



VOCATIONAL TRAINING CENTER FOR UNDERGRADUATE UNIVERSITY STUDENTS AND TEACHERS IN JORDAN (VTC)

A REPORT ON WP2: Assessment studies for the needs of students

DONE BY: JO Partners

August 15, 2016





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1. EXECUTIVE SUMMARY

This report constitutes an analysis of the WP2 of the "VOCATIONAL TRAINING CENTER FOR UNDERGRADUATE UNIVERSITY STUDENTS AND TEACHERS IN JORDAN (VTC)"; an Erasmus+ project, which aimed at identifying the needs of the students from the Vocational Training Centers (VTC) that will be established at each university. Two surveys were developed; one for the students, and the other for institutions and companies that hire the Jordanian Universities graduates. Both surveys focused on identifying the importance of the suggested skills, competencies, and attitudes. These skills and competencies were characterized either as general or specific. Specific skills were identified for the different sectors/disciplines; engineering, health care, humanities, and education. In each sector, the target was 150 completed surveys by companies and institutions, and 150 completed surveys by students in each sector. Each university distributed the surveys among its students as well as among companies and institutions hiring their graduates. Thus, each universities identified the needed skills and competencies for its students based on the surveys analysis. These results were collected to identify common skills and competencies needed by all JO students. The most notable identified generic skills needed for all JO graduates included Communication Skills (Technical Writing), Interview Through Digital Media, Sales and Marketing Skills, English Language Skills, Skills in Job Planning, Digital Knowledge Society, Basic Fundamentals of Project Management, And Basic Fundamentals in Quality Assurance Systems. Specific needed discipline skills and competencies were also identified for all the disciplines involved in this study. These results will enable us identify the needs for training of the staff who will be working in the VTC, thus, training programs will be developed by our EU partners accordingly.

2. INTRODUCTION

Workforce is the most important element of the production, the mainstay of achieving the objectives of the overall development, progress and welfare and provides a decent life for people in any society. The Arab world is characterized by its human resources and in particular a high proportion of young people compared with major regions in the world. Jordan's main wealth is mainly its human resources. With more than 30 universities with more than 250,000 students in Jordan, Jordan is among the highest university student/capita in the world. Although Jordanian universities provide excellent theoretical based education, Jordanian students and graduates have major deficiencies in skills and competencies needed by the market. This makes Jordanian graduates less competitive in regional and global markets.

Vocational education and training is an important element of the nation's education system. Unfortunately, the education system in Jordan and in most of the Arab World does not consider





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vocational training among its priorities; thus, students are graduated with major deficiencies in skills and competencies that are needed in the market. A thorough analysis of the current status of vocational training and rehabilitation in the Arab World shows that

- most of the Arab countries and its relationship to the requirements of the labor market (the problems and difficulties) have a lack of a unified Arab vision of the challenges facing education and training systems;
- a lack of studies about the realistic and integrated status and the requirements of Arab labor markets, both in the short term or long term;
- the training efforts and the possibilities are still scattered very broadly;
- the systems, capacities, specialties and curricula vary very strongly between the Arab countries;
- there is no deliberate and limited mechanism to finance various training processes, for basic training, pre-service training or during the service.
- there is a lack of attention to the continuous training of teachers, coaches and mentors for achieving the means of the applications and applying the methods of modern education and training.

Thus, the higher education in the Arab universities does not lead to solving the problem of young people through the provision of employment opportunities for them, but leads in most cases to increase their suffering by taking part in the unemployment queue which results in more frustration and misery.

There is no alternative to this situation but to adopt a policy of vocational training, rehabilitation and qualitative high level of vocational education by linking them with average university higher education, to identify specialties that can be linked and to develop the mechanisms and the conditions necessary for success.

VTC, is an EU funded project through Erasmus+ Project, that concentrates on providing Jordanian students with competencies and skills needed by the market. The project aims at institutionalizing vocational training within the Jordanian universities so that it becomes main component of students' life at the university. The project aims and objectives will be achieved via establishing vocational training centers at each participating JO universities. The centers will help in implanting and further development of students' skills and competencies that are needed by the market.

The EU experience is a major component in the success of the VTC project. The EU countries in this project, such as Germany especially HTWK, Spain, Portugal, and Slovakia have an excellent experience in the fields of vocational skills training. These countries managed similar projects in other regions, and thus, they can transfer the experience to Jordan.





3. METHODOLOGY

In order to identify the skills and competencies needed by the market, two surveys have been developed carefully; one survey targeted the companies and institutions hiring the JO Universities graduates, and another one targeted student about to graduate or fresh graduated students. The two surveys were developed for the following disciplines:

- 1. Engineering
- 2. Health care and biotechnology
- 3. Humanities (mainly business and tourism)
- 4. Education (school education)

Each survey included two types of competencies and skills; generic which are common for all disciplines, and specific which are discipline-specific that differ from one discipline to another. For each competency and skill, two indicators have been assessed; the importance of the "skill" and the performance of JO Universities graduates in that "skill".

The students' surveys also aimed at investigating whether students and graduates have taken any training while at the university or after graduation.

The companies' and institutions' surveys aimed also at investigation whether these companies and institutions have training centers or offer on-job training.

The results obtained were analyzed either by Excel or SPSS software.

Annex I shows the surveys that were used in this study, and Annex II shows the results and the reports of some JO partners (JU, GJU, AEG, and BAU). Reports and results of other JO partners (JUST, MU, AABU) are available but could not be included in this report due to the large size of these reports.

All JO partners participated in conducting these surveys according to the distribution shown in Annex III.

4. KEY RESULTS

Based on the surveys that have been done by the JO partners in the VTC project, the following results were obtained:

- 1. It is highly needed to establish a vocational training center in each university to deliver different workshops and training on skills and competencies that enhance the knowledge and capabilities for the students.
- 2. The surveys indicated a low level of training for graduate and undergraduate students where the percentage of workshops taken by students during their study at their university was around 35% only and a significant percentage of students didn't take any training courses.





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- 3. It is also noticed that most of students register in training courses outside the university; which imply the weak role of the university in offering interesting training programs.
- 4. The companies' surveys showed that the new graduate students have some deficiencies in the vocational skills and competencies.

4.1 Generic Skills and Competencies Needed

Based on the results of graduates and students performance in the general skills and competencies, the most important and yet the lowest performance levels skills and competencies that workshops are needed for all disciplines either during study at the university or right after graduation are:

- a. Project Planning and Management
- b. Quality Assurance Systems
- c. General Communication Skills and Technical Writing
- d. Function Cooperatively on Multidisciplinary Teams
- e. Time and Responsibility Managements
- f. Interviews Through Digital Media
- g. Critical Thinking in Solving Problems and New Ideas
- h. Dialogue, Interaction and Conversation Skills

4.2 Specific skills and competencies are

Engineering

- a. Basic Technical Terminology and Concepts.
- b. Sales and Marketing Skills
- c. Basic Fundamental in Project Management

Education

- a. Basic Technical Terminology and Concepts.
- b. Modern Strategies in Teaching
- c. Identifying Special Needs and Learning Disability
- d. Multimedia Production in Teaching
- e. Skills in Using Computer Software

Health Care and Biotechnology

- a. Basic Technical Terminology and Concepts.
- b. Ability to Operate Medical Care Instruments
- c. Ability to Exact Medical Knowledge of Urgent Cases
- d. Proficiency in Practicing the Infection Protocols with Patients
- e. Identifying Talented Children

Business and Administrative

- a. Basic Technical Terminology and Concepts.
- b. Skills in computers and Business Software





c. Customer Management and Customer Services

Detailed results of both surveys in each discipline by each JO partner are shown in Annexes IV and V.

5. CONCLUSIONS

The surveys showed that that graduates of all JO universities in all disciplines lack most of the skills needed by the market. Also, it is evident that the JO universities do not provide extracurricular workshops or training that bridge the gaps between the market needs and the educational curricula. All JO universities graduates need to improve their performance in most of the general competencies and skills identified in this study. Moreover, many specific-discipline skills and competencies are needed to be improved either through the emphasis in the curricula or extracurricular activities. These results indicate that establishing a Vocational Training Center in each JO University is a must in order to enhance the students' skills and competencies.





6. ANNEXES

ANNEX I: Surveys Used





Engineering/Companies and Institutions

عزيزي المشارك

بعد التحبة:

يهديكم الفريق الأردني المشرف على مشروع البحث:

"انشاء مركز التدريب المهنى للطلاب الجامعيين و المدرسين في الأردن"

(Vocational training center for undergraduate university students and teachers in

Jordan (VTC))

والمدعوم من الاتحاد الأوروبي ضمن برنامج ايرازموس +، أجمل التحيات ويسره التواصل معكم لتحديد الاحتياجات التدريبية لخريجي الجامعات الأردنية وذلك لرفع كفاءة وتأهيل الخريجيين للانخراط في سوق العمل

تركز هذه الدراسة على تحديد وتحليل الاحتياجات التدريبية لخريجي الجامعات الأردنية وذلك لسد الفجوة ما بين مؤهلات الخريجين ومتطلبات سوق العمل

وتتمثل الأهداف الرئيسية للمشروع التي سيتم تلبيتها من خلال إنشاء مراكز لتدريب الخريجيين على المهارات الأساسية لسوق العمل بما يلي:

إنشاء شبكة وطنية متخصصة في مجال التدريب المهني في الأردن

تزويد الطلاب بالمهارات والخبرات لسد الفجوه مابين حاجة المؤسسات ومؤهلات الخريجيين

ولهذه الغاية، سوف تساهم إجاباتك في إنشاء مراكز لتدريب الخريجيين التي من شأنها أن تكون فعالة في تحقيق هدفها وتحقيق ما يصبو إليه المشروع

يرجى العلم بأن المشاركة في هذه الدراسة من خلال تعبة هذا الاستبيان هي طوعية وسيتم التعامل مع جميع الردود بسرية تامة.

شاكرين لكم دعمكم لإنجاح هذا المشروع الوطني.

مع تحيات فريق الباحثين الأردنيين، عنهم الأستاذ الدكتور فهمي أبو الرب مدير المشروع.

Prof. Fahmi Abu Al-Rub,

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معلومات عامة

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كيفية تعبئة الاستبانه:

يرجى اختيار أحد الخيارات التالية فيما يتعلق بمدى أهمية المهارات المدونة في الجدول للعمل في مؤسستكم، كما يرجى تقييم أداء خريجي الجامعات الأردنية الذين يعملون في مؤسستكم في كل مهارة من المهارات المدونة وذلك بالمقارنة مع خريجي جامعات غير أردنية يعملون في مؤسستكمز في حال لا يوجد خريجي جامعات غير أردنية يرجى مقارنته بتوقعاتكم ممن يشغل الوظيفة التي يعمل فيها خريج الجامعات الأردنية.





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2.	مهارات التواصل العامة General Communication Skills										
3.	الكتابة الفنية Technical Writing										
4.	العمل بروح الفريق الواحد Function cooperatively on multi-disciplinary teams										
5.	مهارة الحديث و الحوار والتفاعل الناجح. Dialogue, interaction and Conversation Skills										
6.	الالتزام بأخلاقيات المهنة Commitment to professional conduct and ethical responsibility										
7.	مهارة استخدام شبكات التواصل الاجتماعي الإلكترونية وآليات توظيفها في العمل. e-Social Networks skills at work										
	e-Social Networks skills at work										





مهارات تنمية وتطوير الذات8 Self-Development skills					
9. القدرة على اجراء المقابلات الرسمية عبر الوسائل الرقمية Interviews through Digital Media					
إدارة وتنظيم الوقت والمسؤوليات .10 Time and Responsibilities management					
مهارات المبيعات و التسويق .11 Sales and Marketing skills					
التخطيط وإدارة الفعاليات. Planning and Management of events					
مهارات اللغة الإنجليزية .13 English Language skills					
مهارات اللغة العربية .14 Arabic Language skills					
إجادة استخدام برمجيات الحاسوب الهندسية .15 Skills in Engineering software					
مصطلحات ومفاهيم فنية ومهنية متعلقة بالتخصص .16 Basic technical terminology and Concepts					
طرح أفكار خلاقة وبناءة لحل المشكلات . 17 Critical thinking in solving problems and new ideas					
مهارات التخطيط للعمل .18 Skills in Job planning					
الألمام بمبادئ إدارة المشاريع .19 Basic fundamentals in project management					





الالمام بمبادئ أنظمة الجودة .20							
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Engineering Students

عزيزي المشارك

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ولهذه الغاية، سوف تساهم إجاباتك في إنشاء مراكز لتدريب الخريجيين التي من شأنها أن تكون فعالة في تحقيق هدفها وتحقيق ما يصبو إليه المشروع

يرجى العلم بأن المشاركة في هذه الدراسة من خلال تعبة هذا الاستبيان هي طوعية وسيتم التعامل مع جميع الردود بسرية تامة.

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كيفية تعبئة الاستبانه:

يرجى اختيار أحد الخيارات التالية فيما يتعلق بمدى أهمية المهارات المدونة في الجدول، كما يرجى تقييم أدائك في كل مهارة من المهارات المدونة.

	lmportance (الأهمية)			Performance (الأداء)							
Abilities, Attributes, and Skills		سيء جدا (منخفض جدا)	←			ممتاز (مرتقع جدا)					
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مهارة الحديث و الحوار والتفاعل الناجح. Dialogue, interaction and Conversation Skills					
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مصطلحات ومفاهيم فنية ومهنية متعلقة بالتخصص 18. Basic technical terminology and Concepts					





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		(، أخرى	لاحظات	ت أو م	مقترحا	أية ،
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Education/Institutions

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مع تحيات فريق الباحثين الأردنيين، عنهم الأستاذ الدكتور فهمي أبو الرب مدير المشروع.

