

The Hashemite Kingdom of Jordan



**National Center for Human Resources Development
(NCHRD)**

**Community Colleges
Assessment Study
Summary Report on the
Employer-Based Interviews**

**Presented
by**

The Joint Canadian-Jordanian Study Team

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Sustaining and Extending Technical Vocational
Education and Training (SETVET)

**SUSTAINING AND EXTENDING TECHNICAL
VOCATIONAL
EDUCATION AND TRAINING (SETVET)**

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Final Draft Dated May 11, 2005

Sustaining and Extending Technical Vocational
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1. INTRODUCTION

The Sustaining and Extending Technical Vocational Education and Training (SETVET) project is being funded by the Canadian International Development Agency (CIDA). The project aims to support reform and further development of the Jordanian Training and Vocational Education system (TVET).

The community college system in Jordan is one area in which reform has taken place. Al Balqa' Applied University (BAU) was established in 1996 in an effort to make the community college system more responsive to labour market needs. BAU is directly responsible for all 15 public community colleges, and also accredits all private colleges. BAU operationally monitors and reports on the organization and the effectiveness of the Jordanian college system. This study can be seen as directly supporting the BAU monitoring and reporting role, as the chief outcome of the study is aimed at establishing the effectiveness of the colleges in terms of their performance as measured by the extent to which the colleges are providing programs that meet labour market needs.

The performance of the community colleges is being assessed against five criteria: impact, effectiveness, efficiency, relevance and sustainability. Secondary sources of information that underpin the study include BAU administrative data, previous Al Manar education and training studies, and Department of Statistics labour market data. Primary data collection involves interviews with community college staff, interviews with public and private sector employers, and a survey of college graduates.

2. THE PERFORMANCE ASSESSMENT CRITERIA AND STUDY QUESTIONS

In developing the methodology for this assessment study, a large number of study questions were posed under the five performance assessment criteria. The employer-based interviews were undertaken to help the joint Canadian-Jordanian Study Team address a subset of the study questions. Of course, information from the secondary sources and the other two primary sources (the colleges and college graduates) is also needed to provide complete answers to this subset of questions. In other words, the employer-based interviews alone will not provide all of the information required to answer this subset of questions.

Table 2.1 contains the specific study questions that are the focus of the employer-based interviews.

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TABLE 2.1
The Employer-Based Interviews Study Questions

Performance Assessment Criteria	Study Questions Relevant to the Employer Interviews
<p>Impact:</p> <p>The degree to which the colleges seem to be producing the number of graduates required to meet current and future labour market demand.</p>	<ul style="list-style-type: none"> • For what occupations and economic activity areas do employers say they have difficulty finding acceptable candidates? • Are there particular skill sets that employers say college graduates lack when they apply for work? Does this differ by occupation and economic activity area?
<p>The extent to which colleges are perceived to have an overall positive impact on industry.</p>	<ul style="list-style-type: none"> • Are employers supportive of the colleges? • Do employers feel there are better alternatives for the labour market preparation of youth than the community colleges?
<p>Effectiveness:</p> <p>The extent to which the colleges understand and are responsive to the changing human resource needs of employers.</p>	<ul style="list-style-type: none"> • Do the colleges have a systematic way of obtaining and acting on labour market intelligence from employers
<p>Efficiency:</p> <p>The extent to which the colleges are making use of key mechanisms (such as national and regional labour market information, and employer advisory committees or councils) to identify demand.</p>	<ul style="list-style-type: none"> • Do the colleges seek and obtain the views of local employers about the objectives, content, and expected outcomes of their programs?
<p>Relevance:</p> <p>The degree to which employers perceive the college programs are providing students with the knowledge, skills and attitudes required in their work places.</p>	<ul style="list-style-type: none"> • Do employers believe that college graduates have been adequately prepared for either further studies/training in their fields or for employment in those fields? Do their views differ by type of college or by program area? • Are employers satisfied with the breadth and depth of education/training given to college students in relation to the knowledge, skills and attitudes needed to succeed in their work places? • Do employers believe that the comprehensive exams are good measures of student attainment of the knowledge and skills important in the various occupations/areas of economic activity? • Can employers identify specific knowledge and skill gaps between what is learned in college and what is needed to perform jobs satisfactorily? Are there common gaps across programs?

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Performance Assessment Criteria	Study Questions Relevant to the Employer Interviews
<p>Sustainability:</p> <p>The degree to which the current college system can and should be sustained or expanded relative to the current and forecasted educational and labour market conditions, in terms of the numbers of public and private institutions, the numbers and types of program specializations offered, the numbers of enrolments and graduations, and the global costs involved</p>	<ul style="list-style-type: none"> ▪ Is there adequate support from employers and the various government departments to maintain the college system at its current size and level of resource consumption? Is there a desire to see the college system expand, and if so, in what program areas? ▪ Do employers and/or officials in various government departments believe there are better alternatives (in terms of outcomes, costs or both) other than the college system for preparing youth to enter the labour market? If so, what are those alternatives?

3. THE EMPLOYER INTERVIEW PROCESS, QUESTIONNAIRE, AND SAMPLE

3.1 The Questionnaire

The Employer Interview Form, presented at Appendix 1, was developed from the study questions shown in Table 2.1. It was designed for the Canadian-Jordanian Study Team to use in interviewing employer representatives from the various sectors of the Jordanian economy.

The interview form was sent in advance, along with an NCHRD-approved letter of introduction, to a large number of employers targeted by the Canadian-Jordanian Study Team. Interviews were subsequently scheduled with employers who indicated a willingness to meet with team members. The aim was to have the employer representative, typically a senior executive of the organization or the key person responsible for the organization's human resources, obtain certain information before the interview to enable them to respond fully to the questions. In most cases, the form was received in advance by the employers, and the representatives did attempt to have some of the answers prepared for the actual interviews.

3.2 The Interview Process

About half of the interviews were held before and during the second Canadian Team mission to Jordan. About half were completed after the second Canadian mission. Interviews were conducted by the Canadian Team member with the Jordanian Team Coordinator and/or a Jordanian Team Member and by members of the Jordanian Team without a Canadian Team member being present. The interviews took anywhere from one to two hours, depending on the interest of the employer and the depth of responses. The employer-based interviews began in late February 2005 and were completed by the first week of April 2005.

