteristics of the training and its effect) and variations due to measurement error (e.g., nonscientific sample, haphazard data collection). Although no follow-up study can be free of error, those responsible for conducting the follow-up must be vigilant to (1) biasing errors that systematically influence the outcome of the measurement, and (2) random errors that emanate from aspects of the individuals, the measurement procedures, etc., that are transient or likely to vary from one data collection time to another.

3. For the purpose of pilot testing instruments and follow-up procedures during the first year of the follow-up study, VTC should concentrate on two critical aspects of validity and reliability. (1) Content validity of the questionnaires can be enhanced through iterative item generation and a review process that involves multiple inputs from training instructors, students, and employers. (2) Reliability can be enhanced by ensuring consistency in administering the questionnaires by those responsible for that task.
4. Much of the data collection can be done through existing staff. However, the follow-up coordinator will need to be skilled in delegating follow-up responsibilities to others not directly reporting to him/her. Carelessly

collected data would be useless and this can happen if staff do not receive sufficient orientation. Questionnaires should be administered by someone other than a person directly associated with the respondent (i.e., not his instructor).

3.0 FOLLOW-UP STUDIES OF THIRD-YEAR APPRENTICES

Activities	Procedures	Resources Needed	Staff/Responsibility	Staff Development
3.1 Prepare lists of subjects to be included in the annual study	3.1.1 Identify apprentices, employers, and staff to be included surveyed		Coordinator	
	3.1.2 If entire population is not used, choose sampling procedure (suggest stratified random sample)			Perhaps sampling techniques
	3.1.3 Identify possible locations and dates for administering questionnaires to various subjects			
3.2 Revise and finalize instrumentation for apprentices, employers, and instructors (See Miguel's prototype on pages 43 to 45)	3.2.1 Review prototype with VTC central office staff	Copies of prototype questionnaires	Coordinator	
	3.2.2 Revise prototypes (preferably during 4-8 week training period)		Coordinator Consultant(s)	Coordinator should use university staff development time to revise instruments under consultant's help
	3.2.3 Review revised questionnaires with small groups of employers, apprentices, instructors to pilot test for communicability, construct validity, completeness, etc.	Copies of revised questionnaires	Coordinator Training Officers Employers	Develop plan for pilot testing while at university staff development
	3.2.4 Make final revision of questionnaires			
	3.2.5 Print copies of questionnaires for first administration	Printing facilities and materials	Printer	

3.0 FOLLOW-UP STUDIES OF THIRD-YEAR APPRENTICES  
(continued)

Activities	Procedures	Resources Needed	Staff/Responsibility	Staff Development
3.3 Make arrangements for data collection	3.3.1 Identify VTC staff who will assist in data collection		Director Coordinator	
	3.3.2 Provide training for staff who will collect data		Coordinator	Coordinator will train all data collectors stressing consistency in activities and procedures
	3.3.3 Contact businesses to confirm time and locations for collecting data			
3.4 Collect data	3.4.1 Administer questionnaires to apprentices and staff (try to administer to as many as possible within the shortest period, leaving most time to get employer data)	Apprentice and staff questionnaires	Coordinator and other VTC staff	
	3.4.2 Administer questionnaires to employers	Employer questionnaires	Coordinator and training officers	This can be the most time consuming phase requiring much staff assistance for the coordinator if it is to be completed on time
	3.4.3 Return all questionnaires to central office and log in			
3.5 Edit questionnaires	3.5.1 Review all completed questionnaires to verify that they have been completed properly		Coordinators and other VTC staff	
	3.5.2 Return incomplete questionnaires to respondents (if possible)			