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معلومات عامة

اسب	_ مح	، فني مختبر ،) طير	.) 🗓 تقنی (مهندس،	و موقعك الوظيفي ير عام، مدير دائرة، .	□ مدير (مد
	 غير ذلك: □ 	🗆 دكتوراة		ي مؤ هلاتك الاكاد □ بكالوريوس	
		□ أكثر م <i>ن</i> 250	249-50 🗆	موظفي المؤسسة: □ 10-49	17. عدد □ 1-9
				موظفي المؤسسة □ 1-4	
		ليم العالي باحة ——	التعا 🗆 التعا	و القطاع الذي تعم درسي لمؤسسات المالية (الرجاء تحديد القطاع)	□ التعليم الم □ البنوك و ا
		ب ؟	، مختص بالتدريد	دى مؤسستكم قسم □ لا	
لا أعلم □ لا أعلم				و متوسط الانفاق □ 1,000-999	

كيفية تعبئة الاستبانه:

يرجى اختيار أحد الخيارات التالية فيما يتعلق بمدى أهمية المهارات المدونة في الجدول للعمل في مؤسستكم، كما يرجى تقييم أداء خريجي الجامعات الأردنية الذين يعملون في مؤسستكم في كل مهارة من المهارات المدونة وذلك بالمقارنة مع خريجي جامعات غير أردنية يعملون في





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مؤسستكمز في حال لا يوجد خريجي جامعات غير أردنية يرجى مقارنته بتوقعاتكم ممن يشغل الوظيفة التي يعمل فيها خريج الجامعات الأردنية.





		ortanc الأهمية			Perfor	mance) (الأداء)		
Abilities, Attributes, and Skills (القدرات، المهارات، الصفات)	غيير ممهم 0	1	करें <u>क</u> रें 2	سيء جدا (منخفض جدا) 1	2	3	4	ممتاز (مرتفع جدا) 🕜
مهارات التواصل العامة . 5 General Communication Skills								
6. الكتابة الفنية Technical Writing								
7. الكشف عن القدرات الإبداعية والطاقات الكامنة Creative Capabilities and multiple Intelligence Sensing								
8. مهارة الحديث و الحوار والتفاعل الناجح. Dialogue, interaction and Conversation Skills								
9. الالتزام بأخلاقيات المهنة Commitment to professional conduct and ethical responsibility								
مهارة استخدام شبكات التواصل الاجتماعي الإلكترونية وآليات . 10 . توظيفها في العمل e-Social Networks skills at work								
مهارات تنمية وتطوير الذات .11 Self-Development skills								





القدرة على اجراء المقابلات الرسمية عبر الوسائل الرقمية. 12. Interviews through Digital Media					
إدارة وتنظيم الوقت والمسؤوليات. 13. Time and Responsibilities management					
التخطيط وإدارة الفعاليات. Planning and Management of events					
مهارات اللغة الإنجليزية .15 English Language skills					
مهارات اللغة العربية .16 Arabic Language skills					
إجادة استخدام الحاسوب والبرمجيات . 17 Skills in using computers and software					
الاستراتيجيات الحديثة في التعليم .18 Modern Strategies in Teaching					
إنتاج الوسائط المتعددة في التعليم .19 Multimedia Production in Teaching					
تحديد مؤشرات لضمان الجودة في عملية التخطيط والتعليم .20 Identify Indicators for Quality Assurance in Planning Process					
استراتيجات التقييم الحديثة والأدوات ذات الصلة .21 Modern Evaluation Strategies and Related Tools					
إدارة الاختبارات الإلكترونية وتطبيقاتها .22. e- exams Management and Applications					
نظم إدارة التعلم الإلكترونية .23 e-Learning Management System					





الالمام بمجتمع المعرفة الرقمي .24							
Digital Knowledge Society							
الكشف عن الموهبة والابداع .25							
Identifying talented Children							
الكشف عن ذوي الحاجات الخاصة وصعوبات التعلم .26							
Identifying special needs and learning Disability							
			و أخرى	لاحظات	<i>ت</i> أو م	مقتر حا	أية د
			<u> </u>				- - - '





Medical & Health Care/Students

عزيزي المشارك

بعد التحبة:

يهديكم الفريق الأردني المشرف على مشروع البحث:

"انشاء مركز التدريب المهنى للطلاب الجامعيين و المدرسين في الأردن"

(Vocational training center for undergraduate university students and teachers in

Jordan (VTC))

والمدعوم من الاتحاد الأوروبي ضمن برنامج ايرازموس +، أجمل التحيات ويسره التواصل معكم لتحديد الاحتياجات التدريبية لخريجي الجامعات الأردنية وذلك لرفع كفاءة وتأهيل الخريجيين للانخراط في سوق العمل

تركز هذه الدراسة على تحديد وتحليل الاحتياجات التدريبية لخريجي الجامعات الأردنية وذلك لسد الفجوة ما بين مؤهلات الخريجين ومتطلبات سوق العمل

وتتمثل الأهداف الرئيسية للمشروع التي سيتم تلبيتها من خلال إنشاء مراكز لتدريب الخريجيين على المهارات الأساسية لسوق العمل بما يلي:

إنشاء شبكة وطنية متخصصة في مجال التدريب المهني في الأردن

تزويد الطلاب بالمهارات والخبرات لسد الفجوه مابين حاجة المؤسسات ومؤهلات الخريجيين

ولهذه الغاية، سوف تساهم إجاباتك في إنشاء مراكز لتدريب الخريجيين التي من شأنها أن تكون فعالة في تحقيق هدفها وتحقيق ما يصبو إليه المشروع

يرجى العلم بأن المشاركة في هذه الدراسة من خلال تعبة هذا الاستبيان هي طوعية وسيتم التعامل مع جميع الردود بسرية تامة.

شاكرين لكم دعمكم لإنجاح هذا المشروع الوطني.

مع تحيات فريق الباحثين الأردنيين، عنهم الأستاذ الدكتور فهمي أبو الرب مدير المشروع.

Prof. Fahmi Abu Al-Rub,

Jordan University of Science & Technology

P.O. Box 3030

Irbid, Jordan





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Mobile: +962 7 962 75161

e-mail: abualrub@just.edu.jo		
		معومات عامة
		22. من أي الجامعات الأردنية تخرجت/سوف تتخرج؟
	_ غير ذلك: <u></u>	23. ما هي الدرجة الاكاديمية التي حصلت/سوف تحصل عليها؟ دبلوم دبلوم ماجستير دكتوراة
		24. ما هو تخصصك؟:
		25. خلال دراستك الجامعية، هل قمت بأخذ دورات تدريبية في الجامعة؟ الا النجاء تحديد أهم خمس دورات عالأكثر) 1

26. خلال دراستك الجامعية، هل قمت بأخذ دورات تدريبية خارج الجامعة؟
□ لا □ نعم (الرجاء تحديد أهم خمس دورات عالأكثر)
□ 1.
□ 2.
□ 3.
□ 4.

	7 فقط للخريجين	ظة: السؤالين 6 و 7	ملاح
ن دورات تدريبية قبل التحاقك بعملك؟ تحديد أهم خمس دورات عالأكثر)	ية، هل قمت بأخد	بعد در استك الجامع	.27
تحديد أهم خمس دورات عالأكثر)	🗆 نعم (الرجاء	•	ר ע
	.1		
	.2		
	.3		
	.4		
	.5		
د دور ات تدر ببیة بعد التحاقك بعملك؟	بية، هل قمت بأخد	بعد در استك الجامع	.28
: دورات تدريبية بعد التحاقك بعملك؟ تحديد أهم خمس دورات عالأكثر)	ً نعم (الرجاء		ר ע
	.1		
	.2		





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كيفية تعبئة الاستبانه:

يرجى اختيار أحد الخيارات التالية فيما يتعلق بمدى أهمية المهارات المدونة في الجدول، كما يرجى تقييم أدائك في كل مهارة من المهارات المدونة.

		ortanc الأهمية		P	erforr (nance (الأداء)		
Abilities, Attributes, and Skills (القدرات، المهارات، الصفات)	خيير مهم 0	* 1	ع غ غ	سيء جلا (منخفض جلا) ل	2	3	4	ممتار (مرتفع جذا) 2
مهارات التواصل العامة .27 General Communication Skills								
28. الكتابة الفنية Technical Writing								
العمل بروح الفريق الواحد .29 Function cooperatively on multi-disciplinary teams								
مهارات الحديث و الحوار والتفاعل الناجح .30 Dialogue, interaction and Conversation Skills								
المعرفة بمسؤوليات وأخلاقيات المهنة وحقوق المريض وذويه .31 Knowledge career ethics and parent rights								





مهار ات استخدام شبكات التواصل الاجتماعي الإلكترونية و اليات .32 . توظيفها في العمل					
e-Social Networks skills at work					
مهارات تنمية وتطوير الذات .33					
Self-Development skills					
القدرة على اجراء المقابلات الرسمية عبر الوسائل الرقمية .34					
Interviews through Digital Media					
إدارة وتنظيم الوقت والمسؤوليات .35					
Time and Responsibilities management					
مهارات المبيعات و التسويق .36					
Sales and Marketing skills					
التخطيط وإدارة الفعاليات .37					
Planning and Management of events					
مهارات اللغة الإنجليزية .38					
English Language skills					
مهارات اللغة العربية .39					
Arabic Language skills					
إجادة استخدام برمجيات الحاسوب الطبية .40					
Skills in Engineering software					
إجادة استخدام أجهزة الرعاية الصحية .41					
Ability to operate medical care instruments					
إتقان مهارات أخذ المعلومات الاولية الضرورية للحالة .42					
Ability to exact medical knowledge of urgent cases					





43.	مهارات تتعلق بالقدرة على إجراء الاسعاف الاولي السريع بأقل الامكانيات الطبية							
	Ability to perform first aid with least available facilities							
44.	مهارات تتعلق بالقدرة على خفض التوتر النفسي للمريض وذويه عند الاستقبال							
	Proficiency in dealing with stressed patients							
45.	مهارات مبادئ إدارة المستشفيات/ الصيدليات . Principles of hospital pharmacy / management skills							
	OR							
	مهارات رعاية ذوي الاحتياجات الخاصة في المنزل							
	Care skills for people with special needs in-house							
46.	تطبيق بروتوكولات مكافحة العدوى اثناء التعامل مع المريض . Proficiency in practicing the infection protocols with patients							
47.	اتباع الأولويات الطبية في علاج الحالات الحرجة .							
	Proficiency in adoption medical priority in critical cases							
48.	مصطلحات ومفاهيم فنية ومهنية متعلقة بالتخصص							
	Basic technical terminology and Concepts							
			(ه أخرى	لاحظات	ت أو م	مقترحاه	أية ا
								_





Education/Students

عزيزي المشارك

بعد التحبة:

يهديكم الفريق الأردني المشرف على مشروع البحث:

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يرجى العلم بأن المشاركة في هذه الدراسة من خلال تعبة هذا الاستبيان هي طوعية وسيتم التعامل مع جميع الردود بسرية تامة.

شاكرين لكم دعمكم لإنجاح هذا المشروع الوطني.

مع تحيات فريق الباحثين الأردنيين، عنهم الأستاذ الدكتور فهمي أبو الرب مدير المشروع.

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abualrub@just.edu.jo					
					معلومات عامة
			ِجت/سوف تتخرج؟	جامعات الأردنية تخر	29. من أي الـ
	_ غير ذلك: <u>_</u>		حصلت/سوف تحصل _ ماجستیر		
				صصك؟:	31. ما هو تخ
		# T	مت بأخذ دورات تدر لرجاء تحديد أهم خمس		32. خلال در ا □ لا
			مت بأخذ دورات تدر. لرجاء تحديد أهم خمس		33. خلال درا ت لا
			بجين	ين 6 و 7 فقط للخرب	ملاحظة: السؤال
		and the second s	ت بأخذ دورات تدريبي لرجاء تحديد أهم خمس		34. بعد دراس □ لا
			ت بأخذ دورات تدريبي لرجاء تحديد أهم خمس	تك الجامعية، هل قمد	35. بعد دراس □ لا





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كيفية تعبئة الاستبانه

يرجى اختيار أحد الخيارات التالية فيما يتعلق بمدى أهمية المهارات المدونة في الجدول، كما يرجى تقييم أدائك في كل مهارة من المهارات المدونة.

	•	ortanc الأهمية		P	erforr (nance (الأداء)		
Abilities, Attributes, and Skills (القدرات، المهارات، الصفات)	غيير مسجع 0	½	م فر غ ر	سمين جدا (مذفض جدا) 🔻 🗇	2	3	4	ممتاز (مرتفع جدا) ک
مهارات التواصل العامة .49 General Communication Skills								
الكتابة الفنية .50 Technical Writing								
الكشف عن القدرات الإبداعية والطاقات الكامنة .51 Creative Capabilities and multiple Intelligence Sensing								
مهارة الحديث و الحوار والتفاعل الناجح .52 Dialogue, interaction and Conversation Skills								
الالتزام بأخلاقيات المهنة .53 Commitment to professional conduct and ethical responsibility								





مهارة استخدام شبكات التواصل الاجتماعي الإلكترونية وآليات .54 .توظيفها في العمل					
e-Social Networks skills at work					
مهارات تنمية وتطوير الذات .55					
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Interviews through Digital Media					
إدارة وتنظيم الوقت والمسؤوليات .57					
Time and Responsibilities management					
التخطيط وإدارة الفعاليات .58					
Planning and Management of events					
مهار ات اللغة الإنجليزية .59					
English Language skills					
مهارات اللغة العربية .60					
Arabic Language skills					
إجادة استخدام الحاسوب والبرمجيات .61					
Skills in using computers and software					
.الاستراتيجيات الحديثة في التعليم.					
Modern Strategies in Teaching					
إنتاج الوسائط المتعددة في التعليم .63					
Multimedia Production in Teaching					
تحديد مؤشرات لضمان الجودة في عملية التخطيط والتعليم .64					
Identify Indicators for Quality Assurance in Planning Process					
استراتيجات التقييم الحديثة والأدوات ذات الصلة .65					
Modern Evaluation Strategies and Related Tools					





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إدارة الاختبارات الإلكترونية وتطبيقاتها .66					
e- exams Management and Applications					
نظم إدارة التعلم الإلكترونية .67					
e-Learning Management System					
الالمام بمجتمع المعرفة الرقمي .68					
Digital Knowledge Society					
الكشف عن الموهبة والابداع .69					
Identifying talented Children					
الكشف عن ذوي الحاجات الخاصة وصعوبات التعلم .70					
Identifying special needs and learning Disability					

أية مقترحات أو ملاحظات أخرى





Humanities + Business/Institutions

عزيزي المشارك

بعد التحبة:

يهديكم الفريق الأردني المشرف على مشروع البحث:

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شاكرين لكم دعمكم لإنجاح هذا المشروع الوطني.