3.3 The Sample of Employers

Up to 75 employer interviews were planned, as outlined in the *Community Colleges Performance Assessment Study Methodology*. The aim was to interview a sample of employers from the 15 areas of economic activity in Jordan. The numbers of employers from the various areas targeted for the interviews were based on the most recent employment data for the Jordanian economy. Table 3.1 shows the percentage of employed persons age 15+ years in

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selected economic activity areas for the years 1998 and 2003 (table presented in *A Labour Market Review for the Community Colleges Performance Assessment Study of Jordan*).

TABLE 3.1
Percentage Distribution of Jordanian Employed Persons Aged 15+ Years, by Type of Economic Activity, 1998 and 2003

Type of Economic Activity	1998	2003
Industry	22.5	21.7
Manufacturing	12.1	12.4
Services	70.9	74.8
Wholesale & Retail Trade	15.9	17.8
Transport, Storage & Communications	9.4	10.0
Public Administration	18.2	16.6
Education	10.9	11.7

Source: Department of Statistics (DOS) website, 'Jordan in Figures'.

*: Includes economic activity with at least 10% of employed persons.

These data show that employment in the service sector is concentrated in four industries: Wholesale & Retail Trade; Transport, Storage & Communications; Public Administration; and Education. These four industries account for over half of total employment in the country. The relatively high employment in the public sector has been a source of concern to Jordanian officials for several years.

In the end, interviews were held with 44 employers. Table 3.2 contains the representation of the employers by the 15 economic activity areas.

TABLE 3.2
Numbers of Employers Interviewed by Economic Activity Area

Type of Economic Activity	Number	Percent of Sample
Agriculture, Hunting and Forestry	2	4.5
Fishing	0	0
Mining & Quarrying	0	0
Manufacturing	12	27.3
Electricity, Gas & Water Supplies	5	11.4
Construction	1	2.3
Wholesale & Retail, Repair of Motor Vehicles, Motorcycles, Personal & Household Goods	1	2.3
Hotels & Restaurants	2	4.5
Transport, Equipment, Storage and Communications	3	6.8

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Type of Economic Activity	Number	Percent of Sample
Financial Intermediation	0	0
Real Estate, Renting, Business Activities, Insurance & Commerce	1	2.3
Public Administration & Defence, Compulsory Social Security	2	4.5
Education	13	29.6
Health & Social Work	2	4.5
Other Community, Social & Personal Service Activities	0	0
TOTAL	44	100.0

A summary of the length of time that the employers included in the interviews have been in operation is shown in Table 3.3.

TABLE 3.3
Years in Operation of the 44 Organizations Sampled

Years in Operation	Number	Percent
2 years of less	2	4.5
3 to 5 years	2	4.5
6 to 8 years	2	4.5
9 years of more	38	86.5
TOTAL	44	100.0

The approximate size (in terms of numbers of employees) of the organizations included in the employer interview sample are shown in Table 3.4

TABLE 3.4
Organization Size in Terms of Number of Employees

Size Category	Number	Percent
10 or fewer employees	2	4.5
More than 10 but less than 20 employees	2	4.5
Between 20 and 50 employees	7	15.9
More than 50 but less than 100 employees	8	18.2
Between 100 and 500 employees	9	20.5
More than 500 employees	16	36.4
TOTAL	44	100.0

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In Table 3.5, the recent hiring activities of the employers in the sample are displayed.

TABLE 3.5
Hiring Activities of Organizations in the Sample

Range of Employees Hired in Last 12 Months	Number Hiring Full Time	Percent Hiring Full Time	Number Hiring Part Time	Percent Hiring Part Time
None	6	15.0	2	25.0
Between 1 and 5	8	20.0	1	12.5
Between 6 and 10	2	5.0	0	0
Between 11 and 20	7	17.5	1	12.5
Between 21 and 49	6	15.0	1	12.5
More than 50	11	27.5	3	37.5
No response to this question	4	-	36	-
TOTAL	44	100.0	44	100.0

A summary profile of the employer sample is:

- Some 34% of the sample represent Education and Public Administration (these areas employ over 28% of the Jordanian workforce) and more than 38% of the sample represent Manufacturing, Electricity, Gas and Water Supply (with these areas employing up to 20% of the workforce);
- More than 86% of the sample organizations have been in operation for more than nine years;
- Over three-quarters of the employer sample have more than 50 employees, with 36% having more than 500 employees; and,
- Over 85% had done some hiring within 12 months of the interviews.

It can be seen that the sample is diverse enough to be informative about the employers' perceived impact of the community colleges programs on Jordanian employment and job performance. However, the sample turned out not to be as representative of the various economic activity areas as originally planned. Caution should be exercised in applying the findings from these interviews to the sectors not represented in the sample.

4 EMPLOYER VIEWS OF THE LABOUR MARKET IN TERMS OF RECRUITMENT AND SKILL REQUIREMENTS

4.1 Incidence of Skill Shortages

In the report *A Labour Market Review for the Community Colleges Performance Assessment Study of Jordan* submitted to SETVET in March 2005, it was noted that the labour force participation rate has declined over the last several years, in spite of a growth in the population ages 15-64 years. This would normally mean that employers would begin to experience some difficulty in filling certain positions in their organizations. However, the unemployment rate in

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Jordan has remained above 12.5% for the past five years, typically easing any pressure employers might experience in finding skilled labour.

In spite of a fairly abundant general supply of labour, some shortages of highly skilled workers might be found in Jordan. The percentage of workers who reported having less than a secondary education was 64.6% in 2003. It is not surprising that a number of employers interviewed in this study were able to list occupations and/or occupational specialties for which they were unable to hire qualified and suitable staff. In Table 4.1, a list is provided of the occupations/ specialties employers expressed difficulty in finding, along with the main reasons for the difficulties.