3.0 FOLLOW-UP STUDIES OF THIRD-YEAR APPRENTICES  
(continued)

Activities	Procedures	Resourced Needed	Staff/Responsibility	Staff Development
3.6 Code data and keypunch	3.6.1 Code data on approximate sheets according to determined coding scheme	Only if data is computerized	Coordinator and clerical staff or subcontractor	This can be done by an outside subcontractor. If not, staff will need explicit training in these activities: quality control must be exercised at all times
	3.6.2 Quality check about 10% of the coding sheets			
	3.6.3 Keypunch and (100%) verify data			
3.7 Analyze results	3.7.1 Develop analysis plan including all questions to be answered for relevant studies (e.g., external validation, tendency toward changing employers, and comparative study of small and large firms)	Computer services for trial runs	Coordinator Director Training Manager Consultant	An analysis plan should be developed early and reviewed thoroughly prior to implementation. This will ensure good results and minimize costs
	3.7.2 Analyze data per plan	Computer services	Computer services staff	
	3.7.3 Review results		Coordinator Director Training Manager	VTC staff may want to enlist specialized consultant help to review results
3.8 Prepare report of results	3.8.1 Write up results		Coordinator	
	3.8.2 Review report		As desired	
	3.8.3 Revise report		Coordinator	
	3.8.4 Prepare copies of report		Coordinator	

#### 4.0 Intervening Effects of National Service on Training

Stage Two of follow-up is devoted to studies of the effects of national service on the training received by VTC completers. It should be conducted approximately thirty months after graduation.

The fact that all VTC completers are expected to serve their country for at least two years after graduation complicates considerably the study of long-term training effects of VTC. The two most obvious problems are "skill decay" and "additional training received during military service." Additional difficulties will have to be controlled for: maturity, attitudinal changes, exposure to new knowledge about careers, and job opportunities. In short, it will be very challenging to sort out long-term VTC effects and the intervening effects of national service in terms of the three objectives for Stage Two:

- o Effects of national service on skills acquired in VTC
- o Trainee loyalty to where VTC training was received
- o Turnover rate

While it would be premature to develop questionnaire prototypes and procedures at this time, several recommendations can be made.

#### Recommendations

1. A comparable comparison group of non VTC national service veterans will have to be selected to match the sample of VTC national service veterans.
2. Questionnaires will have to be brief in order to increase response rate. Therefore, only the most pertinent

information should be sought. The answers to the three objectives can be sought directly, that is, ask completers about the outcomes: effect on skills, where they are working six months after national service, and information on turnover rate. Questions will also need to be asked to determine the effects national service and VTC had on the outcomes.

3. Advance notification will have to be made to ensure the contact of subjects. Files must be in order and readily accessible.
4. Questionnaires can be mailed out. Telephone contact should be made for non respondents. In-person interviews should be resorted to only if an acceptable respondent rate is not achieved (e.g., 65 percent).
5. Data similar to the study of third-year graduates should be collected for longitudinal comparisons.
6. Data should be collected from the employers of a sub-sample of the subjects.

## 5.0 Comparative Study of In-Plant and Institutional Training Programs

The comparative study suggested by VTC calls for "cost evaluation of training." Such a study extends the scope of follow-up considerably. A consultant with expertise in cost-benefit analysis should be brought in to help with the complex analysis that would be required especially since two major systems are being compared. Many variables will be extremely difficult to control for.

This study will require a great deal of cooperation between the VTC and the MOE. Also, reliable data on VTC completers must be available before this study can be adequately planned. It is, therefore, recommended that this study not be initiated until 1984. Planning should begin, however, in 1983 after the first year of data collection for the study of third-year apprentices.

(Prototype 1)

FOLLOW-UP SYSTEM

STAGE 1: WORK EXPERIENCE PERIOD  
Third-Year Apprentices Questionnaire

Background Information

1. Sex

Male

Female

2. Age

17

18

19

20

21

22

3. What is your permanent address and telephone number?

Street \_\_\_\_\_ P.O. Box \_\_\_\_\_

City \_\_\_\_\_ Telephone \_\_\_\_\_

4. Please provide the name of someone who will always know where you can be reached:

Name \_\_\_\_\_ Relationship \_\_\_\_\_

Street \_\_\_\_\_ P.O. Box \_\_\_\_\_

City \_\_\_\_\_ Telephone \_\_\_\_\_

5. In which field did you receive your occupational training?

Electrical

Mechanical

Metal Working

Wood Working

Textiles

Heating and Air Conditioning

Construction

Agriculture

Plumbing

6. Where did you receive your off-the-job training for general education and theoretical training?
- ( ) Vocational Training Corporation Center at Marqa
  - ( ) Vocational training Corporation Center at Irbid
  - ( ) Vocational Training Corporation Center at Zarqa
  - ( ) Technical Trade Training Centers (for MOE students if used in comparative study)
7. Where did you receive your in-plant training during the first two years?