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معلومات عامة

	□ محاسب نلك:	فني مختبر،) □ غير ١	.) 🗓 تقني (مهندس،	موقعك الوظيفي عام، مدير دائرة،	🗆 مدیر (مدیر
	 ⇒یر ذلك: 	🗆 دكتوراة		ي مؤ هلاتك الاكاد □ بكالوريوس	
		□ أكثر من 250	249-50 🗆	وظفي المؤسسة: ت 10-49	38. عدد ه □ 1-9
	□ أكثر من 50	معات الأردنية: - 49-10		وظفي المؤسسة - 1-4	
			□ التعل □ السي	القطاع الذي تعم رسي مؤسسات المالية الرجاء تحديد القطاع	□ التعليم المد □ البنوك واله
		ب ؟	, مختص بالتدريد	ى مؤسستكم قسم □ لا	41. هل لد ت نعم
□ لا أعلم	دينار اردني)؟ تأكثر من 50,000	ئم على التدريب (49,999-10,0			

كيفية تعبئة الاستبانه:

يرجى اختيار أحد الخيارات التالية فيما يتعلق بمدى أهمية المهارات المدونة في الجدول للعمل في مؤسستكم، كما يرجى تقييم أداء خريجي الجامعات الأردنية الذين يعملون في مؤسستكم في كل مهارة من المهارات المدونة وذلك بالمقارنة مع خريجي جامعات غير أردنية يعملون في





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مؤسستكمز في حال لا يوجد خريجي جامعات غير أردنية يرجى مقارنته بتوقعاتكم ممن يشغل الوظيفة التي يعمل فيها خريج الجامعات الأردنية.





	Importance (الأهمية)				P	erforr	nance (الأداء)			
Abilities, Attributes, and Skills (القدرات، المهارات، الصفات)	غير مهم	1	कुर <u>क</u> ्		سيء جا (منخفض جلا) 🔻 🗇	2	3	4	ممتاز (مرتفع جدا) 1	
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72. الكتابة الفنية Technical Writing										
العمل بروح الفريق الواحد .73 Function cooperatively on multi-disciplinary teams										
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مهارات تنمية وتطوير الذات .77 Self-Development skills										





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			، أخرى	لاحظات	ت أو م	مقترحا	أية ،





Medical & Health Care/Institutions

عزيزي المشارك

بعد التحبة:

يهديكم الفريق الأردني المشرف على مشروع البحث:

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(Vocational training center for undergraduate university students and teachers in

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تركز هذه الدراسة على تحديد وتحليل الاحتياجات التدريبية لخريجي الجامعات الأردنية وذلك لسد الفجوة ما بين مؤهلات الخريجين ومتطلبات سوق العمل

وتتمثل الأهداف الرئيسية للمشروع التي سيتم تلبيتها من خلال إنشاء مراكز لتدريب الخريجيين على المهارات الأساسية لسوق العمل بما يلي:

إنشاء شبكة وطنية متخصصة في مجال التدريب المهني في الأردن

تزويد الطلاب بالمهارات والخبرات لسد الفجوه مابين حاجة المؤسسات ومؤهلات الخريجيين

ولهذه الغاية، سوف تساهم إجاباتك في إنشاء مراكز لتدريب الخريجيين التي من شأنها أن تكون فعالة في تحقيق هدفها وتحقيق ما يصبو إليه المشروع

يرجى العلم بأن المشاركة في هذه الدراسة من خلال تعبة هذا الاستبيان هي طوعية وسيتم التعامل مع جميع الردود بسرية تامة.

شاكرين لكم دعمكم لإنجاح هذا المشروع الوطني.

مع تحيات فريق الباحثين الأردنيين، عنهم الأستاذ الدكتور فهمي أبو الرب مدير المشروع.

Prof. Fahmi Abu Al-Rub,

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معلومات عامة

	□ بحث و تطویر	صنع؟ انتاج، فني مختبر،)) 🗀 تقني (مهندس	ِ موقعك الوظيفي ر عام، مدير دائرة، _. 	🗆 مدیر (مدی
	□ غير ذلك:	□ دكتوراة	ديمية؟ □ ماجستير	ي مؤ هلاتك الاكاد □ بكالوريوس	44. ما هو ت دبلوم
		□ أكثر من 250	249-50 🗆	موظفي الشركة: □ 10-49	9-1 □
	_□ أكثر من 50	عات الأردنية: □ 49-10	ن خريجي الجاه □ 5-9	موظفي الشركة ه □ 1-4	46. عدد ه □ لا يوجد
مات	سية والكهربائية وتكنولوجيا المعلو	🗆 الصناعات الهندس	طَّبية	ِ القطاع الصناء ، العلاجية واللوازم ال	🗆 الصناعات
	ية والاثاث التغليف والورق والكرتون واللواز تتكية والمطاطية ننية والغذائية والزراعية والثروة ال	🗆 الصناعات البلاس	· · · · · ·	، الكيماوية ومستحضر ، الإنشائية ، الجلدية و المحكيات ، التعدينية	□ الصناعات □ الصناعات
	33 3 2 33 3 2 3 2.		مختص بالتدريب	 دى شركتكم قسم □ لا	48. هل لا
_ لا أعلم		م على التدريب (دينا 49,999-10,0		ِ متوسط الانفاق	49. ما هو

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يرجى اختيار أحد الخيارات التالية فيما يتعلق بمدى أهمية المهارات المدونة في الجدول للعمل في مؤسستكم، كما يرجى تقييم أداء خريجي الجامعات الأردنية الذين يعملون في مؤسستكم في





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		ortanc الأهمية		P	erforr (nance (الأداء)		
Abilities, Attributes, and Skills	Not Important	Important	Very Important	Very Low	•		—	Very High
(القدرات، المهارات، الصفات)	0	1	2	1	2	3	4	5
91. مهارات التواصل الاجتماعي Social Communication Skills.								
92. مهارات التواصل العامة General Communication Skills								
7. الكتابة الفنية Technical Writing								
8. العمل بروح الفريق الواحد Function cooperatively on multi-disciplinary teams								
مهارات الحديث و الحوار والتفاعل الناجح. 23. Dialogue, interaction and Conversation Skills								
المعرفة بمسؤوليات وأخلاقيات المهنة وحقوق المريض وذويه .24 Knowledge career ethics and parent rights								
مهار ات استخدام شبكات التواصل الاجتماعي الإلكترونية وآليات .25 توظيفها في العمل. e-Social Networks skills at work								
مهارات تنمية وتطوير الذات .26 Self-Development skills								





القدرة على اجراء المقابلات الرسمية عبر الوسائل الرقمية .27 Interviews through Digital Media					
إدارة وتنظيم الوقت والمسؤوليات .28 Time and Responsibilities management					
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30. التخطيط وإدارة الفعاليات. Planning and Management of events					
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مهارات اللغة العربية .32 Arabic Language skills					
إجادة استخدام برمجيات الحاسوب الطبية .33 Skills in Engineering software					
إجادة استخدام أجهزة الرعاية الصحية .34 Ability to operate medical care instruments					
إتقان مهارات أخذ المعلومات الاولية الضرورية للحالة .35 Ability to exact medical knowledge of urgent cases					
مهارات تتعلق بالقدرة على إجراء الاسعاف الاولي السريع بأقل .36 الامكانيات الطبية Ability to perform first aid with least available facilities					
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مهارات مبادئ إدارة المستشفيات/ الصيدليات .38							
Principles of hospital pharmacy / management skills							
OR							
مهارات رعاية ذوي الاحتياجات الخاصة في المنزل							
Care skills for people with special needs in-house							
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Proficiency in adoption medical priority in critical cases							
مصطلحات ومفاهيم فنية ومهنية متعلقة بالتخصص .41							
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			، أخرى	لاحظات	ت أو م	مقترحا	أية ،





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			، أخرى	لاحظا <u>ت</u>	ت أو مـ	مقترحاه	أية ،





Annex II: Results of Surveys and Reports of some JO Partners





Erasmus+

VOCATIONAL TRAINING CENTER FOR UNDERGRADUATE UNIVERSITY STUDENTS AND TEACHERS IN JORDAN (VTC) 561708-EPP-1-2015-1-DEEPPKA2-CBHE-JP







Analysis Report of Training Needs survey for VTC Project Vocational training center for undergraduate university students and teachers in Jordan (VTC) project

10-Jul-16

The University of Jordan

Authors:

Prof. Ahmed Al-Salaymeh

Eng. Leena Marashdeh

Project Number: 561708-EPP-1-2015-1-DE-EPPKA2-CBHE-JP





Disclaimer

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Medical/health care students Questionnaire	Error! Bookmark not defined





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Executive summary

Vocational Education and Training is an important element of the nation's education initiative. In order for Vocational Education to play its part effectively in the changing national context, there is an urgent need to redefine the critical elements of imparting vocational education and training to make them flexible, contemporary, relevant, inclusive and creative. The Government is well aware of the important role of Vocational education and has already taken a number of important initiatives in this area. The objective of VTC project is to assess and describe the need for introducing Vocational education at higher and tertiary levels and for establishing a Vocational Centers in partner universities.

Summarizing the current status of vocational training and rehabilitation; most of the Arab countries and its relationship to the requirements of the labor market (the problems and difficulties) have a lack of a unified Arab vision of the challenges facing education and training systems; and also a lack of studies about the realistic and integrated status and the requirements of Arab labor markets, both in the short term or long term. Moreover the training efforts and the possibilities are still scattered very broadly. Also; the systems, capacities, specialties and curricula vary very strongly between the Arab countries. In addition; there is no deliberate and limited mechanism to finance various training processes, for basic training, pre-service training or during the service. Also; there is a lack of attention to the continuous training of teachers, coaches and mentors for achieving the means of the applications and applying the methods of modern education and training.

VTC project aims to construct a vocational training center for graduate and undergraduate students in partners universities; to apply a vocational training for the students to enhance and to develop their abilities and to build bridges between their theoretical study and vocational training skills; and also to develop a vocational training program in order to create and publish common methodology and legal documentation for the lifelong Learning, E-learning and Distant Education, practical training for all universities in Jordan in accordance with European standard. Furthermore; the project aims to develop and to enhance the staff abilities who will lead the vocational training.

The project is coordinated by Leipzig University of Applied Sciences (HTWK) in Germany, who is responsible for the successful project completion, with twelve partners from Germany, Slovakia, Portugal, Spain and Jordan.





The role of the University of Jordan in this project include developing the abilities of the staff who will lead the vocational training in the university; coordinating and managing the project activities; adopting E-learning and Distant Education to educational processes in Jordan; contributing in the Networking of the companies and to develop the public administrations; Improving connections between higher education and society; implementing and managing the interactive platform for distance learning; satisfying industry and economical needs by empowering target groups with limited access to classical education forms; updating the didactic material and to develop a new and effective training methods; participating in the monitoring of the project, providing index and planning; participating in surveying and benchmarking activities; implementing and managing the interactive platform for distance learning.

This survey serves the goals of identifying the needs and expectations of undergraduate and graduate students; to summarize the real status of vocational training at the University of Jordan, and identifying the needed skills and competencies. Also; it tries to summarize the realistic status and the requirements of Jordanian labor markets and to identify the training needs of the labor market.

The Needs Analysis questionnaires were designed and distributed among two major groups; the first was students from four different disciplines, and the second was the staff from three different sectors of institutions. The student's survey targeted four different disciplines at the University of Jordan including Engineering, Business/Finance, Medical/health care, and Humanities/Education. While the Institutional Survey targeted three different groups including Engineering, Business/Finance, and Medical/health care Institutions.

The data were collected through face to face interviews and phone calls, and also by circulating the forms online via Google forms.

The analysis indicates a low level of training for graduate and undergraduate students as significant percentage of them didn't take any training courses during their period of study; inside or outside the university.

Generally; it was noticed that most of students register in training courses outside the university; which imply the weak role of the university in offering interesting training programs for the students.

The most important skills for the different disciplines; as were rated by the students; include Technical Writing; Commitment to professional conduct and ethical responsibility; Self-





Development skills; English Language skills; Basic technical terminology and Concepts; Social Communication Skills; Ability to operate medical care instruments; Ability to exact medical knowledge of urgent cases; Proficiency in practicing the infection protocols with patients; Proficiency in adoption medical priority in critical cases; Commitment to professional conduct and ethical responsibility; Basic technical terminology and Concepts; Critical thinking in solving problems and new ideas; Skills in Job planning.

While the lowest rated skills in regard to performance (rated 3 and lower) include Sales and Marketing skills; Basic fundamentals in Quality Assurance systems; e-Learning Management System; Skills in Engineering/Medical software; Technical Writing; Ability to operate medical care instruments; Time and Responsibilities management; and Multimedia Production in Teaching.

In regard to the Institutions survey; the vast majority of participated institutions (medium to small sized institutions) don't have a specialized unit for training and their spending on training is at low levels. While the large size institutions almost have training units.

The respondents rated all skills as important to very important. In regard to the performance rating and ranking results; mostly it was indicated that performance in the different skills is moderate to high. Most managers noted a low level of performance in many skills for most of the fresh graduates.