TABLE 4.1
Occupations Difficult to Fill and Reasons Given

Occupations For Which Employers Were Unable to Hire Suitable/Qualified Staff	Reasons Given
Technical engineering (casting design)	<ul style="list-style-type: none"> - Jordanian colleges do not offer these courses - Need to import workers from Egypt
Building inspectors, survey technicians, architectural drawings	<ul style="list-style-type: none"> - Jordanian colleges do not offer these courses - Need to import workers from Egypt
Human Resources specialists (public relations specialists)	<ul style="list-style-type: none"> - Need candidates with more practical experience - Few graduates have the required communication skills
Automotive mechanics (advanced electronics)	<ul style="list-style-type: none"> - Graduates have insufficient mastery of high technology or advanced electronics needed in modern automotive repair and service trouble shooting - Insufficient English reading comprehension - must be able to read technical manuals in English - Work attitude – many candidates do not want to do manual shop work
Dental lab technician (porcelain and titanium specialists)	<ul style="list-style-type: none"> - New recruits need 3 to 4 years of training before they can work without supervision; many leave after 1 or 2 years of training
Nurses, x-ray technicians, and nursing assistants	<ul style="list-style-type: none"> - Insufficient number of graduates in these fields
Behaviour pathology and disability diagnoses	<ul style="list-style-type: none"> - Insufficient number of graduates in these fields
Marketing and sales representatives (specialized in shipping)	<ul style="list-style-type: none"> - Candidates lack know-how of shipping industry - Insufficient knowledge of English to deal with multi-national customers
Marketing and sales in hotel industry; Stewarding (chief steward); Food and beverage manager	<ul style="list-style-type: none"> - Insufficient level of English - Lack of practical experience
Maintenance work in public shopping malls	<ul style="list-style-type: none"> - There are many college level hires but they do not stay on the job because they often refuse trades and manual work

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Occupations For Which Employers Were Unable to Hire Suitable/Qualified Staff	Reasons Given
Insurance statistician	<ul style="list-style-type: none"> - Lack of practical experience - Decision to join industry is based on influence of family or peers and not on sound occupational research - half of graduates apply because their fathers work there
Pharmaceutical quality control specialist	<ul style="list-style-type: none"> - Most graduates are only generalists - Need candidates with specialized experience with pneumatic and other quality control equipment
Lab technician – hospital	<ul style="list-style-type: none"> - Need to go through the Civil Service Bureau to fill the position - Insufficient command of English and computer skills
Mechanical engineering	<ul style="list-style-type: none"> - There is a scarcity of skilled employees in this field in Jordan
Credit officer – banking Corporate financing - banking	<ul style="list-style-type: none"> - Banks are highly competitive - Corporate financing is a new field in Jordan

4.2 Information About Jobs/Careers

- One area of concern for employers was the lack of career counselling and the availability of accurate labour market information for students. Most college and university students seem to simply try out different occupations based on family or peer influence rather than through an informed decision-making process.
- Employers complained about having to provide job training only to lose new recruits through attrition because of improper job matching.
- For manual occupations and trade work, there was a feeling expressed by some employers that these were not valued by many Jordanian college graduates. Consequently, entry level positions often need to be filled by foreign workers.

4.3 Employer Recruitment Methods

Employers in Jordan, at least based on the information provided by those interviewed in this survey, use one or two of the more traditional methods of recruiting new employees. The frequency of employers in the sample saying they normally use one or several of the most common recruitment approaches is displayed in Table 4.2. Using a rating scale of 1= good, 2=average, and 3=poor, the average ratings given by employers in the sample to the various methods listed in Table 4.2 are shown in Table 4.3.

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TABLE 4.2
Frequency that Sample Employers Used Various Recruitment Methods

Recruitment Method	Frequency of Use	Percentage of Use
Applications submitted directly	20	19.6
Resumes sent to the company	12	11.8
Newspaper advertisements	37	36.3
On-campus/college recruitment	3	2.9
Internet	4	3.9
Personal contacts/ word of mouth	17	16.7
Professional recruitment agency/Private employment agency	2	2.0
Union hiring halls/trade or association lists	0	0.0
Referral from student field training in our organization	4	3.9
Other	3	2.9
TOTAL	102	100.0

TABLE 4.3
Reported Effectiveness of the Various Recruitment Methods

Recruitment Method	Average Rating of Effectiveness from 1 (good) to 3 (poor)
Applications submitted directly	1.50
Resumes sent to the company	1.82
Newspaper advertisements	1.50
On-campus/college recruitment	2.00
Internet	1.67
Personal contacts/ word of mouth	1.71
Professional recruitment agency/Private employment agency	1.00
Union hiring halls/trade or association lists	-
Referral from student field training in our organization	2.00
Other	2.00

Clearly, the majority of employers used newspaper advertisements and personal contacts (word of mouth) to recruit new employees. Employers also indicated that the use of newspaper advertisements was among the most successful of the methods used, followed by the receipt of applications directly from prospective employees.

5 COLLEGE GRADUATE EMPLOYMENT

In an earlier report submitted to the SETVET (*A Labour Market Review for the Community Colleges Performance Assessment Study of Jordan*) it was explained that the educational specialization of both university and college graduates affects the economic sectors and occupations in which they can find jobs, as well as their earnings. The data in Table 5.1 (taken from Table 12 of the aforementioned report) show that there are some differences between the proportion of university graduates and college graduates employed in different economic sectors. But these differences are not particularly large except for the Education sector. It is seen that 33.6% of those with a university degree, but only 19.8% of those with a college diploma were working in the Education sector. This is not surprising given that the Ministry of

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Education decided just a few years ago that a university level degree would be required for employment in all teaching positions from elementary to secondary school.

TABLE 5.1
Distribution of Employed Persons by Type of Economic Activity and Level of Education, May 2004

Economic Activity	Bachelor & Above	Intermediate diploma (Community college)
Manufacturing	4.3	9.3
Wholesale & Retail Trade, Repair of Motor Vehicles, motorcycles, personal household Goods	9.8	14.9
Transport, Storage & Communications	4.7	5.2
Public Administration & Defence Compulsory Social Security	12.9	11.9
Education	33.6	19.8
Health & Social Work	9.0	14.2
Other sectors	25.7	24.7
TOTAL	100.0	100.0

Source: Based on data from the Employment and Unemployment Survey, DOS, May 2004. Note that numbers may not add to 100.0 because of rounding errors.

Table taken from the earlier report: "A Labour Market Review for the Community Colleges Performance Assessment Study of Jordan".

There are, by contrast, large differences between the distributions by occupation of those with a degree and with a college diploma (see Table 5.2). Almost 90% of those with a degree were employed as 'Professionals'. By contrast, two-thirds of those with a college diploma were employed as 'Technicians & Associate Professionals'.