<u>Locations</u>	<u>Number of Months</u>
_____	_____
_____	_____
_____	_____

8. When did you begin and end your two-year training period?
- Start Date \_\_\_\_\_ End Date \_\_\_\_\_

Employment History during the Third Year

9. What is the name of your present employer?
- Name of Company \_\_\_\_\_
10. What is the location of your present employer?
- Company Address \_\_\_\_\_
11. Which of the following best describes your job?
- ( ) (List here titles of jobs typically held by apprentices from your job classification scheme. Providing just a blank can mean noncodable data.)
  - ( ) \_\_\_\_\_
  - ( ) \_\_\_\_\_
12. Summarize your job duties or work tasks.
- \_\_\_\_\_
- \_\_\_\_\_

13. How long have you been employed in your present job?
- ( ) 1 month or less                      ( ) 5 months  
 ( ) 2 months                                ( ) 6 months  
 ( ) 3 months                                ( ) 7 months  
 ( ) 4 months                                ( ) 8 months or more
14. What is your present salary per day?
- ( ) Less than 2.000 JD                      ( ) 2.600 JD - 2.799 JD  
 ( ) 2.000 JD - 2.199 JD                      ( ) 2.800 JD - 2.999 JD  
 ( ) 2.200 JD - 2.399 JD                      ( ) More than 3.000 JD  
 ( ) 2.400 JD - 2.599 JD
15. Why were you placed in your present place of employment?
- ( ) Someone in my family works there                      ( ) Good wages  
 ( ) Convenient location                      ( ) Want to work there after national service
16. Other than your present job, how many jobs did you have during the third year of your apprenticeship?
- ( ) 0            ( ) 1            ( ) 2            ( ) 3
17. If you had more than one job during the third year, why did you change jobs? (CHECK ALL THAT APPLY)
- ( ) I did not like the location of the company.  
 ( ) The work was too difficult.  
 ( ) I did not get enough money for the work I did.  
 ( ) I did not like my supervisors.  
 ( ) I did not like the work I had to do.

Satisfaction with your Present Job

18. Overall, how satisfied are you with your present job?
- ( ) Very satisfied (It is an excellent job and I am learning very much.)  
 ( ) Satisfied (It is a good job and I am learning some things.)  
 ( ) Not sure (It is just a job. Some things are good; some are bad.)  
 ( ) Dissatisfied (It is a poor job and I am not learning much.)  
 ( ) Very dissatisfied (It is a very bad job and I am not learning anything.)

19. How satisfied are you with each aspect of your present job?

	Very Satis	Satis	Not Sure	Dis-Satis	Very Dissat
Salary	( )	( )	( )	( )	( )
Fringe Benefits	( )	( )	( )	( )	( )
Advancement Opportunity	( )	( )	( )	( )	( )
Employer Supervision	( )	( )	( )	( )	( )
VTC Supervision	( )	( )	( )	( )	( )
Co-workers	( )	( )	( )	( )	( )
Company Policies	( )	( )	( )	( )	( )
Job Stress	( )	( )	( )	( )	( )
Facilities/Equipment	( )	( )	( )	( )	( )
Working Conditions	( )	( )	( )	( )	( )
Type of Work Tasks	( )	( )	( )	( )	( )
Job Future	( )	( )	( )	( )	( )
Location	( )	( )	( )	( )	( )

Satisfaction with Training Received in First Two Years

20. Overall, how satisfied are you with the training you received during the first two years in the VTC Program as preparation for your present job?

- ( ) Very satisfied (The training was excellent; I felt very prepared.)
- ( ) Satisfied (The training was good; I was prepared.)
- ( ) Not sure (The training and preparation was partly good and bad.)
- ( ) Dissatisfied (The training was poor; I was not prepared enough.)
- ( ) Very dissatisfied (The training was very poor; I was very unprepared.)