The most important skills as rated by different institutions employees include General Communication Skills; Function cooperatively on multi-disciplinary teams; Commitment to professional conduct and ethical responsibility; English Language skills; Basic technical terminology and Concepts; Knowledge career ethics and parent rights; Self-Development skills; Time and Responsibilities management; Planning and Management of events; and Proficiency in practicing the infection protocols with patients.

While the lowest rated skills in regard to performance (rated 3 and lower) include Ability to perform first aid with least available facilities; and Interviews through Digital Media.

The findings from the students' and the institutional surveys, the training status in the organizations and the assessment of training needs; all suggest that there is a demand for training with regard to all listed skills in the surveys.





Background and objectives

This survey analysis report is a fulfillment to the work package 2: Generic vocational Skills and Competencies.

This report aims to Identify the skills and competencies which are important for students and graduates on vocational skills training, and to identify training needs required by the labor market, addressing the institutions and the relevant authorities to cooperate in the field survey performed by corresponding experts. Thus achieving access to valuable results.

Also; it aims to evaluate the status of training in universities and institution and the level of interest and awareness to take training courses.

An assessment process that serves as a diagnostic tool for determining what training needs to take place. This survey gathers data to determine what training needs to be developed to help individuals and the organization accomplish their goals and objectives. This is an assessment that looks at the students and employees and organizational knowledge's, skills, and abilities, to identify any gaps or areas of need. Identifying the training needs lead to determine and develop the objectives that have to be accomplished by the training. These objectives will form criteria for measures of success and utility.

This analysis could be performed by managers who are able to observe their staff and make recommendations for training based on performance issues or gaps between performance and objectives. This analysis can also be performed on students level by to assess the academic role in developing the skills of students.

The major aim of the questionnaires was to collect data on Students and employees opinions, needs and preferences in regard to different types of skills.

The survey report outlines recommendations to achieve the best implementation of the project. This report contains the results of the seven questionnaires, it outlines the most needed skills to be trained on.

The questionnaires (see Appendix I) consists of about 27 questions in total and is structured into three distinct sections:





Section I: Students/Employees profile (Q1-Q5 in Students' Questionnaire and Q1-Q3 in Institutional Questionnaire). The questions aim is to draw participants' profile (Major, educational background, training background, etc.).

Section II: Graduate Students only/Institution profile (Q6-Q7 in Students' Questionnaire and Q3-Q7 in Institutional Questionnaire). The questions aim is to evaluate the training status and availability after graduation and during the work life.

Section III: This section includes rating questions according to the importance of each skill and the level of performance in each skill. The aim of the section is to explore the skills that is needed by the Students/labor market, it addresses the following types of skills:

1. Communication Skills

It measures the ability to present information formally and informally in both written and orally. Also measures the ability to communicate with customers, staff, peers and supervisors. This skill include the following dimensions:

- Communicates a clear understanding of the subject at hand.
- Speaks clearly, fluently, and in a compelling manner to both individuals and groups.
- Delivers messages with energy, enthusiasm, and conviction.
- Writes in a clear and concise manner, using appropriate grammar, style, and language for the reader.

2. Problem Solving, Analytical and creativity Skills

It measures how well a person can understand information and options, give appropriate considerations to information, make correct decisions, analyze and interpret information, and react to changing situations. Examples of items include:

- Works quickly when faced with difficult problems.
- Analyzes issues and reduces them to their component parts.
- Makes judgments based upon relevant information.
- Asks the "right" questions to size up or evaluate situations.
- Identifies patterns in conflicting information, events, or data.
- Generates alternative solutions to problems and challenges.
- Analyzes issues and reduces them to their component parts.





- Creates new and imaginative approaches to work-related issues.
- Generate innovative and practical ideas and approaches.
- Identifies fresh approaches and shows a willingness to question traditional assumptions.

3. Planning, Organizing and Supervisory Skills

It measures a person's ability to develop plans and objectives, develop long-term solutions, set business objectives adhere to schedules. Also; it measures the individual's skill level in planning, organizing and overseeing the work of subordinates. Also measures a person's ability to manage work flow efficiently. Examples of items include:

- Plans meetings effectively.
- Organizes and schedules events, activities, and resources.
- Sets up and monitors time frames and plans.
- Motivates others in order to reach organizational goals.
- Influences others in a way that results in acceptance, agreement, or behavior change

4. Administrative Skills

Measures an individual's ability to implement and monitor actions to ensure compliance with policies and regulations. Also helps identify the ability to distribute information, allocate staff and maintain records or documents. Examples of items include:

- Establishes and documents goals and objectives.
- Follows existing procedures and processes.
- Empowers others to achieve results and holds them accountable for actions.

5. Personal development Skills:

Measures an individual's ability to conduct activities that improve awareness and identity, develop talents and potential, build human capital and facilitate employability, enhance quality of life and contribute to the realization of dreams and aspirations.

6. Business Control





Measure the skill in, and concern for, controlling expenses, reducing costs, setting performance standards and reviewing budgets. Examples of items include:

- Understands and applies business and financial principles.
- Views problems from a business perspective, opportunity, investment, risks, and anticipated results.
- Understands the costs, profits, markets, and added value of issues.
- Accurately evaluates the implications of new information or events.

The last question is an open one that asks participants to provide any suggestions or ideas about vocational training in general.

Survey method

The survey was conducted among seven target groups, they include students from different disciplines and employees from different sectors of institutions, the following tables display the different groups and the needed number of responses for each:

Table 1: Number of needed responses for each group

	Target group	Number of needed Reponses
1.	Engineering Companies	10
2.	Engineering Students/Graduates	15
3.	Medical/health care Institutions	15
4.	Medical/health care students	20
5.	Humanities/Education students	25
6.	Business/Finance Institutions	10
7.	Business/Finance students	25

The data were collected through face to face interviews and phone calls, and also by circulating the forms online.





Survey results

A. Students Surveys

The Survey is consisting of three sections; the first is for collecting general information about students; the second is specified for graduate students only; and the last is for evaluating different skills according to their importance and performance.

1. Engineering Student Survey

Section I: Students profile

The questionnaire was filled in by 35 participants.

- 1. In the first question, the participants were required to provide information about their University. All participants (100%) stated that they are from the University of Jordan.
- 2. When asked to specify the academic degree in the second question, the majority of them (77.1%) stated that they hold a bachelor degree; (22.9%) said that they hold a master degree.

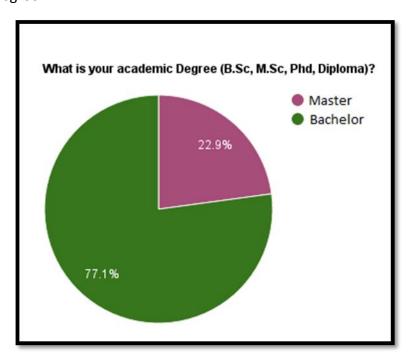


Figure 1: Engineering Students' academic degree





3. As for their major in the third question; it diversify between different Engineering specialties; they are as follow:

Table 2: Engineering Students' Major

Major	#
Mechanical Engineering	14
Renewable Energy	5
Mechatronics Engineering	4
Civil Engineering	3
Chemical Engineering	2
Architecture Engineering	2
Electrical Engineering	2
Computer Engineering	2
Environmental and climate change	1





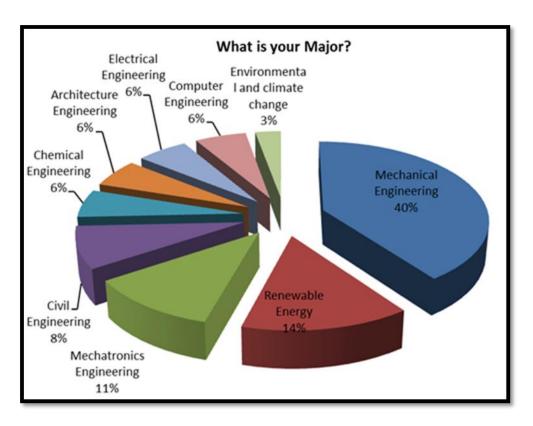


Figure 2: Engineering Students' Major

4. The next question required participants to answer if they have took any training courses in the university during their study period. Based on their responses, the vast majority of the respondents (68.6%) didn't take any training courses. Some of who did take the courses listed them, and they were technical courses such as; Photovoltaic system design.





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Figure 3: Engineering Students' attendance of training courses at university during study period

5. The following question required participants to answer if they have took any training courses outside the university during their studying period. Based on their responses, the vast majority of the respondents (57.2%) said that they took training courses outside the university





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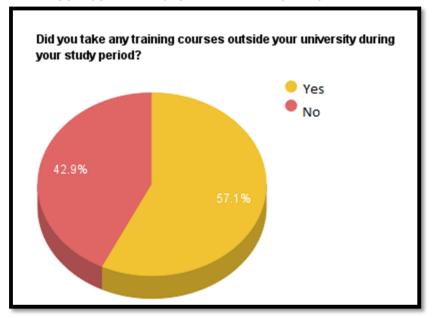


Figure 4: Engineering Students' attendance of training courses outside university during study period

The training course include:

- ✓ REVIT Autodesk
- ✓ LEED
- ✓ Bioclimatic Design Strategies in Hot Climate
- ✓ WASH
- ✓ Energy Building Envelope
- √ water utility management
- ✓ regulatory framework for water institutions
- ✓ water and environmental economics
- ✓ STAAD.Pro, STAAD.foundation, RAM Connection
- ✓ Control and energy courses

Section II: Graduate Students only profile

The second section of the questionnaire aimed to collect information regarding participants' training after graduation.





6. In the first question of this section, the participants were required to answer whether they had any training courses after graduation and before joining the job. Only (20.8%) of the participants replied positively; the vast majority (79.2%) replied negatively. According to their answers, some of them did attend some specialized training courses such as Primavera p6.

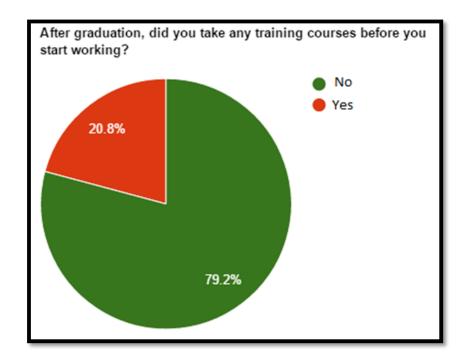


Figure 5: Engineering graduates' attendance of training courses before starting work

7. While in the he second question in this section, the participants were required to answer whether they had any training courses after joining the job. Same as the previous question only (8.6%) of the participants replied positively; the vast majority (91.4%) replied negatively. According to their answers, some of them did attend some specialized training courses, such as Certified Associate Project Management course.





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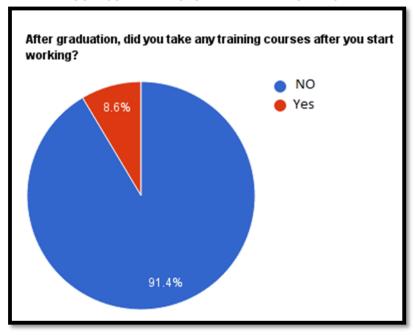


Figure 6: Engineering graduates' attendance of training courses after starting work

Section III: Evaluation of the importance and performance of different skills

In this section the participants were required to rank each skill according to its importance and his performance in it.

1. The participants were required to rate the importance of twenty different skills. The scale was from 1 (not important) to 3 (very important). In general all skills were rated between (2.08 to 3). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 3: Engineering Students' evaluation of the importance of different skills

Rank	Skill	Average
Naiik		Importance
1.	Technical Writing	3.00
2.	Commitment to professional conduct and ethical responsibility	3.00
3.	Self-Development skills	3.00
4.	English Language skills	3.00
5.	Basic technical terminology and Concepts	3.00





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6.	Time and Responsibilities management	2.92
7.	General Communication Skills	2.85
8.	Dialogue, interaction and Conversation Skills	2.85
9.	Critical thinking in solving problems and new ideas	2.85
10.	Basic knowledge and adherence to general safety principles	2.85
11.	Function cooperatively on multi-disciplinary teams	2.77
12.	Skills in Engineering software	2.77
13.	Skills in Job planning	2.77
14.	Basic fundamentals in project management	2.77
15.	Planning and Management of events	2.69
16.	Interviews through Digital Media	2.67
17.	Sales and Marketing skills	2.54
18.	Basic fundamentals in Quality Assurance systems	2.54
19.	Arabic Language skills	2.46
20.	e-Social Networks skills at work	2.08

2. The participants were required to rate their performance in twenty different skills. The scale was from 1=Very low to 5=Very High. In general all skills was rated between (2.69 to 4.69). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 4: Engineering Students' evaluation of their performance for different skills

Rank	Skill	Average Performance
1.	Commitment to professional conduct and ethical responsibility	4.69
2.	Basic technical terminology and Concepts	4.54
3.	Self-Development skills	4.00
4.	English Language skills	4.00
5.	Arabic Language skills	4.00
6.	Technical Writing	3.92
7.	Function cooperatively on multi-disciplinary teams	3.85
8.	Dialogue, interaction and Conversation Skills	3.85
9.	Interviews through Digital Media	3.77
10.	General Communication Skills	3.69
11.	Critical thinking in solving problems and new ideas	3.69
12.	Skills in Job planning	3.69





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12	- le duit .	
13.	Time and Responsibilities management	3.46
14.	e-Social Networks skills at work	3.31
15.	Skills in Engineering software	3.31
16.	Basic knowledge and adherence to general safety principles	3.31
17.	Planning and Management of events	3.23
18.	Basic fundamentals in project management	3.15
19.	Basic fundamentals in Quality Assurance systems	2.77
20.	Sales and Marketing skills	2.69

In the final question of the questionnaire, participants were required to put forth any suggestions, opinions and views that they would like us to take into consideration. Below follow some of their comments:

- Training courses are costing so much, which discourage us to join them
- There is a need for training center in the university
- I would be interested in joining training courses if they are available at the university





2. Medical/Health care student Survey

Section I: Students profile

The questionnaire was filled in by 20 participants.