TABLE 5.2
Distribution of Employed Persons by Occupational Group and Level of Education, May 2004

Occupational Group	Bachelor & Above	Intermediate diploma (Community college)
Professionals	87.0	1.9
Technicians & Associate Professionals	3.3	68.8
Clerks	0.4	2.6
Service & Shop and Market Sales Workers	4.9	9.2
Crafts and Related Workers	0.5	7.1
Plant and Machine Operators and Assemblers	0.6	4.3
Elementary Occupations	2.4	5.6
Other occupations	0.9	0.5
TOTAL	100.0	100.0

Source: Based on data from the Employment and Unemployment Survey, DOS, May 2004. Note that numbers may not add to 100.0 because of rounding errors.

Table taken from the earlier report: "A Labour Market Review for the Community Colleges Performance Assessment Study of Jordan".

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5.1 College Graduate Hiring by Employers in the Survey Sample

More than 90% of the organizations included in the sample indicated that they had hired college graduates sometime over the past three years. The occupational categories in which they hired the graduates are displayed in Table 5.3. The primary means used to recruit the graduates hired are shown in Table 5.4.

TABLE 5.3
Numbers and Percentages of Employers Who Hired Graduates in Each of the Main Occupational Categories

Occupational Category	Numbers of Employers Indicating the Hiring of Graduates in Each Category	Percent of Employers Indicating the Hiring of Graduates in Each Category
Professionals	8	11.8
Technicians and Associated Professionals	29	42.6
Clerks	23	33.7
Service Workers and Shop and Market Sales Workers	5	7.4
Armed Forces, Police and Security Guards	0	0
Agricultural and Fishery Workers	0	0
Craft and Related Trades Workers	1	1.5
Plant and Machine Operators and Assemblers	1	1.5
Elementary Occupations	0	0
Senior officials and managers	1	1.5
Other occupation	0	0
TOTAL	68	100.0

TABLE 5.4
Primary Means Used to Identify Graduates Hired

Primary Means Used to Identify Graduates Hired	Number of Employers Using Each Means to Identify Graduates for Hire	Percent of Employers Using Each Means to Identify Graduates for Hire
Contacted the college dean	4	5.6
Contacted a college Department Head or the Registrar	4	5.6
College staff member contacted our organization	2	2.8
The graduate contacted our organization	20	28.2
Response to newspaper or other advertisements	30	42.4
Knew the graduate from his/her previous field training experience in our organization	4	5.6
Response to Internet posting of vacancies	2	2.8
Referred by a private recruitment/employment agency	1	1.4
Other	4	5.6
TOTAL	71	100.0

The most common occupational areas where the organizations sampled hired college graduates were (in order of frequency): Technicians and Associated Professionals, Clerks, and Professionals.

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The primary means of identifying college graduates for hire were (in order of frequency used): responses to newspaper or other advertisements, and graduates contacted the organizations directly.

5.2 Employment of Persons from Specific Population Groups of Interest to Jordan

The organizations in the sample were asked about the percentages of their total workforce that are: women, youth (under age 25), mature workers (55 or older), and disabled workers. More than 70% of the organizations said that less than 20% of their workforce included women, mature or disabled workers. Youth are well represented. The results from this survey item are shown in Table 5.5.

In terms of their interest in hiring workers from these same four population groups, a majority of the organizations said that they were "very uninterested" in hiring mature or disabled workers, and "neither interested or uninterested" in hiring women. A majority expressed interest in hiring youth. These results are displayed in Table 5.6.

TABLE 5.5
Percentage Representation of Four Population Groups in the Workforce of the Organizations Sampled

Percentage of Workforce (Representation Categories)	Percent Organizations with Women in Each Representation Category	Percent Organizations with Youth in Each Representation Category	Percent Organizations with Mature Workers in Each Representation Category	Percent Organizations with Disabled Workers in Each Representation Category
0 – 19	69.8	32.6	86.0	97.7
20 – 39	7.0	30.7	11.6	2.3
40 – 59	4.7	11.6	0.0	0.0
60 – 79	4.7	18.6	2.3	0.0
80 – 100	14.0	7.0	0.0	0.0
TOTAL % Responses	100.0	100.0	100.0	100.0

TABLE 5.6
Interest of the Organizations Sampled in Hiring Workers from Four Population Groups

Degree of Interest in Hiring From Population Group	Organizations' Interest in Hiring Women (% Response to Each Interest Category)	Organizations' Interest in Hiring Youth (% Response to Each Interest Category)	Organizations' Interest in Hiring Mature Workers (% Response to Each Interest Category)	Organizations' Interest in Hiring Disabled Workers (% Response to Each Interest Category)
Very Uninterested	21.4	4.8	78.6	54.8
Somewhat Uninterested	9.5	9.5	19.0	16.7
Neither Interested nor Uninterested	26.2	9.5	2.4	23.8
Somewhat Interested	19.0	26.2	0.0	2.4
Very Interested	23.8	50.0	0.0	2.4
TOTAL % Responses	100.0	100.0	100.0	100.0

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In addition to the descriptive analyses conducted, as shown in the preceding tables, an Analysis of Variance (ANOVA) was done to determine if employers in the different economic activity areas responded differently to these, as well as to many of the other survey questions where "rated responses" were required (e.g. ratings from very uninterested to very interested). The question addressed relative to the information in Table 5.6 using this type of statistical analysis is: Was there a significant difference among the employers representing the 11 different economic activity areas sampled in this survey (e.g. manufacturing, education, construction) in the way they responded to the question about interest in hiring people from specific population groups? Put another way: Were employers in one economic activity area more interested in hiring people from one or another of the four population groups (women, youth, mature workers, disabled workers) than the employers in one or another economic activity area?

Analysis of Variance (ANOVA) is a statistical method used to simultaneously compare the differences in mean or average values among a number of groups of respondents to one or a number of survey questions. For the question posed in Table 5.6, this analysis revealed that there was no statistically significant difference in the way the employers responded. The economic activity area of the employers did not seem to be a factor in how the organizations felt about hiring workers from any the four groups. For example, employers in manufacturing were no more or less interested in hiring women than employers in education or public administration.

6 PERCEIVED QUALITY OF COMMUNITY COLLEGE PROGRAMS

A key question in the survey asked employers to indicate reasons why they had not hired college graduates, or had experienced difficulty in hiring graduates. Eleven reasons (response categories) were provided. The employers' responses to this question are shown in Table 6.1.