21. How would you rate the usefulness of your basic training to your present job?

- ( ) Very useful
- ( ) Useful
- ( ) Of some use
- ( ) Of little use
- ( ) Of no use at all

22. Do you think that the amount of time you spent in basic training was sufficient?
- I needed more time
  - It was just the right amount of time
  - I needed less time
23. How would you rate the usefulness of your general education to your present job?
- Very useful
  - Useful
  - Of some use
  - Very little use
  - Of no use at all
24. Do you think that the amount of time you spent in general education was sufficient?
- I needed more time
  - It was just the right amount of time
  - I needed less time
25. How satisfied were you with your general education instructors in the following areas:
- |                        | Very Satis               | Satis                    | Not Sure                 | Dis-Satis                | Very Dissat              |
|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Quality of Teaching    | <input type="checkbox"/> |
| Instructor Preparation | <input type="checkbox"/> |
| Instructor Knowledge   | <input type="checkbox"/> |
| Instructor's Interest  | <input type="checkbox"/> |
- in you
26. How would you rate the usefulness of your technical subjects for your present job?
- Very useful
  - Useful
  - Of some use
  - Of very little use
  - Of no use at all
27. Do you think that the amount of time you spent in technical subjects was sufficient?
- I needed more time
  - It was just the right amount of time
  - I needed less time

28. How satisfied were you with your technical subjects instructors in the following areas: if different from general education)?

	Very Satis	Satis	Not Sure	Dis-Satis	Very Dissat
Quality of Teaching	( )	( )	( )	( )	( )
Instructor Preparation	( )	( )	( )	( )	( )
Instructor Knowledge	( )	( )	( )	( )	( )
Instructor's Interest in you	( )	( )	( )	( )	( )

29. -

32. NOTE: Include items here on specific technical training. These may vary from one training center to another.

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33. How would you rate the usefulness of your in-plant training to your present job?

- ( ) Very useful
- ( ) Useful
- ( ) Of some use
- ( ) Of very little use
- ( ) Of no use at all

34. What was the average amount of on-the-job instruction and practice that you received during your first year of training? (DO NOT INCLUDE TIME DOING YOUR WORK)

- ( ) Less than 1 hour a week
- ( ) 2 hours a week
- ( ) 3 hours a week
- ( ) 4 hours a week
- ( ) 5 hours a week
- ( ) 6 hours a week
- ( ) 7 hours a week
- ( ) 8 hours a week
- ( ) 9 hours a week
- ( ) 10 or more hours a week

35. What was the average amount of on-the-job instruction and practice you received during your second year of training? (DO NOT INCLUDE TIME DOING YOUR WORK)
- Less than 1 hour a week       6 hours a week
  - 2 hours a week                       7 hours a week
  - 3 hours a week                       8 hours a week
  - 4 hours a week                       9 hours a week
  - 5 hours a week                       10 or more hours a week

36. Overall, do you think that the amount of training you received during your first and second years was adequate preparation for your present job?
- I needed more instruction time
  - It was just the right amount of time
  - I needed less time

37. Who provided your on-the-job (in-plant) training? (CHECK ALL THAT APPLY)
- VTC training instructor
  - Factory appointed training instructor
  - Factory foreman
  - Co-worker

38. How satisfied were you with your in-plant trainer(s) in the following areas?

	Very Satis	Satis	Not Sure	Dis- Satis	Very Dissat
Quality of Instruction	<input type="checkbox"/>				
Trainer's Preparation	<input type="checkbox"/>				
Trainer's Knowledge	<input type="checkbox"/>				
Trainer's Interest in you	<input type="checkbox"/>				

39. Were the facilities, equipment, and learning conditions of the in-plant training adequate?
- Better than adequate
  - Adequate
  - Less than adequate

40. If you had any personal or employment problems during your two-year program, was the counseling and help provided to you adequate?
- Better than adequate
- Adequate
- Less than adequate
41. Were there any areas of counseling or assistance that you needed but did not receive? (PLEASE LIST THEM)
- 
- 