- 1. In the first question, the participants were required to provide information about their University. The vast majority of participants (90%) stated that they are from the University of Jordan.
- 2. When asked to specify the academic degree in the second question, the majority of them (95%) stated that they hold a bachelor degree; (5%) said that they hold a A.S. degree.

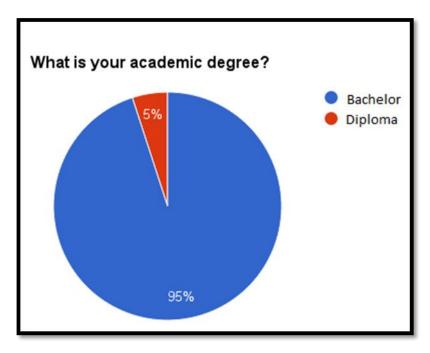


Figure 7: Medical/Health care students' academic degree

3. As for their major in the third question; it diversify between different Engineering specialties; they are as follow:





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Table 5: Medical/Health care students' Majors

Major	#
Medicine	6
Nursing	5
Pharmacy	4
Dental and Oral Surgery	2
Physiotherapy	2
Medical analysis	1

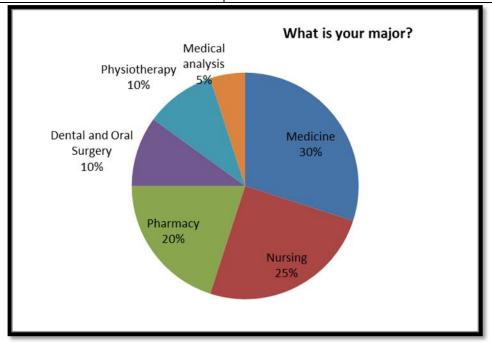


Figure 8: Medical/Health care students' Majors

4. The next question required participants to answer if they have took any training courses in the university during their study period. Based on their responses, the vast majority of the respondents (65%) did take training courses. Some of who did take the courses listed them, and they were technical courses such as; Electrocardiography (ECG) course for nursing.





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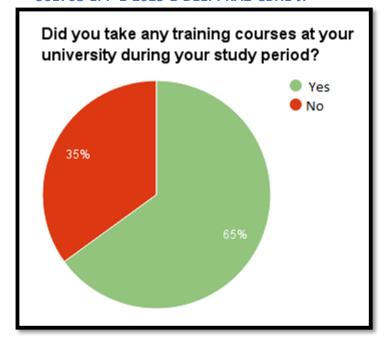


Figure 9: Medical/Health care students' attendance of training courses at university during study period

5. The following question required participants to answer if they have took any training courses outside the university during their studying period. Based on their responses, the vast majority of the respondents (65%) said that they didn't take any training courses outside the university; while (35%) took courses like Palliative care, Clinical skills, SPSS software.





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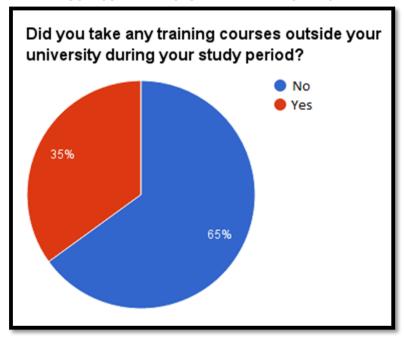


Figure 10: Medical/Health care students' attendance of training courses outside university during study period

Section II: Graduate Students only profile

The second section of the questionnaire aimed to collect information regarding participants' training after graduation.

6. In the first question of this section, the participants were required to answer whether they had any training courses after graduation and before joining the job. All (100%) replied negatively.





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Figure 11: Medical/Health care graduates' attendance of training courses before starting work

7. While in the second question in this section, the participants were required to answer whether they had any training courses after joining the job. Same as the previous question all of the participants (100%) replied negatively.





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Figure 12: Medical/Health care graduates' attendance of training courses after starting work

Section III: Evaluation of the importance and performance of different skills

In this section the participants were required to rank each skill according to its importance and his performance in it.

1. The participants were required to rate the importance of twenty different skills. The scale was from 1 (not important) to 3 (very important). In general all skills were rated between (2.05=Important to 3= Very Important). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 6: Medical/Health care students' evaluation of the importance of different skills

Rank	Skill	Average Importance
1.	Social Communication Skills.	3
2.	Ability to operate medical care instruments	3
3.	Ability to exact medical knowledge of urgent cases	3
4.	Proficiency in practicing the infection protocols with patients	3
5.	Proficiency in adoption medical priority in critical cases	3





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6.	Basic technical terminology and Concepts	3
7.	Technical Writing	2.95
8.	Function cooperatively on multi-disciplinary teams	2.95
9.	Arabic Language skills	2.95
10.	Skills in Medical softwares	2.95
11.	Dialogue, interaction and Conversation Skills	2.9
12.	Interviews through Digital Media	2.9
13.	Ability to perform first aid with least available facilities	2.9
14.	Principles of hospital pharmacy / management skills OR Care skills for	
	people with special needs in-house	2.9
15.	Planning and Management of events	2.85
16.	e-Social Networks skills at work	2.7
17.	Sales and Marketing skills	2.7
18.	English Language skills	2.6
19.	Knowledge career ethics and parent rights	2.55
20.	Proficiency in dealing with stressed patients	2.55
21.	Self-Development skills	2.5
22.	Time and Responsibilities management	2.45
23.	General Communication Skills	2.05

2. The participants were required to rate their performance in twenty different skills. The scale was from (1=Very low to 5=Very High). In general all skills was rated between (2.95) to (4.4). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 7: Medical/Health care students' evaluation of the performance of different skills

Rank	Skill	Average Performance
1.	Ability to perform first aid with least available facilities	4.4
2.	Ability to exact medical knowledge of urgent cases	4.25
3.	General Communication Skills	4.25
4.	Interviews through Digital Media	4.2
5.	Proficiency in adoption medical priority in critical cases	4.15





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6.	Basic technical terminology and Concepts	4.15
7.	e-Social Networks skills at work	4.11
8.	Proficiency in dealing with stressed patients	4.1
9.	Arabic Language skills	4.05
10.	Technical Writing	4
11.	Principles of hospital pharmacy / management skills OR	
	Care skills for people with special needs in-house	3.9
12.	Proficiency in practicing the infection protocols with patients	3.85
13.	Social Communication Skills.	3.65
14.	English Language skills	3.65
15.	Self-Development skills	3.65
16.	Sales and Marketing skills	3.55
17.	Function cooperatively on multi-disciplinary teams	3.5
18.	Dialogue, interaction and Conversation Skills	3.5
19.	Planning and Management of events	3.45
20.	Knowledge career ethics and parent rights	3.1
21.	Ability to operate medical care instruments	3
22.	Time and Responsibilities management	3
23.	Skills in Medical software	2.95

In the final question of the questionnaire, participants were required to put forth any suggestions, opinions and views that they would like us to take into consideration. Below follow some of their comments:

• I believe that training courses with practical examples would be much more useful than theory





3. Business/Finance students Survey

Section I: Students profile

The questionnaire was filled in by 25 participants.

1. In the first question, the participants were required to provide information about their University. The vast majority of participants (96%) stated that they are from the University of Jordan.

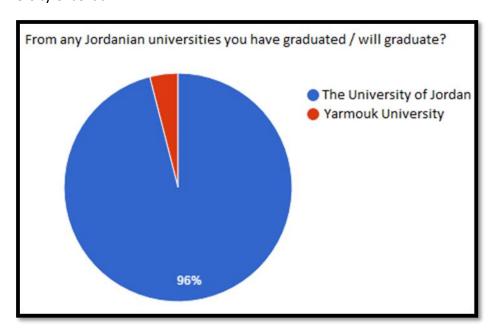


Figure 13: Business/Finance students' University name

2. When asked to specify the academic degree in the second question, the highest percentage of them (68%) stated that they have a or will have a master degree; and (28%) said that they have or will have a bachelor degree; while just (4%) of them will have PhD degree.





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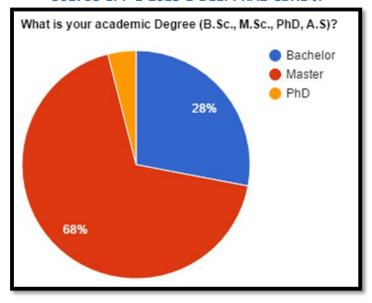


Figure 14: Business/Finance students' academic degree

3. As for their major in the third question; it diversify between different Business specialties; they are ranked as follow:

Table 8: Business/Finance students' majors

Major	#
Finance	5
Business Management	4
Accounting	4
Quality Management	4
Management Information system	3
Quality Management	3
Marketing	2





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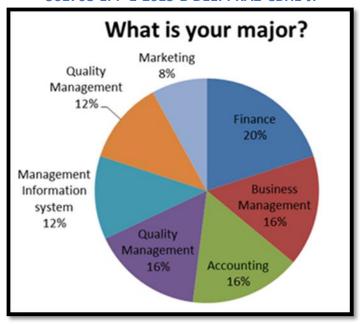


Figure 15: Business/Finance students' majors

4. The next question required participants to answer if they have took any training courses in the university during their study period. Based on their responses, more than half of the respondents (56%) didn't take any training courses. While (44%) of the respondents have taken courses. Some of the respondents mentioned that they have taken a specialized courses in the field of technology, programming and English language, statistical software (SPSS) and ICDL.





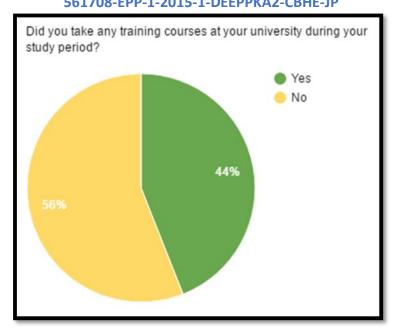


Figure 16: Business/Finance students' attendance of training courses at university during study period

5. The following question required participants to answer if they have took any training courses outside the university during their studying period. Based on their responses, the vast majority of the respondents (60%) said that they didn't take any training courses outside the university; while (40%) took specialized courses in the field of technology, programming and English language.





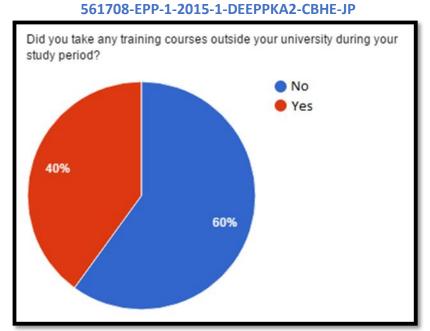


Figure 17: Business/Finance students' attendance of training courses outside university during study period

Section II: Graduate Students only profile

The second section of the questionnaire aimed to collect information regarding participants' training after graduation.

6. In the first question of this section, the participants were required to answer whether they had any training courses after graduation and before joining the job. The vast majority of the respondents (65%) said that they didn't take any training courses; while (35%) took training courses.





After graduation, did you take any training courses before you start working?

Yes
No

65%

Figure 18: Business/Finance graduates' attendance of training courses before starting work

7. While in the second question in this section, the participants were required to answer whether they had any training courses after joining the job. The vast majority of the respondents (60%) said that they didn't take any training courses outside the university; while (40%) took advanced courses in the field of technology, programming and English language. In addition; some of respondents took specialized training courses such as Internal audit (CIA); Anti-money laundering (CAMS); Islamic Bank systems; and Legal aspects of bank checks.





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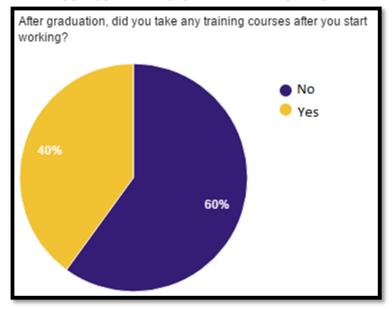


Figure 19: Business/Finance graduates' attendance of training courses after starting work

Section III: Evaluation of the importance and performance of different skills

In this section the participants were required to rank each skill according to its importance and their performance in it.

 The participants were required to rate the importance of twenty different skills. The scale was from 1 (not important) to 3 (very important). In general all skills were rated between (2.33=Important to 3= Very Important). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 9: Business/Finance students' evaluation of the importance of different skills

Rank	Skill	Average Importance
1.	Commitment to professional conduct and ethical responsibility	3.00
2.	Basic technical terminology and Concepts	3.00
3.	Critical thinking in solving problems and new ideas	3.00
4.	Skills in Job planning	3.00
5.	Function cooperatively on multi-disciplinary teams	2.95
6.	Time and Responsibilities management	2.95





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7.	Skills in computer software and programing	2.95
8.	Basic fundamentals in project management	2.95
9.	English Language skills	2.90
10.	Dialogue, interaction and Conversation Skills	2.81
11.	Self-Development skills	2.81
12.	Planning and Management of events	2.81
13.	Arabic Language skills	2.81
14.	Basic fundamentals in Quality Assurance systems	2.76
15.	Sales and Marketing skills	2.71
16.	General Communication Skills	2.67
17.	Digital Knowledge Society	2.67
18.	e-Social Networks skills at work	2.48
19.	Technical Writing	2.43
20.	Interviews through Digital Media	2.33

2. The participants were required to rate their performance in twenty different skills. The scale was from (1=Very low to 5=Very High). In general all skills was rated between (3.14) to (4.71). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 10: Business/Finance students' evaluation of the performance of different skills

Rank	Skill	Average Performance
1.	Basic technical terminology and Concepts	4.71
2.	Commitment to professional conduct and ethical responsibility	4.67
3.	Arabic Language skills	4.48
4.	Basic fundamentals in project management	4.33
5.	Skills in computer software and programing	4.14
6.	Basic fundamentals in Quality Assurance systems	3.95
7.	English Language skills	3.90
8.	General Communication Skills	3.86
9.	e-Social Networks skills at work	3.86
10.	General Communication Skills	3.86
11.	Time and Responsibilities management	3.81
12.	Digital Knowledge Society	3.76
13.	Planning and Management of events	3.71





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14.	Function cooperatively on multi-disciplinary teams	3.67
15.	Self-Development skills	3.67
16.	Function cooperatively on multi-disciplinary teams	3.67
17.	Dialogue, interaction and Conversation Skills	3.57
18.	Skills in Job planning	3.48
19.	Technical Writing	3.33
20.	Sales and Marketing skills	3.33
21.	Critical thinking in solving problems and new ideas	3.33
22.	Technical Writing	3.33
23.	Interviews through Digital Media	3.14

In the final question of the questionnaire, participants were required to put forth any suggestions, opinions and views that they would like us to take into consideration. Below follow some of their comments:

• I suggest to focus on specialized certifications in auditing, banking, and legal aspects in banking and finance such as (CAMS, CIA) and also Islamic banking certifications (CIB, CIBAFI)





4. Humanities/Education students Survey

Section I: Students profile

The questionnaire was filled in by 26 participants.