TABLE 6.1
Employer Reasons for not Hiring Community College Graduates

Reason for not Hiring/Reason for Difficulty in Hiring College Graduates	Number of Employer Responses	Percent of Employer Responses
College-level skills are not required for our jobs	3	11.1
University-level or other specific skills not offered in colleges are required for our jobs	4	14.8
Colleges do not provide the general education/training needed for our jobs	4	14.8
University graduates perform better on the job than college graduates who have the required skills	2	7.4
Not enough people are graduating from the colleges in programs relevant to our jobs to meet our hiring needs	3	11.1
Available college graduates all get hired by other companies	3	11.1
College graduates do not apply because they are not aware of the opportunities in our company	4	14.8
College graduates will not accept our entry-level positions but always want to start too high up in the organization	1	3.7

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Reason for not Hiring/Reason for Difficulty in Hiring College Graduates	Number of Employer Responses	Percent of Employer Responses
The salary expectations of college graduates are too high	2	7.4
Our organization does not know how to locate college graduates looking for employment	1	3.2
Other	0	0.0
TOTALS	27	99.9

The three main reasons for not hiring, or having difficulty in hiring, college graduates were:

- University-level or other specific skills not offered in colleges are required for our jobs;
- Colleges do not provide the general education/training needed for our jobs; and,
- College graduates do not apply because they are not aware of the opportunities in our company.

In the interviews, employers frequently said:

- The skill level of graduates often does not meet their job requirements;
- Graduates sometimes lack up-to date technical skills;
- Many graduates need advanced computer skills and are not getting them at the colleges;
- A greater fluency in the English language is needed for most positions, and the colleges are not producing graduates with a high enough fluency level;
- Some colleges are using outdated equipment on which to train their students;
- The colleges place too much emphasis on the comprehensive exams, and concentrate more on theory to the detriment of the practical application of the students' skills and knowledge; and,
- The fields of study in the colleges may be too narrowly focused. Greater efforts should be made to promote all fields in any given industry. Some examples cited were in the health, transportation, tourism and the hotel industries.

Six additional questions were asked in the survey that aimed to gauge the employers' perceptions of the general quality and applicability to employment of the college programs, and the quality of the college graduates as new employees. The "average" responses to these questions are given in Table 6.2.

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TABLE 6.2
Average Ratings of Employers on Indicators of the Quality of College Programs and Graduates

Q #	Survey Question	Rating Scale Used	Average
4.1	How would you compare the job/work preparation of the college graduates to other entry-level employees? <i>Scale Title: Grad Preparation</i>	1=Better prepared 2=About the same 3=Less well prepared	1.49
4.2	How would you rate your satisfaction with the graduates' overall preparation for the type of work they were hired to do? <i>Scale Title: Grad Satisfaction</i>	1=Very satisfied 2=Satisfied 3=Neither satisfied nor unsatisfied 4=Unsatisfied 5=Very Unsatisfied	1.85
4.3	Are the skills of college graduates who are in your employ underutilized? <i>Scale Title: Skill Underutilization</i>	1=Never 2=Sometimes 3=Half of the time 4=Often 5=All of the time	1.42
4.4	Does a college certificate, diploma or degree increase an employee's chances for advancement in your organization? <i>Scale Title: Advancement</i>	1=Definitely yes 2=Probably yes 3=Uncertain 4=Probably not 5=Definitely not	1.56
4.8	How would you compare the performance of college graduates on entry-level job training to other employees who had not completed a college program? <i>Scale Title: Training Performance</i>	1=Performed better 2=Performed about the same 3=Performed worse	1.33
4.10	Are the Comprehensive Examinations an adequate means of assuring graduates have obtained the knowledge and skills required in their specialization for successful job performance? <i>Scale Title: Comprehensive Exams</i>	1=Definitely yes 2=Probably yes 3=Uncertain 4=Probably not 5=Definitely not	2.24

Clearly, the employers sampled were fairly positive about the quality of the college programs as a means of preparing graduates for employment, and perceived college graduates to be generally better entry-level employees than those without a college diploma.

In addition to the descriptive analyses conducted, as shown in Table 6.2, an Analysis of Variance (ANOVA) was done to determine if employers in the different economic activity areas responded differently to the six questions referred to in Table 6.2, as well as to many of the other survey questions where "rated responses" were required (e.g. ratings from very uninterested to very interested). This type of analysis is used to determine if there is any difference in how positively or negatively employers felt about the quality of the college programs and their graduates based on their economic activity area. For example, we might ask: Did manufacturing employers rate their satisfaction with the colleges' preparation of graduates (question 4.2 on the survey) more highly than education or transport/communications employers?

Analysis of Variance (ANOVA) is a statistical method used to simultaneously compare the differences in mean or average values among a number of groups of respondents (with the groupings of employers in this case being their economic activity areas) to one or a number of survey questions. For the six survey questions referred to Table 5.6, this analysis revealed that there was a statistically significant difference among employers in the various economic activity

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areas on their responses to three of the six scales – those related to satisfaction with graduate performance, underutilization of skills, and advancement opportunity. The means (averages) and standard deviations for the different economic activity area groupings on the six survey questions are given in Table 6.3. The ANOVA “table” (standard format for summarizing the outcomes from an Analysis of Variance) for the six questions is presented as Table 6.4.

TABLE 6.3
Descriptive Statistics for Six Sectors on Six College Performance Scales

Q #	Scale Title	Sector	# Responses	Mean	Standard Deviation
4.1	Grad Preparation	Agriculture, Hunting and Forestry	2	2.50	2.121
		Manufacturing	13	1.46	.776
		Electricity, Gas and Water Supplies	5	1.80	1.304
		Transport, Equipment, Storage and Communications	3	2.00	1.000
		Public Administration and Defence, Compulsory Social Security	2	1.50	.707
		Education	11	1.27	.647
4.2	Grad Satisfaction	Agriculture, Hunting and Forestry	2	2.00	.000
		Manufacturing	13	1.77	.725
		Electricity, Gas and Water Supplies	5	2.00	.000
		Transport, Equipment, Storage and Communications	3	3.33	1.528
		Public Administration and Defence, Compulsory Social Security	2	2.00	1.414
		Education	11	1.45	.522
4.3	Skill Underutilization	Agriculture, Hunting and Forestry	2	2.00	.000
		Manufacturing	13	1.38	.650
		Electricity, Gas and Water Supplies	5	1.00	.000
		Transport, Equipment, Storage and Communications	3	3.33	2.082
		Public Administration and Defence, Compulsory Social Security	1	1.00	-
		Education	11	1.27	.467
4.4	Advancement	Agriculture, Hunting and Forestry	2	4.00	.000
		Manufacturing	13	1.46	.877
		Electricity, Gas and Water Supplies	5	1.60	.894
		Transport, Equipment, Storage and Communications	3	2.33	2.309
		Public Administration and Defence, Compulsory Social Security	2	1.00	.000
		Education	11	1.27	.467
4.8	Training Performance	Agriculture, Hunting and Forestry	0	-	-
		Manufacturing	0	-	-
		Electricity, Gas and Water Supplies	0	-	-
		Transport, Equipment, Storage and Communications	1	2.00	-
		Public Administration and Defence, Compulsory Social Security	0	-	-
		Education	1	1.00	-