#### Future Plans

42. Do you plan to take additional training during national service or afterwards?
- Yes     Not sure (SKIP TO QUESTION 44)     No
43. Will the additional training be in the same field as your VTC training?
- Yes     No     Not sure
44. After national service, do you expect to obtain employment in the same field as your third-year work experience?
- Yes     No     Not sure
45. Where do you expect to get a job after national service?
- At the same company that I worked for during my third-year work experience.
- At a similar company in Jordan.
- At a company with a different specialization in Jordan.
- At a similar company but outside Jordan.
- At a company with a different specialization outside Jordan.

(Prototype 2)

FOLLOW-UP SYSTEM

STAGE 1: WORK EXPERIENCE PERIOD  
Employer Questionnaire

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Company \_\_\_\_\_  
Address (Street) \_\_\_\_\_  
(Post Office) \_\_\_\_\_  
(City) \_\_\_\_\_  
Telephone Number \_\_\_\_\_

Background Information

1. How long have you been with this company?  
 1 year or less                       6-9 years  
 2-3 years                                 10 years or more  
 4-5 years
  
2. How long have VTC apprentices been with your company?  
 1 year or less                       4 years  
 2 years                                     5 years  
 3 years

Firm's Characteristics

3. What is the major activity of your company?  
 Electrical                                 Mechanical  
 Metal Working                             Wood Working  
 Textiles                                     Heating and Air Conditioning  
 Construction                             Agriculture  
 Plumbing



10. How many persons in your company provide training for VTC apprentices?

- 1
- 2
- 3
- 4
- 5-9
- 10 or more

11. Of these trainers, how many are employed full time as trainers?

- 1
- 2
- 3
- 4
- 5 or more

Satisfaction with Preparation of the Apprentices

Directions: Answer the following questions to show your assessment of the quality of the training that apprentices received during the first two years at VTC.

12. How satisfied were you with their basic training period (first 6 weeks)?

- Very satisfied
- Satisfied
- No opinion
- Dissatisfied
- Very dissatisfied

13. Do you think that the amount of time they spent in basic training was sufficient?

- They needed more time
- It was just the right amount of time
- They needed less time

14. How satisfied were you with their general education preparation?

- Very satisfied
- Satisfied
- No opinion
- Dissatisfied
- Very dissatisfied

15. Do you think that the amount of time they spent in general education was sufficient?
- They needed more time
  - It was just the right amount of time
  - They needed less time
16. How satisfied were you with their technical subjects preparation?
- Very satisfied
  - Satisfied
  - No opinion
  - Dissatisfied
  - Very dissatisfied
17. Do you think that the amount of time they spent in technical subjects preparation was sufficient?
- They needed more time
  - It was just the right amount of time
  - They needed less time
18. How satisfied were you with their on-the-job (in-plant) training?
- Very satisfied
  - Satisfied
  - No opinion
  - Dissatisfied
  - Very dissatisfied
19. Do you think that the amount of time they spent in on-the-job training was sufficient?
- They needed more time
  - It was just the right amount of time
  - They needed less time
20. After the first two years of training, what percentage of VTC apprentices do you think are fully prepared for employment?
- 100%
  - 75%
  - 50%
  - 25%
  - 0%

21. How would you compare third-year VTC apprentices to others of similar age and education in terms of preparation for employment?

- Better prepared
- About the same
- More poorly prepared

Satisfaction with Third-Year Apprentices

Directions: Answer the following questions to show your satisfaction with third-year apprentices only.  
 (NOTE: A better way to do this is to ask the respondent to answer the questions referring to one particular apprentice.)

22. How would you rate the third-year apprentices that you employed from ( \_\_\_ date \_\_\_ ) to ( \_\_\_ date \_\_\_ ) on the following characteristics?