1. In the first question, the participants were required to provide information about their University. The vast majority of participants (84%) stated that they are from the University of Jordan.

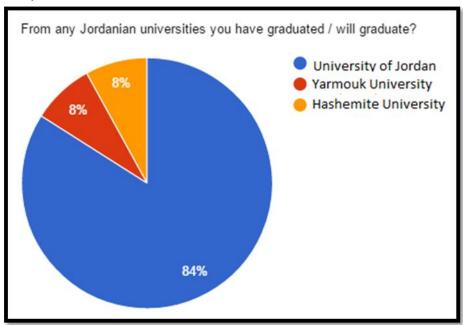


Figure 20: Humanities/Education students' university name

2. When asked to specify the academic degree in the second question, the majority of them (68%) stated that they hold a bachelor degree; (32%) said that they hold a Master degree.





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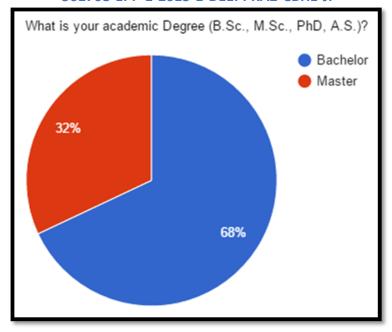


Figure 21: Humanities/Education students' academic degree

3. As for their major in the third question; it diversify between different Engineering specialties; they are as follow:

Table 11: Humanities/Education students' Majors

Major	#
Sharia (Islamic Studies)	5
English	5
Literature and Cultural Studies in English	4
Law	4
Archaeology and Tourism	3
Social Anthropology	2
Social studies	1
Educational Psychology	1





What is you Major? ■ Sharia (Islamic Studies) 4% ■ English 20% 8% ■ Literature and Cultural Studies in English **■** Law 12% Archaeology and Tourism 20% ■ Social Anthropology 16% ■ Social studies 16% ■ Educational Psychology

Figure 22: Humanities/Education students' Majors





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4. The next question required participants to answer if they have took any training courses in the university during their study period. Based on their responses, the vast majority of the respondents (68%) didn't take training courses. While (32%) took courses such as self-development, the development of communication skills and dialogue, statistical software (SPSS) and ICDL.

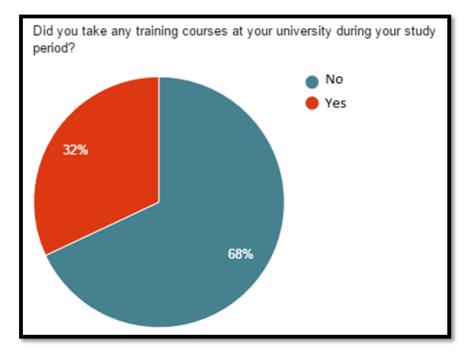


Figure 23: Humanities/Education students' attendance of training courses at university during study period





5. The following question required participants to answer if they have took any training courses outside the university during their studying period. Based on their responses, the vast majority of the respondents (72%) said that they didn't take any training courses outside the university; while (28%) took courses.

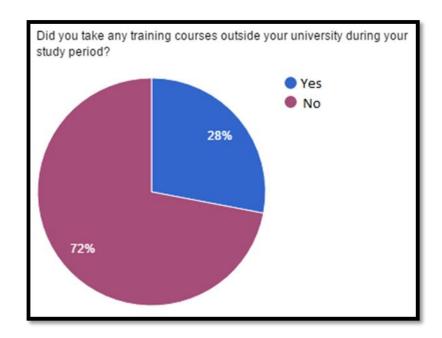


Figure 24: Humanities/Education students' attendance of training courses outside university during study period

Section II: Graduate Students only profile

The second section of the questionnaire aimed to collect information regarding participants' training after graduation.

6. In the first question of this section, the participants were required to answer whether they had any training courses after graduation and before joining the job. More than half of graduate respondents (52.4%) replied negatively. While (47.6%) took courses such as conversation in English, computer skills, printing, and law.





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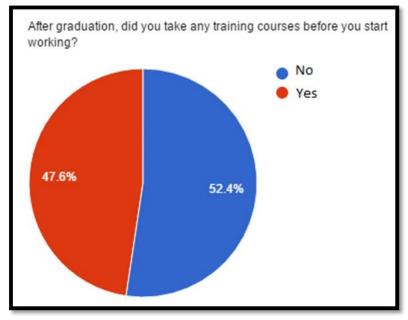


Figure 25: Humanities/Education graduates' attendance of training courses before starting work

7. While in the second question in this section, the participants were required to answer whether they had any training courses after joining the job. The vast majority participants (71.4%) replied negatively. While (28.6%) of the graduate respondents took courses such as Human Resource Management course.





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Figure 26: Humanities/Education graduates' attendance of training courses after starting work

Section III: Evaluation of the importance and performance of different skills

In this section the participants were required to rank each skill according to its importance and his performance in it.

1. The participants were required to rate the importance of twenty different skills. The scale was from 1 (not important) to 3 (very important). In general all skills were rated between (2.36=Important to 3= Very Important). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 12: Humanities/Education students' evaluation of the importance of different skills

Rank	Skill	Average Importance
1.	Commitment to professional conduct and ethical responsibility	3.00
2.	Time and Responsibilities management	2.96
3.	Skills in using computers and software	2.96
4.	Self-Development skills	2.88





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5.	Arabic Language skills	2.88
6.	Planning and Management of events	2.84
7.	English Language skills	2.84
8.	Modern Strategies in Teaching	2.84
9.	Identifying talented Children	2.84
10.	Identify Indicators for Quality Assurance in Planning Process	2.83
11.	General Communication Skills	2.80
12.	Identifying special needs and learning Disability	2.80
13.	Dialogue, interaction and Conversation Skills	2.76
14.	Multimedia Production in Teaching	2.72
15.	e-Learning Management System	2.72
16.	Digital Knowledge Society	2.72
17.	Modern Evaluation Strategies and Related Tools	2.68
18.	Interviews through Digital Media	2.64
19.	e- exams Management and Applications	2.64
20.	Creative Capabilities and multiple Intelligence Sensing	2.48
21.	e-Social Networks skills at work	2.48
22.	Technical Writing	2.36

2. The participants were required to rate their performance in twenty different skills. The scale was from (1=Very low to 5=Very High). In general all skills was rated between (2.8) to (4.44). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 13: Humanities/Education students' evaluation of their performance in different skills

Rank	Skill	Average Performanc e
1.	Commitment to professional conduct and ethical responsibility	4.44
2.	e-Social Networks skills at work	4.16





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3.	Arabic Language skills	3.96
4.	Dialogue, interaction and Conversation Skills	3.92
5.	Skills in using computers and software	3.84
6.	Planning and Management of events	3.80
7.	English Language skills	3.76
8.	Self-Development skills	3.68
9.	Modern Strategies in Teaching	3.64
10.	Time and Responsibilities management	3.60
11.	Identifying talented Children	3.60
12.	General Communication Skills	3.56
13.	Interviews through Digital Media	3.56
14.	Creative Capabilities and multiple Intelligence Sensing	3.32
15.	Digital Knowledge Society	3.26
16.	Modern Evaluation Strategies and Related Tools	3.20
17.	Identifying special needs and learning Disability	3.12
18.	e- exams Management and Applications	3.08
19.	Identify Indicators for Quality Assurance in Planning Process	3.04
20.	Multimedia Production in Teaching	3.00
21.	Technical Writing	2.96
22.	e-Learning Management System	2.80

In the final question of the questionnaire, participants were required to put forth any suggestions, opinions and views that they would like us to take into consideration. Below follow some of their comments:

- It is an interesting and beneficial survey, hope you a successful implementation
- It is a very good idea to establish a center for training





B. Institutions survey

1. Engineering Companies Survey

The questionnaire was filled in by 11 participants.

Section I: Employee profile

1. In the first question, the participants were required to provide information about their position at the organization. The vast majority of participants (63.6%) stated that they are Technicians; while (27.3%) stated that they are Managers and the rest of respondents (9.1%) occupy other work roles.

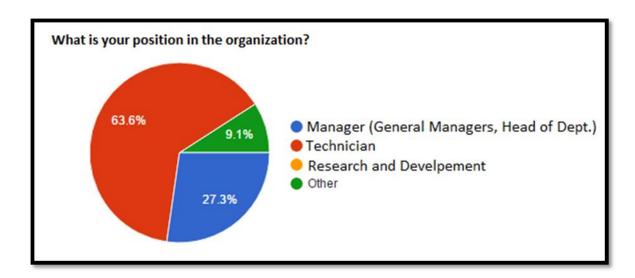


Figure 27: Position of the Engineering Companies' participants

2. When asked to specify the academic degree in the second question, the majority of them (63.6%) stated that they hold a bachelor degree; (36.4%) said that they hold a M.Sc. degree.





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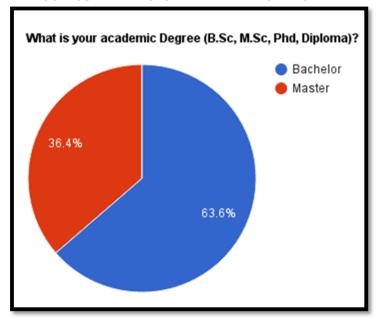


Figure 28: Academic degree of Engineering Companies' participants

Section II: Institution profile

3. In the third question; the respondents were required to specify the number of employees at their Institutions. More than half of the respondents are working in institution which have 10-49 employees.

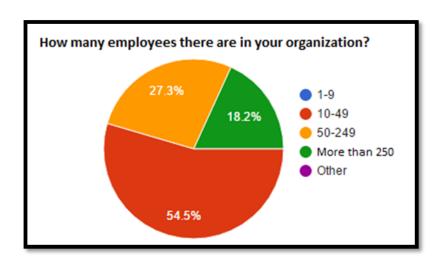


Figure 29: Number of employees in the participated Engineering companies





4. The next question required participants to mention the number of employees who have graduated from the Jordanian universities; the answer of this question depends on the number of employees at the institution; most of respondents (54.5%) answered that More than 50 of the employees are graduated from Jordanian universities; while (45.5%) answered (10-49).

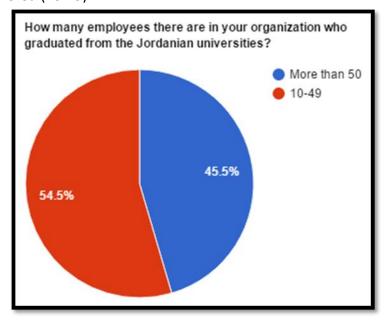


Figure 30: Number of employees who graduated from Jordanian universities in the participated Engineering companies

5. The following question required participants to specify the industrial sector of their institutes. The highest percentage was for the Electrical and engineering Industries (45.5%); then the construction and Building Industries; then followed by three industries including Food, Furniture and Chemical Industries with the same percentage for each (9.1%).





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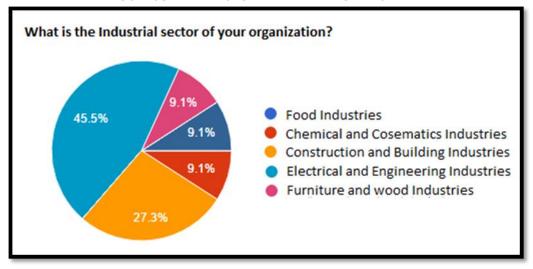


Figure 31: The industrial Sector of the participated Engineering companies

6. The sixth question is asking about the availability of a specialized unit for training in the respondents Institutes. The vast majority of respondents (72.7%) answered (No).

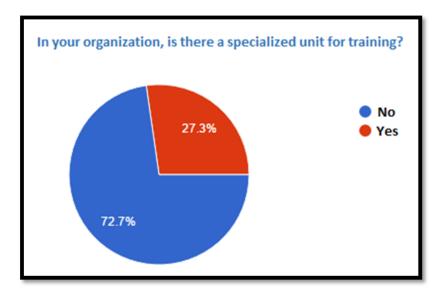


Figure 32: The availability of a specialized unit for training in the participated Engineering companies





7. The seventh question is asking about the estimated expenses for training in the respondents Institutes. The highest percentage of respondents (63.6%) answered (1000)

JD); while about (27.3%) answered (I don't know); and the rest (9.1%) answered (10,000 - 50,000 JD).

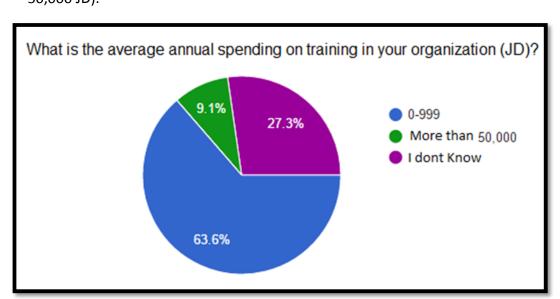


Figure 33: The Average annual spending on training for the participated Engineering Companies

Section II: Evaluation of the importance and performance of different skills

In this section the participants were required to rank each skill according to its importance and their performance in it.