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Q #	Scale Title	Sector	# Responses	Mean	Standard Deviation
4.10	Comprehensive Exams	Agriculture, Hunting and Forestry	2	4.50	.707
		Manufacturing	14	2.71	1.684
		Electricity, Gas and Water Supplies	5	1.60	.894
		Transport, Equipment, Storage and Communications	3	2.33	2.309
		Public Administration and Defence, Compulsory Social Security	2	1.00	.000
		Education	11	2.09	1.375

* Only six sectors are used in the analysis because the number of responses on the six scales is less than 2 for all of the other sectors.

TABLE 6.4
Analysis of Variance (ANOVA) Table for the Analysis of Sectors on Six Scales

		Sum of Squares	Df	Mean Squares	F	Sig
Grad Preparation	Between Groups	3.676	5	.735	.875	.510
	Within Groups	25.213	30	.840		
	Total	28.889	35			
Grad Satisfaction	Between Groups	8.604	5	1.721	3.288	.017*
	Within Groups	15.702	30	.523		
	Total	24.306	35			
Skill Underutilization	Between Groups	12.817	5	2.563	4.668	.003*
	Within Groups	15.925	29	.549		
	Total	28.743	34			
Advancement	Between Groups	15.276	5	3.055	3.626	.011*
	Within Groups	25.279	30	.843		
	Total	40.556	35			
Training Performance	Between Groups	.500	1	.500	-	-
	Within Groups	.000	0	-		
	Total	.500	1			
Comprehensive Exams	Between Groups	18.300	5	3.660	1.618	.185
	Within Groups	70.133	31	2.262		
	Total	88.432	36			

* Denotes statistical significance at a significance level of 0.05.

Although the ANOVA table (Table 6.4) indicates that there is a significant difference among employers according to their economic activity area in their responses on three of the survey questions, the procedure does not say which employer groupings (economic activity areas) differ from one another on these three questions. To find out where the differences are, a follow up or "post hoc" statistical procedure is used.

The Scheffe post hoc test was used to determine which of the economic activity areas differed in their responses to the three questions where the ANOVA indicated a significant difference existed. For example, the question might be asked: Do education employers feel the skills of college graduates are never or only sometimes underutilized while transport/communications employers feel underutilization of skills occurs half the time or often. The Scheffe test compares pairs of mean or average ratings separately for each of the three questions. The Scheffe test

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was used because it is preferred when the numbers of responses to a question are unequal for the various groupings (or economic activity areas).

The Scheffe post hoc analysis results are provided in Table 6.5.

TABLE 6.5
Scheffe Post Hoc Tests for Economic Activity Areas on Three Scales

Economic Activity Area Codes are:

1 = Agriculture, Hunting and Forestry
2 = Manufacturing
3 = Electricity, Gas and Water Supplies
4 = Transport, Equipment, Storage and Communications
5 = Public Administration and Defence, Compulsory Social Security
6 = Education

* Denotes a difference between economic activity areas at the 0.05 significance level

		1	2	3	4	5	6
Grad Satisfaction	1						
	2				*		
	3						
	4		*				*
	5						
	6					*	
		1	2	3	4	5	6
Advancement	1		*				*
	2	*					
	3						
	4						
	5						
	6	*					

Post hoc analysis could not be conducted on the scale of underutilization because at least one of the six economic activity areas had less than 2 responses to the question.

From Table 6.5, it can be seen that there is a difference between the responses of *Manufacturing* employers and *Transport, Equipment, Storage and Communications* employers, and between the responses of *Transport, Equipment, Storage and Communications* and *Education* employers to the graduate satisfaction question. In the table of means (Table 6.3) it

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is observed that Manufacturing and Education employers were significantly more satisfied than those in Transport/Communications with the graduates' overall preparation for the type of work they were hired to do.

From Table 6.5, it can also be seen that there is a difference between the responses of *Manufacturing* employers and *Agriculture, Hunting and Forestry* employers, and between the responses of *Agriculture, Hunting and Forestry* and *Education* employers to the advancement opportunities question. In the table of means (Table 6.3) it is observed that Manufacturing and Education employers were significantly more positive about the opportunities for advancement for college graduates relative to other new entries than those in Agriculture, Hunting and Forestry.

7 CONNECTIONS BETWEEN COMMUNITY COLLEGES AND EMPLOYERS

The "average" responses of employers to the five specific questions on the survey form related to their links with the colleges are shown in Table 7.1.

The majority of employers interviewed felt that the connection between themselves and the community colleges in their geographical areas was not strong. While some informal contacts occurred from time to time, most employers indicated that there is an absence of formal ties with colleges. This employer comment is affirmed in the average response of employers to a scaled question on the survey (see Table 7.1: scale title *Linkages*).

Many employers also expressed the view that the colleges do not give a high enough priority to their mandate of preparing students for the labour market, and usually are not willing or able to adjust the college programs to meet specific employer labour market needs. This is affirmed in the employer responses to two scaled survey questions (see Table 7.1: scale titles of *Priority on Job Preparation* and *Program Adjustments*). Employers were, however, generally supportive of the colleges in their labour market role (see Table 7.1: scale title of *Support for Colleges*).