	Excellent	Very Good	Good	Fair	Poor
Attitude toward work	( )	( )	( )	( )	( )
Work habits	( )	( )	( )	( )	( )
Self-discipline	( )	( )	( )	( )	( )
Response to supervision	( )	( )	( )	( )	( )
Ability to follow directions					
Ability to work independently					
Ability to get along with coworkers	( )	( )	( )	( )	( )
Responsibility	( )	( )	( )	( )	( )
Care of tools and equipment	( )	( )	( )	( )	( )
Pride in workmanship	( )	( )	( )	( )	( )
Productivity (quantity)	( )	( )	( )	( )	( )
Ability to meet quality standards					
Ability to meet deadlines	( )	( )	( )	( )	( )
Reporting to work on time every day	( )	( )	( )	( )	( )

23. How many of the third-year apprentices asked to change employers in the last 12 months?

- 0       1       2       3       4       5 or more

24. What reasons did the apprentices give for wanting to change employers? (CHECK ALL THAT APPLY)
- Wanted better pay
  - Wanted different working conditions
  - Wanted to change to a larger firm
  - Wanted to change to a smaller firm
  - Wanted to do a different kind of job
  - Wanted to be closer to home
  - Could not keep up with the pace of work
25. How many apprentices transferred to your company in the last 12 months?
- 0     1     2     3     4     5 or more
26. How did the transferred apprentices compare with the apprentices who stayed with your firm from the beginning?
- There were no differences
  - The transferred apprentices were better workers
  - The transferred apprentices were worse workers
27. What are the most serious problems your firm faces when apprentices change employers? (RANK ALL THAT APPLY ACCORDING TO THEIR SERIOUSNESS AS PROBLEMS.) 45 [1 FOR THE MOST SERIOUS PROBLEM.]
- Not able to get a replacement quickly
  - Additional training
  - Disrupts work force
  - Decreases productivity
  - Increases waste of materials and supplies
28. When third-year apprentices change employers, do they usually give sufficient notice?
- Yes
  - No
29. How many third-year apprentices did you have to terminate during the last 12 months?
- 1     2     3     4     5 or more

30. For what reasons did you have to terminate them? (CHECK ALL THAT APPLY)

- Lack of basic skills and knowledge
- Lack of specific job skills and knowledge
- Poor work habits
- Poor attitude
- Tardiness
- Absentism
- Poor relationship with coworkers
- Inability to take directions
- Inability to work independently
- Abuse of tools and equipment
- Low production
- Poor quality of work

31. What percentage of third-year apprentices would you want to rehire after they complete their national service?

- |                               |                              |
|-------------------------------|------------------------------|
| <input type="checkbox"/> 100% | <input type="checkbox"/> 40% |
| <input type="checkbox"/> 90%  | <input type="checkbox"/> 30% |
| <input type="checkbox"/> 80%  | <input type="checkbox"/> 20% |
| <input type="checkbox"/> 70%  | <input type="checkbox"/> 10% |
| <input type="checkbox"/> 60%  | <input type="checkbox"/> 0%  |
| <input type="checkbox"/> 50%  |                              |

(Prototype 3)

FOLLOW-UP SYSTEM

STAGE 1: WORK EXPERIENCE PERIOD  
Training Officers and Instructors Questionnaire

Name \_\_\_\_\_

Title \_\_\_\_\_

Location \_\_\_\_\_

Telephone \_\_\_\_\_

Background Information

1. How long have you been with the VTC?  
 1 year or less                       4 years  
 2 years                                       5 years or more  
 3 years
  
2. In which field(s) of occupational training do you specialize at VTC?  
 Electrical                                       Mechanical  
 Metal Working                                       Wood Working  
 Textiles     Heating and Air Conditioning  
 Construction                                       Agriculture  
 Plumbing
  
3. Where do you work most of the time?  
 VTC Center at Marqa  
 VTC Center at Irbid  
 VTC Center at Zarqa  
 In-plant location
  
4. What percentage of time do you work directly with students?  
 0%     60%  
 10%     70%  
 20%     80%  
 30%     90%  
 40%     100%  
 50%