1. The participants were required to rate the importance of twenty different skills. The scale was from 1 (not important) to 3 (very important). In general all skills were rated between (2.36=Important to 3= Very Important). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 14: The Participated Engineering companies staff's evaluation for importance of different skills

Rank	Skill	Average Importance
1.	General Communication Skills	3.00





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2.	Function cooperatively on multi-disciplinary teams	3.00
3.	Commitment to professional conduct and ethical responsibility	3.00
4.	4. English Language skills	
5.	Technical Writing	2.91
6.	Dialogue, interaction and Conversation Skills	2.91
7.	Self-Development skills	2.91
8.	Time and Responsibilities management	2.91
9.	Planning and Management of events	2.91
10.	Skills in Job planning	2.91
11.	11. Basic fundamentals in Quality Assurance systems	
12.	12. Social Communication Skills.	
13.	Sales and Marketing skills	2.82
14.	Skills in Engineering software	2.82
15.	Basic technical terminology and Concepts	2.82
16.	Critical thinking in solving problems and new ideas	2.82
17.	17. Basic fundamentals in project management	
18.	18. Arabic Language skills	
19.	19. e-Social Networks skills at work	
20.	Interviews through Digital Media	2.36

2. The participants were required to rate their performance in twenty different skills. The scale was from (1=Very low to 5=Very High). In general all skills were rated between (2.91) to (4.27). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 15: The Participated Engineering companies staff's evaluation for their performance of different skills

Rank	Skill	Average Performance
1.	Arabic Language skills	4.27
2.	General Communication Skills	4.09
3.	Commitment to professional conduct and ethical responsibility	4.09
4.	Basic technical terminology and Concepts	4.09
5.	English Language skills	3.82
6.	Function cooperatively on multi-disciplinary teams	3.73
7.	Skills in Job planning	3.73
8.	Technical Writing	3.64





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9.	Critical thinking in solving problems and new ideas	3.64
10.	Social Communication Skills.	3.55
11.	11. Dialogue, interaction and Conversation Skills	
12.	12. Skills in Engineering software	
13.	Self-Development skills	3.45
14.	Planning and Management of events	3.45
15.	Basic fundamentals in Quality Assurance systems	3.45
16.	e-Social Networks skills at work	3.36
17.	Sales and Marketing skills	3.36
18.	Time and Responsibilities management	3.18
19.	9. Basic fundamentals in project management	
20.	Interviews through Digital Media	2.91

In the final question of the questionnaire, participants were required to put forth any suggestions, opinions and views that they would like us to take into consideration. Below follow some of their comments:

Managers comments:

• The fresh graduates lack the experience in many skills. I recommend to establish a training center inside the university, as it will promote the competencies for the students.

Employees comments:

 Most companies Impose a not paid training period for the employees (almost 3 months); to avoid this obligatory period it will be helpful to train the student before graduation on many important skills that it is related to their major.





2. Business/Finance Institutions Survey

Section I: Employee profile

The questionnaire was filled in by 14 participants.

1. In the first question, the participants were required to provide information about their position at the organization. The highest percentage of participants (35.7%) stated that they are Managers; while (28.6%) stated that they are Technicians, also (21.4%) are accountants and the rest of respondents (14.3%) are heads of section.

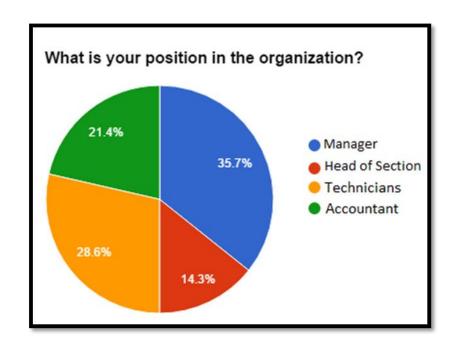


Figure 34: Position of the Business/Finance Institutions' participants

2. When asked to specify the academic degree in the second question, the majority of respondents (85.7%) stated that they hold a bachelor degree; (7.1%) said that they hold a PhD degree and the rest (7.1%) hold a A.S. degree.





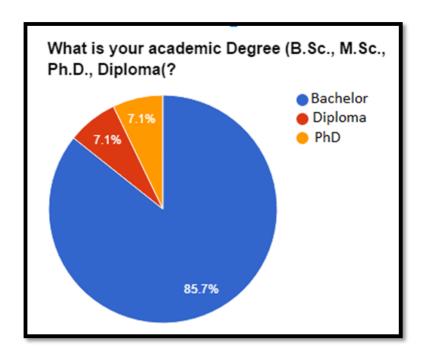


Figure 35: Academic degree of Business/Finance Institutions' participants

Section II: Institution profile

3. In the third question; the respondents were required to specify the number of employees at their Institutions. The highest percentage of respondents (35.7%) answered (50-249), (28.6%) of respondents answered (10-49), (28.6%) answered (More than 250), and the rest (7.1) answered (1-9).





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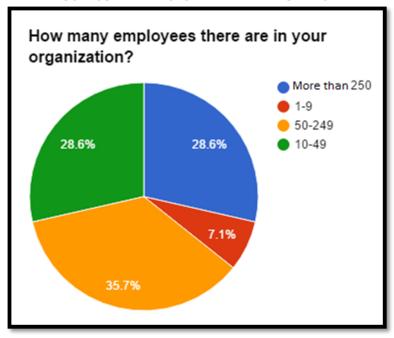


Figure 36: Number of employees in the participated Business/Finance Institutions

4. The next question required participants to mention the number of employees who have graduated from the Jordanian universities; the answer of this question depends on the number of employees at the institution; the highest percentage of respondents (35.7%) answered that more than 50 of the employees are graduated from Jordanian universities.





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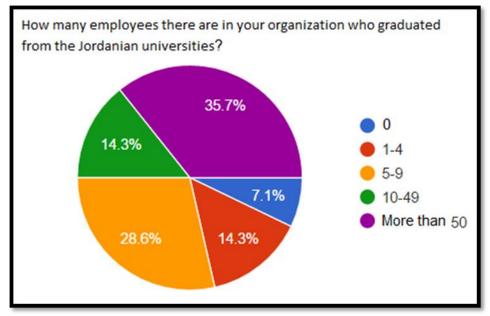


Figure 37: Number of employees who graduated from Jordanian universities in the participated Engineering companies

5. The following question required participants to specify the industrial sector of their institutes. The highest percentage was for the Banks and Financial Institutes (71.4%); and the rest (28.6%) of answers were for Tourism.





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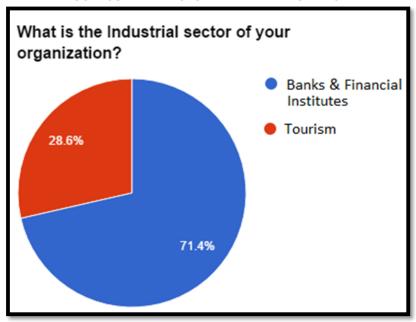


Figure 38: The industrial Sector of the participated Business/Finance Institutions

6. The sixth question is asking about the availability of a specialized unit for training in the respondents Institutes. The vast majority of respondents (64.3%) answered No.



Figure 39: The availability of a specialized unit for training in the participated Business/Finance Institutions





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7. The seventh question is asking about the estimated expenses for training in the respondents Institutes. The highest percentage of respondents (50%) answered (0-1000 JD).



Figure 40: The Average annual spending on training for the participated Business/Finance Institutions





Section II: Evaluation of the importance and performance of different skills

In this section the participants were required to rank each skill according to its importance and their performance in it.

1. The participants were required to rate the importance of twenty different skills. The scale was from 1 (not important) to 3 (very important). In general all skills were rated between (2.43=Important to 3= Very Important). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 16: The Participated Business/Finance Institutions' staff's evaluation for importance of different skills

Rank	Skill	Average
		Importance
1.	Function cooperatively on multi-disciplinary teams	3.00
2.	Basic technical terminology and Concepts	2.93
3.	Dialogue, interaction and Conversation Skills	2.86
4.	Self-Development skills	2.86
5.	Commitment to professional conduct and ethical responsibility	2.79
6.	Skills in Job planning	2.79
7.	Critical thinking in solving problems and new ideas	2.77
8.	General Communication Skills	2.71
9.	Time and Responsibilities management	2.71
10.	10. Planning and Management of events	
11.	e-Social Networks skills at work	2.64
12.	English Language skills	2.64
13.	Digital Knowledge Society	2.64
14.	Sales and Marketing skills	2.62
15.	Skills in computer software	2.57
16.	Technical Writing	2.54
17.	Basic fundamentals in project management	2.50
18.	Interviews through Digital Media	2.46
19.	Arabic Language skills	2.43
20.	Basic fundamentals in Quality Assurance systems	2.43





2. The participants were required to rate their performance in twenty different skills. The scale was from (1=Very low to 5=Very High). In general all skills were rated between (3.14) to (4.43). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 17: The Participated Business/Finance Institutions' staff's evaluation for their performance in different skills

Rank	Skill	Average Performance
1.	Basic technical terminology and Concepts	4.43
2.	Function cooperatively on multi-disciplinary teams	4.21
3.	Commitment to professional conduct and ethical responsibility	4.21
4.	Arabic Language skills	4.14
5.	Skills in computer software	4.07
6.	e-Social Networks skills at work	3.93
7.	General Communication Skills	3.86
8.	Dialogue, interaction and Conversation Skills	3.79
9.	Digital Knowledge Society	3.79
10.	Critical thinking in solving problems and new ideas	3.64
11.	Skills in Job planning	3.57
12.	Time and Responsibilities management	3.50
13.	Planning and Management of events	3.50
14.	Technical Writing	3.43
15.	Self-Development skills	3.43
16.	Sales and Marketing skills	3.43
17.	17. Basic fundamentals in Quality Assurance systems	
18.	Interviews through Digital Media	3.29
19.	English Language skills	3.14
20.	Basic fundamentals in project management	3.14





In the final question of the questionnaire, participants were required to put forth any suggestions, opinions and views that they would like us to take into consideration. Below follow some of their comments:

Managers comments:

• The fresh graduates lack the experience in many skills. I recommend to establish a training center inside the university, as it will promote the competencies for the jobs seekers.





3. Medical/health care Institution Survey

Section I: Employee profile

The questionnaire was filled in by 15 participants.

1. In the first question, the participants were required to provide information about their position at the organization. The highest percentage of participants (46.7%) stated that they are Technicians; while (40%) stated that they are Managers, and the rest of respondents (13.3%) chose Other.

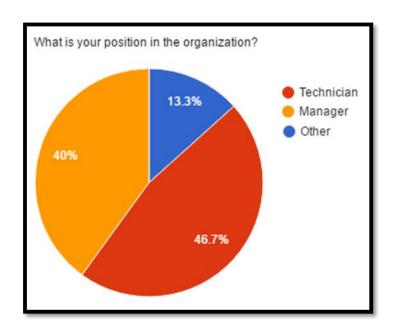


Figure 41: Position of the Medical/health care Institutions' participants

2. When asked to specify the academic degree in the second question, the majority of respondents (60%) stated that they hold a B.Sc. degree; (26.7%) said that they hold a M.Sc. degree and the rest (13.3%) hold an A.S. degree.





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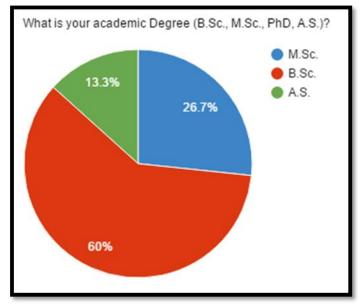


Figure 42: Academic degree of the Medical/health care Institutions' participants

Section II: Institution profile

3. In the third question; the respondents were required to specify the number of employees at their Institutions. The highest percentage (40%) of respondents answered (10-49), (26.7%) answered (1-9), and (33.3%) of respondents answered (More than 250).





How many employees does your institution have?

More than 250
10-49
1-9

Figure 43: Number of employees in the participated Medical/health care Institutions

4. The next question required participants to mention the number of employees who have graduated from the Jordanian universities; the answer of this question depends on the number of employees at the institution; the answers are shown in the graph below.





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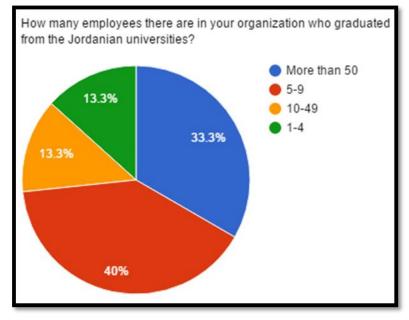


Figure 44: Number of employees who have graduated from Jordanian universities in the participated Medical/health care Institutions

5. The following question required participants to specify the industrial sector of their institutes. The highest percentage was for the Medical Supplies and Drugs (86.7%); and the rest (13.3%) of answers were for Chemical and Cosmetics Industries.

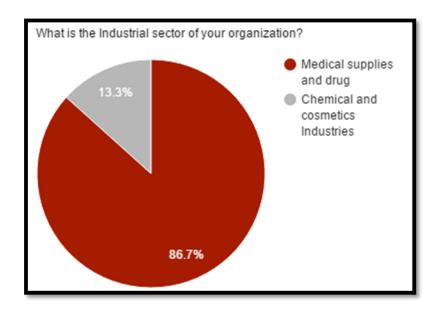


Figure 45: The industrial Sector of the participated Medical/health care Institutions





6. The sixth question is asking about the availability of a specialized unit for training in the respondents Institutes. The vast majority of respondents (73.3%) answered Negatively.