TABLE 7.1
Average Ratings of Employers on Indicators of their Links with and Support of the Community Colleges

Q #	Survey Question	Rating Scale Used	Average
5.2	What priority do the colleges place on the preparation of their students for the workplace relative to the achievement of academic excellence? <i>Scale Title: Priority on Job Preparation</i>	1=Very low priority 2=Low priority 3=Average priority 4=High priority 5=Very high priority	2.89
5.3	Do you have any formal or informal linkages with any of the colleges or their associations/ organizations? <i>Scale Title: Linkages</i>	1=No linkages 2=A few linkages 3=An adequate number of linkages 4=A good number 5=More than enough	1.98
5.4	Do the colleges try to adjust or adapt their programs/curricula to meet your job requirements? <i>Scale Title: Program Adjustments</i>	1=Not at all 2=Partially 3=Half of the time 4=Often 5=All of the time	1.30

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Q #	Survey Question	Rating Scale Used	Average
5.6	Are you generally supportive of the college's role in preparing students for labour market entry? <i>Scale Title: Support for Colleges</i>	1=Not at all 2=Partially 3=Half of the time 4=Mostly 5=Entirely	3.49
5.7	Do you believe the colleges are adequately funded to provide students with high quality and labour market relevant programs? <i>Scale Title: Adequacy of College Funding</i>	1=Definitely yes 2=Probably yes 3=Uncertain 4=Probably not 5=Definitely not	2.56

8 A FEW CONCLUSIONS

8.1 The Employer Sample

The methodology for the study called for a sample of up to 75 employers. Unfortunately, the Study Team was only able to interest 44 employers/employing organizations in participating in the study. It had been hoped that several employers from each of the economic activity areas would be interviewed. In the end, employers from 11 out of the 15 areas were included in the sample. It is believed that the obtained sample is diverse enough to be informative about the employers' perceived impact of the community colleges programs on Jordanian employment and job performance. Nevertheless, it would be prudent not to base economic or organizational decisions solely on the results of this part of the study. The findings from the employer interviews will become truly useful when viewed in the context of the findings from the community college interviews and the graduate tracer study results.

8.2 Observations Made by the Employers

Many of the employers interviewed provided commentary and/or suggestions in addition to responding to the scaled questions. The key points they raised follow.

- Many companies voiced frustration over the fact that they use up considerable resources in on-the-job training of new college graduates only to see them leave after their training period. This is a situation found in most market economies – that of employee piracy. Jordanian employers did recognize that the colleges are not always able to provide all of the specific skills training needed by graduates for employment in business and industry. Some on-the-job training after hiring will always be required.
- A number of the employers interviewed felt that the colleges will never be able to provide enough of the practical aspects of the specific skills required by graduates on the job. The on-the-job training burden is really too large for many of the employers. One good solution proposed by employers would be to set up training programs or training centres within the industries themselves much like what has been done with the nursing programs and the hospitals.
- A number of employers expressed the belief that the community colleges emphasize academic excellence and theoretical knowledge over the practical aspects of many occupations. They suggested that:

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- The curriculum be examined with a view to providing a better balance between theoretical and practical curricular goals;
 - Community college teachers undertake more training themselves in the practical aspects of the curriculum; and,
 - The colleges hire more teachers who have an industrial background.
- It was universally accepted that formal links between employers and the colleges are needed. These links could take several forms.
- The colleges absolutely should survey the employers in their geographical areas to determine their employment requirements, and to measure their satisfaction with the training being provided to the graduates;
 - Formal stakeholder organizations should be formed by the colleges with representation on these "consultative bodies" being drawn from a variety of the public and private sector employers in the region; and,
 - The colleges need to convene periodic forums for their students with different stakeholders in attendance who would present information on their industries, introduce students to the practical side of their studies and motivate them.

8.3 Preliminary Responses to the Study Questions

In Table 8.1, some findings are highlighted that relate to the study questions outlined at the beginning of this report (Table 2.1 - page 1). These findings are based on both the comments and suggestions made by employers in the interviews, and on the results of the analysis of the employers' responses to the various scaled questions in the employer survey form.

TABLE 8.1
Summary of Findings Relative to the Study Questions

Study Questions Relevant to the Employer Interviews	Findings from the Employer Interviews
<p>Impact</p> <ul style="list-style-type: none"> ▪ For what occupations and economic activity areas do employers say they have difficulty finding acceptable candidates? ▪ Are there particular skill sets that employers say college graduates lack when they apply for work? Does this differ by occupation and economic activity area? 	<ul style="list-style-type: none"> ▪ The labour force participation rate has declined over the last several years, but filling positions has not generally been a problem for employers because of the sustained high unemployment rate. Employers said they must import general labour from surrounding countries (Syria; Egypt). ▪ Employers have some difficulty finding candidates for the following fields due to the fact that Jordanian colleges do not offer the relevant programs: <ul style="list-style-type: none"> - Technical engineer (casting design); - Building inspectors, survey technicians, architectural drawing; and, - Corporate financing (a new field in Jordan).

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Study Questions Relevant to the Employer Interviews	Findings from the Employer Interviews
	<ul style="list-style-type: none"> ▪ Employers find that there are TOO FEW college graduates each year in the following fields: <ul style="list-style-type: none"> - Nurses, x-ray technicians, nursing assistants; and, - Behaviour pathology, disability diagnosis. ▪ Graduates in a number of occupations have insufficient proficiency in the English language to work effectively, according to employers. Those occupations are: <ul style="list-style-type: none"> - Marketing and sales (especially in shipping); - Marketing and sales in hotel industry, stewarding, food and beverage manager; - Lab technician – hospital; and, - Automotive mechanics. ▪ Graduates in several fields require additional occupational training, or specific field experience, to be effective on the job. Those fields are: <ul style="list-style-type: none"> - Dental lab technician (porcelain and titanium); - Marketing and sales in hotel industry, stewarding, food and beverage manager; - Automotive mechanics (advanced electronics); - Insurance statistician; and, - Pharmaceutical quality control specialist. ▪ Employers indicated a general need for the colleges to provide advanced computer skills to students in almost all programs and specialties. ▪ Employers noted that college graduates, like secondary school graduates in Jordan, have not been given much advice or training in career planning and decision-making. Most seem to follow in a family occupational path.
<ul style="list-style-type: none"> ▪ Are employers supportive of the colleges? 	<ul style="list-style-type: none"> ▪ If the employer sample of this study is a fair indication of how and who employers hire, then it can be said that employers do seek out and employ community college graduates. Over 90% of employers in the sample had hired college graduates over the previous three years. ▪ The unemployment rate for college graduates is generally below the average unemployment rate for the labour force as a whole (in 2003, unemployment among college graduates was 13.2% compared to the average across all education levels of 14.5%).