5. What percentage of time do you spend supervising other trainers?
- |                              |                               |
|------------------------------|-------------------------------|
| <input type="checkbox"/> 0%  | <input type="checkbox"/> 60%  |
| <input type="checkbox"/> 10% | <input type="checkbox"/> 70%  |
| <input type="checkbox"/> 20% | <input type="checkbox"/> 80%  |
| <input type="checkbox"/> 30% | <input type="checkbox"/> 90%  |
| <input type="checkbox"/> 40% | <input type="checkbox"/> 100% |
| <input type="checkbox"/> 50% |                               |
6. What percentage of time do you spend working with employers on VTC business?
- |                              |                               |
|------------------------------|-------------------------------|
| <input type="checkbox"/> 0%  | <input type="checkbox"/> 60%  |
| <input type="checkbox"/> 10% | <input type="checkbox"/> 70%  |
| <input type="checkbox"/> 20% | <input type="checkbox"/> 80%  |
| <input type="checkbox"/> 30% | <input type="checkbox"/> 90%  |
| <input type="checkbox"/> 40% | <input type="checkbox"/> 100% |
| <input type="checkbox"/> 50% |                               |
7. What is the highest diploma you have earned?
- Compulsory education
  - Academic secondary school
  - Technical secondary school (MOE)
  - Technical secondary school (VTC)
  - Community College
  - University
  - University (graduate school)
8. Are you a certified craftsman or technician?
- Yes (GO TO QUESTION 9)
  - No (SKIP TO QUESTION 10)
9. In which field(s) are you certified?
- |  |   |
|--|---|
| <input type="checkbox"/> Electrical    | <input type="checkbox"/> Mechanical                   |
| <input type="checkbox"/> Metal Working | <input type="checkbox"/> Wood Working                 |
| <input type="checkbox"/> Textiles      | <input type="checkbox"/> Heating and Air Conditioning |
| <input type="checkbox"/> Construction  | <input type="checkbox"/> Agriculture                  |
| <input type="checkbox"/> Plumbing      |   |

10. How many years have you worked in the employment training and education field? (Before VTC)
- ( ) Less than 1 year ( ) 1 year ( ) 2 years ( ) 3-5 years  
 ( ) 6-10 years ( ) More than 10 years
11. Have you ever worked in business or industry? (MARK ONE)
- ( ) Yes (GO TO QUESTION 12)  
 ( ) No (GO TO QUESTION 16)
12. How many years have you worked in business or industry? (MARK ONE)
- ( ) Less than 1 year ( ) 1 year ( ) 2 years ( ) 3-5 years  
 ( ) 6-10 years ( ) More than 10 years
13. In which occupations did you work? (MARK ALL THAT APPLY)
- ( ) CLERICAL such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent
- ( ) CRAFTSMAN such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter
- ( ) FARMER, FARM MANAGER
- ( ) LABORER such as construction worker, car washer, sanitary worker, farm laborer
- ( ) MANAGER, ADMINISTRATOR such as sales manager, office manager, school administrator, buyer, restaurant manager, government official
- ( ) MILITARY such as career officer, enlisted man or woman in the Armed Forces
- ( ) OPERATIVE such as meat cutter; assembler; machine operator; welder; taxicab, bus, or truck driver
- ( ) PROFESSIONAL such as accountant, artist, registered nurse, engineer, librarian, writer, social worker, actor, actress, athlete, politician, but not including school teacher
- ( ) PROFESSIONAL such as clergyman, dentist, physician, lawyer, scientist, college teacher
- ( ) PROPRIETOR OR OWNER such as owner of a small business, contractor, restaurant owner
- ( ) PROTECTIVE SERVICE such as detective, police officer or guard, sheriff, fire fighter
- ( ) SALES such as salesperson, advertising or insurance agent, real estate broker
- ( ) SERVICE such as barber, beautician, practical nurse, private household worker, janitor, waiter
- ( ) TECHNICAL such as draftsman, medical or dental technician, computer programmer

14. Have you ever been a supervisor of employees in business or industry? (MARK ONE)
- ( ) Yes (GO TO QUESTION 13)
- ( ) No (GO TO QUESTION 14)
15. How many years ago were you a supervisor in business or industry? \_\_\_\_\_

Role and Function

16. Looking at a 100 hour period of your work days, how are the 100 hours distributed over the following VTC program functions? (WRITE IN THE PERCENTAGE FOR EACH FUNCTION)

Functions

General education (such as math and writing)	_____ %
Job skills training	_____ %
Work orientation and motivation	_____ %
Job search training	_____ %
Counseling or advising program participants	_____ %
Job placement	_____ %
Intake and assessment	_____ %
Consulting and conferring with employers	_____ %
Observing program participants at the workplace	_____ %
Planning, organization, and other activities not directly involving time with program participants or employers	_____ %
Other (specify if more than 5 hours)	_____ %

PLEASE CHECK TO SEE THAT YOUR FIGURES TOTAL 100 HOURS

17. What percentage of your time do you spend in the following locations to perform your job? (WRITE IN THE PERCENTAGE FOR EACH LOCATION)

Classroom setting	_____ %
Shop or laboratory setting	_____ %
Office, teachers workroom, or the like	_____ %
Work settings (not in school or classrooms)	_____ %
Other (specify if more than 5%)	_____ %

PLEASE CHECK TO SEE THAT YOUR FIGURES TOTAL 100%

18. Are you responsible for any aspect of the basic training program?  
 Yes  
 No
19. In general, do you think that the amount of time students spend in basic training is sufficient?  
 They need more time  
 It is just the right amount of time  
 They need less time
20. Which students benefit the most from basic training?  
\_\_\_\_\_
21. Which benefit the least?  
\_\_\_\_\_
22. What are the major strengths of the basic training program?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
23. What are the major weaknesses of the basic training program?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
24. What suggestions do you have for improving the basic training program?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
25. Are you responsible for any aspect of the general education component?  
 Yes (GO TO QUESTION 26)  
 No (SKIP TO QUESTION 30)
26. What is your assessment of the general education curriculum?  
 Fine as is  
 Needs some improvement  
 Needs major improvements

27. How should the general education curriculum be improved?

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28. What are the major weaknesses of students in the general education component?

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29. What improvements, if any, are needed in facilities and equipment for the general education component?

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30. Are you responsible for any aspect of the technical subjects component?

- ( ) Yes (GO TO QUESTION 31)
- ( ) No (SKIP TO QUESTION 36)

31. What technical subjects do you teach?

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32. What is your assessment of the curriculum of the technical subject(s) you teach?

- ( ) Fine as is
- ( ) Needs some improvements
- ( ) Needs major improvements

33. How should the technical subjects curriculum be improved?

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34. What are the major weaknesses of students in the technical subjects component?

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35. What improvements, if any, are needed in facilities and equipment for the technical subjects component?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
36. Are you responsible for any aspect of the in-plant training component?
- ( ) Yes (GO TO QUESTION 37)
- ( ) No (SKIP TO QUESTION 42)
37. In which company(s) do you do in-plant training?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
38. What is your assessment of in-plant training?
- ( ) Fine as is
- ( ) Needs some improvements
- ( ) Needs major improvements
39. How should in-plant training be improved?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
40. What are the major weaknesses of students in in-plant training?
- First-year students \_\_\_\_\_
- \_\_\_\_\_
- Second-year students \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
41. Do you think that there is a good distribution of time and effort given to training, practice, and working?
- ( ) Yes
- ( ) No (Explain: \_\_\_\_\_)
- \_\_\_\_\_
- \_\_\_\_\_ )

42. What improvements, if any, are needed in the facilities and equipment needed to do quality in-plant training?

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43. Are you responsible for supervising or monitoring other training personnel?

( ) Yes (GO TO QUESTION 44)

( ) No (GO TO QUESTION 48)

44. What are the major strengths of the persons you supervise?

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45. What are the major weaknesses of the persons you supervise?

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46. What staff development activities should be conducted to improve the trainer's staff?

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47. What should be done to improve your job as supervisor of the training staff?

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48. If employers are imposing limitations or problems on the VTC apprentices' chances for getting quality training, what are those limitations?

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Report written by Richard J. Miguel