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Study Questions Relevant to the Employer Interviews	Findings from the Employer Interviews
	<ul style="list-style-type: none"> ▪ In response to the specific question about their support for the role of the colleges in preparing students for the labour market, employers reacted favourably, with an average rating of 3.49 on a five point scale (the lowest rating was 1 and the highest was 5).
<ul style="list-style-type: none"> ▪ Do employers feel there are better alternatives for the labour market preparation of youth than the community colleges? 	<ul style="list-style-type: none"> ▪ Employers said they recognized that the colleges cannot be all things to all people. Many specific and more advanced skills have to be learned once the graduate starts work. However, the employers voiced a general complaint that the skill level of graduates often does not meet their job requirements. They indicated that this has more to do with a lack of connection to/communications with the colleges than the colleges' capacity to fulfill their labour market preparation role. ▪ Employers know they must provide graduates with on-the-job training as new employees. Because many employers felt they lacked the "critical mass" to provide any highly specialized training, they suggested that the industries might set up, with government help, training programs or training centres, to supplement the training given by the colleges.
<p>Effectiveness</p> <ul style="list-style-type: none"> ▪ Do the colleges have a systematic way of obtaining and acting on labour market intelligence from employers 	<ul style="list-style-type: none"> ▪ The direct answer to this study question is "no", not in the view of the employers. Employers said that they have little connection with the colleges in their geographical area. There are no formal consultative bodies in place for the colleges to gather labour market intelligence from the employers.
<p>Efficiency</p> <ul style="list-style-type: none"> ▪ Do the colleges seek and obtain the views of local employers about the objectives, content, and expected outcomes of their programs? 	<ul style="list-style-type: none"> ▪ In response to a question about the extent to which the colleges try to adjust or adapt their programs to meet employer needs, employers indicated that the colleges do not know their views, because they do not ask about them. On a five point rating scale from the lowest of 1 (not at all) to the highest of 5 (all of the time), employers gave an average rating of 1.30, suggesting the colleges do not seek out their views.
<p>Relevance</p> <ul style="list-style-type: none"> ▪ Do employers believe that college graduates have been adequately prepared for either further studies/training in their fields or for employment in those fields? Do their views differ by type of college or by program area? 	<ul style="list-style-type: none"> ▪ Overall, the employers were quite positive about the quality of the college programs and their graduates. Employers rated the programs and graduates as follows:

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Study Questions Relevant to the Employer Interviews	Findings from the Employer Interviews
	<ul style="list-style-type: none"> - Graduates are "better prepared" to "about the same" in comparison to the preparation of other entry-level employees; - Employers are "satisfied" to "very satisfied" with the graduates' overall preparation for work; - A college certificate, diploma or degree increases an employee's chances for advancement; and, - College graduates perform in job training "better" to "about the same" as other entry-level employees. <ul style="list-style-type: none"> ▪ Employers in Manufacturing and Education were more satisfied with the employment preparation of college graduates than were employers in Transportation, Equipment, Storage and Communications. As well, Manufacturing and Education employers were more positive than Agriculture, Hunting, and Forestry employers about the chances for advancement after hire of college graduates relative to other employees.
<ul style="list-style-type: none"> • Are employers satisfied with the breadth and depth of education/training given to college students in relation to the knowledge, skills and attitudes needed to succeed in their work places? 	<ul style="list-style-type: none"> ▪ In general, the employers expressed the view that the fields of study in the colleges may be too narrowly focused. This was particularly the case for employers in Health, Transportation and parts of Tourism. ▪ Also, employers commonly said that the college programs focus more on the theoretical than the practical aspects of a field. This was seen in the employers' average response to a question about the priority the colleges' place on the workplace preparation of their students. Employers rated the colleges' priority on workplace preparation as "low" to "average".
<ul style="list-style-type: none"> • Do employers believe that the comprehensive exams are good measures of student attainment of the knowledge and skills important in the various occupations/areas of economic activity? 	<ul style="list-style-type: none"> ▪ In the survey, the employers were moderately positive about the adequacy of the comprehensive exams as measures of graduates' occupational knowledge and skills. The average employer rating was 2.24 on a five-point scale that ranged from the most positive view at 1 ("definitely yes") to the least positive view at 5 ("definitely not"). ▪ Employers also expressed the view that the colleges place too much emphasis on preparing students to pass the comprehensive exams, perhaps at the expense of their preparation for the practical parts of the occupation.

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Study Questions Relevant to the Employer Interviews	Findings from the Employer Interviews
<ul style="list-style-type: none"> ▪ Can employers identify specific knowledge and skill gaps between what is learned in college and what is needed to perform jobs satisfactorily? Are there common gaps across programs? 	<ul style="list-style-type: none"> ▪ The most common gaps cited by the employers in the education/training being provided by the colleges were: <ul style="list-style-type: none"> - Adequate fluency in the English language; - Advanced computer skills; and, - Up-to-date technical skills, and particularly practical experience with up-to-date equipment.
<p>Sustainability</p> <ul style="list-style-type: none"> ▪ Is there adequate support from employers and the various government departments to maintain the college system at its current size and level of resource consumption? Is there a desire to see the college system expand, and if so, in what program areas? 	<ul style="list-style-type: none"> ▪ As noted in relation to an earlier study question, the employers were generally supportive of the colleges in the extent to which they are fulfilling their role in the preparation of youth for the labour market. The employers themselves indicated they were not in a position to comment on the resources available to the colleges to meet their mandate. The employers on average were "uncertain" in terms of their views about the adequacy of college funding. This question can only be addressed in the light of additional information from government players and on the basis of relevant documentation.
<ul style="list-style-type: none"> ▪ Do employers and/or officials in various government departments believe there are better alternatives (in terms of outcomes, costs or both) other than the college system for preparing youth to enter the labour market? If so, what are those alternatives? 	<ul style="list-style-type: none"> ▪ As highlighted in response to an earlier study question, the employers expressed the view that colleges are adequately fulfilling their labour market preparation role, but they are not able to provide their students with <u>everything</u> they need for the job. Employers recognize their responsibility to provide job training to new entrants, regardless of whether they are secondary school, college, or university graduates.