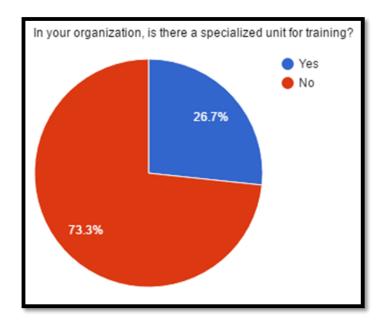


Figure 46: The availability of a specialized unit for training in the participated Medical/health care Institutions

7. The seventh question is asking about the estimated expenses for training in the respondents Institutes. The highest percentage of respondents (46.7%) have no idea; while (40%) answered (0-999 JD) and just (13.3%) answered (1000-10,000).







Figure 47: The Average annual spending on training for the participated Medical/health care Institutions

Section II: Evaluation of the importance and performance of different skills

In this section the participants were required to rank each skill according to its importance and their performance in it.

1. The participants were required to rate the importance of twenty different skills. The scale was from 1 (not important) to 3 (very important). In general all skills were rated between (2.63=Important to 3= Very Important). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 18: The Participated Medical/health care Institutions' staff's evaluation for the importance of different skills

Rank	Skill	Average Importance
1.	Basic technical terminology and Concepts	3.00
2.	General Communication Skills	3.00
3.	Function cooperatively on multi-disciplinary teams	3.00





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		1
4.	Knowledge career ethics and parent rights	3.00
5.	Self-Development skills	3.00
6.	Time and Responsibilities management	3.00
7.	Planning and Management of events	3.00
8.	English Language skills	3.00
9.	Proficiency in practicing the infection protocols with patients	3.00
10.	Social Communication Skills.	2.88
11.	Dialogue, interaction and Conversation Skills	2.88
12.	Interviews through Digital Media	2.88
13.	Ability to operate medical care instruments	2.88
14.	Ability to exact medical knowledge of urgent cases	2.88
15.	Proficiency in dealing with stressed patients	2.88
16.	e-Social Networks skills at work	2.75
17.	Sales and Marketing skills	2.75
18.	Arabic Language skills	2.75
19.	Skills in Engineering software	2.75
20.	20. Ability to perform first aid with least available facilities	
21.	21. Proficiency in adoption medical priority in critical cases	
22.	22. Technical Writing	
23.	Principles of hospital pharmacy / management skills	2.63

2. The participants were required to rate their performance in twenty different skills. The scale was from (1=Very low to 5=Very High). In general all skills were rated between (2.75) to (4.625). The following table ranks the skills according to their importance in a descending order by computing the average value of answers for each skill.

Table 19: The Participated Medical/health care Institutions' staff's evaluation for their performance in different skills

Rank	Skill	Average
Nalik	Skill	Performance
1.	Ability to exact medical knowledge of urgent cases	4.625
2.	Knowledge career ethics and parent rights	4.5
3.	Basic technical terminology and Concepts	4.375
4.	Dialogue, interaction and Conversation Skills	4.25
5.	Skills in Engineering software	4.25
6.	Ability to operate medical care instruments	4.25
7.	Social Communication Skills.	4.125





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8.	Time and Responsibilities management	4.125
9.	Arabic Language skills	4.125
10.	10. General Communication Skills	
11.	Function cooperatively on multi-disciplinary teams	4
12.	Sales and Marketing skills	4
13.	English Language skills	3.75
14.	Proficiency in adoption medical priority in critical cases	3.75
15.	15. Self-Development skills	
16.	16. Interviews through Digital Media	
17.	17. Planning and Management of events	
18.	18. Proficiency in dealing with stressed patients	
19.	19. Technical Writing	
20.	20. e-Social Networks skills at work	
21.	21. Principles of hospital pharmacy / management skills	
22.	22. Proficiency in practicing the infection protocols with patients	
23.	Ability to perform first aid with least available facilities	2.75

In the final question of the questionnaire, participants were required to put forth any suggestions, opinions and views that they would like us to take into consideration. Below follow some of their comments:

• I recommend to be organize the training courses at weekends or summer holidays because otherwise many of us wouldn't be able to attend





Outline of Results

Students Surveys' results outline

Table 20 summarize the student surveys' results

Table 20: The results' outline of Student Survey

#	Specialty	Percentage	Answer	Comments
	Sec	tion I: Students pro	ofile	
Q1: students' unive	ersity name			
1.	Engineering	100%	The university of Jordan	
2.	Medical	90%	Jordan	
3.	Business	96%		
4.	Education	84%		
Q2: Academic degr	ee			
1.	Engineering	77.1%	B.Sc.	
2.	Medical	95%	B.Sc.	
3.	Business	68%	M.Sc.	
4.	Education	68%	B.Sc.	
Q3: Major				
1.	Engineering	40%	Mechanical Engineering	





2.	Medical	30%	Medicine			
3.	Business	20%	Finance			
4.	Education	20% each	Sharia (Islamic Studies) and English			
Q4: Students' atter	ndance of training o	courses at universit	y during study period			
	Engineering	68.6%	No			
	Medical	65%	Yes			
	Business	56%	No			
	Education	68%	No			
Q5: Students' atter	ndance of training (courses outside uni	versity during study pe	riod		
	Engineering	57.2%	Yes			
	Medical	65%	Yes			
	Business	60%	No			
	Education	72%	Yes			
Section II: Graduate Students only profile						
Q6: graduates' atte	Q6: graduates' attendance of training courses before starting work					
1.	Engineering	79.2%	No			
2.	Medical	100%	No			
3.	Business	64.7%	No			
4.	Education	52.4%	No			





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Q7: graduates	Q7: graduates' attendance of training courses after starting work						
1.	Engineering	91.4%	No				
2.	Medical	100%	No				
3.	Business	60%	No				
4.	Education	71.4%	No				
	cion III: Evaluation of the	ne importance and p	performance of different skills				
Q1. IIIIportaii							
	Specialty	Range of result	Rank of skills according to Importance				
1.	Engineering	2.08 to 3	See Table 3				
2.	Medical	2.05 to 3	See Table 6				
3.	Business	2.33 to 3	See Table 9				
4.	Education	2.36 to 3	See Table 12				
Q2: Performa	nce Ranking for differen	ent skills					
	Specialty	Range of result	Rank of skills according to performance				
1.	Engineering	2.69 to 4.69	See Table 4				
2.	Medical	2.95 to 4.4	See Table 7				
3.	Business	3.14 to 4.71	See Table 10				
4.	Education	2.8 to 4.44	See Table 13				





Institutional Surveys' result outline

Table 21 summarize the institutional surveys' results

Table 21: The results' outline of Institutional Survey

#	Specialty	Percentage	Answer	Comments		
Section I: Employee profile Q1: Position of the participants in the organization						
1.	Engineering	63.6%	Technicians			
	companies	27.3%	Managers			
		9.1%	Other			
2.	Business/Finance Institutions	35.7%	Managers			
	institutions	28.6%	Technicians			
		21.4%	Accountants			
		14.3%	heads of section			
3.	Medical/health care Institutions	46.7%	Technicians			
	care mistitutions	40%	Managers			
		13.3%	Other			
Q2: Academic degr	Q2: Academic degree					
1.	Engineering companies	85.7%	B.Sc.			
	companies	36.4%	M.Sc.			





2.	Business/Finance	85.7%	B.Sc.	
	Institutions	7.1%	PhD	
		7.1%	A.S.	
3.	Medical/health	60%	B.Sc.	
	care Institutions	26.7%	M.Sc.	
		13.3%	A.S.	
Q3: Number of	Sect	ion II: Institute pro		
1.	Engineering	54.5%	10-49	
	companies	27.3%	50-249	
		18.2%	More than 250	
2.	Business/Finance Institutions	35.7%	50-249	
	institutions	28.6%	10-49	
		28.6%	More than 250	
		7.1%	1-9	
3.	Medical/health care Institutions	40%	10-49	
	care msutudons	33.3%	More than 250	
		26.7%	1-9	
Q4: Number of o	employees who gradua	ated from Jordania	n universities in the pa	rticipated
1.	Engineering	54.5%	More than 50	





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	companies	45.5%	10-49	
2.	Business/Finance Institutions	35.7%	More than 50	
	mstrutions	28.6%	5-9	
		14.3%	10-49	
		14.3%	1-4	
		7.1%	0	
3.	Medical/health care Institutions	40%	5-9	
	care montations	33.3%	More than 50	
		13.3%	10-49	
		13.3%	1-4	
Q5: The industrial Sector of the participated Institutions				
1.	Engineering	45.5%	Electrical and	See Fig. 31
1.	Engineering companies	45.5%	engineering	See Fig. 31
1.		45.5%		See Fig. 31
2.	companies Business/Finance	45.5% 71.4%	engineering Industries Banks and Financial	See Fig. 31 See Fig. 38
	companies		engineering Industries	-
	companies Business/Finance		engineering Industries Banks and Financial	-
2.	companies Business/Finance Institutions	71.4%	engineering Industries Banks and Financial Institutes	See Fig. 38
2.	Companies Business/Finance Institutions Medical/health	71.4%	engineering Industries Banks and Financial Institutes Medical Supplies	See Fig. 38
2. 3.	Business/Finance Institutions Medical/health care Institutions	71.4% 86.7%	engineering Industries Banks and Financial Institutes Medical Supplies	See Fig. 38 See Fig. 45
2. 3.	Business/Finance Institutions Medical/health care Institutions	71.4% 86.7%	engineering Industries Banks and Financial Institutes Medical Supplies and Drugs	See Fig. 38 See Fig. 45
2. 3. Q6: The availability	Business/Finance Institutions Medical/health care Institutions	71.4% 86.7% it for training in the	engineering Industries Banks and Financial Institutes Medical Supplies and Drugs	See Fig. 38 See Fig. 45
2. 3. Q6: The availability	Business/Finance Institutions Medical/health care Institutions y of a specialized un Engineering	71.4% 86.7% it for training in the	engineering Industries Banks and Financial Institutes Medical Supplies and Drugs	See Fig. 38 See Fig. 45





3.	Medical/health care Institutions	73.3%	No			
Q7: The Average annual spending on training in the participated Institutes						
1.	Engineering	63.6%	0-999			
	companies	27.3%	I don't Know			
		9.1%	More than 50,000			
2.	Business/Finance	50%	0-999			
	Institutions	21.4%	1000-9,999			
		14.3%	More than 50,000			
		7.1%	10,000-50,000			
		7.1%	I don't Know			
3.	Medical/health care Institutions	46.7%	I don't Know			
	care institutions	40%	0-999			
		13.3	1000-10000			
Section II: Evaluation of the importance and performance of different skills						
Q1: Importance Ra	nking of Skills					
	Specialty	Range of result	Rank of skills accordi Importance	ng to		
1.	Engineering companies	2.36 to 3	See Table 14			
2.	Business/Finance Institutions	2.43 to 3	See Table 16			





3.	Medical/health care Institutions	2.63 to 3	See Table 18
Q2: Performance R	anking for different	skills	
	Specialty	Range of result	Rank of skills according to performance
1.	Engineering companies	2.91 to 4.27	See Table 15
2.	Business/Finance Institutions	3.14 to 4.43	See Table 17
3.	Medical/health care Institutions	2.75 to 4.63	See Table 19





Conclusion and Recommendations

VTC survey aims mainly to support and enhance the establishment of vocational training center that aims of enhancing the competencies of students, by Identifying the needed skills that are important for students and graduates to be trained on; also by identifying the training needs required by the labor market, by addressing the institutions and the relevant authorities to cooperate in the field survey performed by corresponding experts. Thus achieving access to valuable results.

In addition, it was necessary to identify and evaluate the status of training in universities and institution and the level of interest and awareness to take training courses.

For these aims a Needs Analysis questionnaire was designed and distributed to student and employees from different disciplines and institutions, respectively. The major aim of the questionnaire was to collect data on student and employees opinions, needs and preferences with regard to different skills .

Conclusions and recommendations from the student Survey

The samples were a good representation of the students of the university of Jordan as the vast majority of respondents were from the university of Jordan.

Most of the respondents were undergraduates from different majors (Engineering, Business/Finance, Medical/health care, and Humanities/Education).

The respondents indicates that the role of the university in offering a training courses is very weak; as it clear from the result that most of the training courses that were joined were outside the university for all discipline except the Business which has approximately same percentages for attending training courses inside and outside the university.

The graduates respondents indicates also a very low interest in joining training courses after graduation and/or after joining their work; the reason behind this is mostly due to the high fees for these courses; as it was implied by the respondents.





Also; the survey indicates that the Medical/Health care students have the highest percentage for joining training courses at the University of Jordan during their study period.

According to the analysis results for Section I and II in the student survey; generally the student doesn't get sufficient training during and after his study period; which means that the majority of the students are graduating without any improvement for skills that may help to raise the competencies. The particular findings highlight the necessity for specialized center for training on different skills for different disciplines, and that will be absolutely achieved by establishing the intended vocational training center.

According to the analysis results for section III; the respondents indicates that all listed skills are ranges between important to very important, which implies that training on these skills will be so beneficial for them.

In regard to the performance rating and ranking results; mostly it was indicated that the performance in the different skills is moderate and above (not excellent nor bad), but taking into account that the respondents are mostly undergraduate who lack practical experience, and their evaluation is missing accuracy; makes relying on their evaluation is somewhat misleading as their performance in many skills is low in reality. In our opinion taking specialized training courses will raise their awareness and competencies.

Furthermore; we recommend to prioritize the offered training programs for the different skills according to their ranking in regard to importance and performance; which means that the most important skills (as evaluated by respondents) and also the skills that were ranked in the lowest levels of performance (as evaluated by respondents) will take the priority.

The most important skills for the different disciplines; as were rated by the students; include Technical Writing; Commitment to professional conduct and ethical responsibility; Self-Development skills; English Language skills; Basic technical terminology and Concepts; Social Communication Skills; Ability to operate medical care instruments; Ability to exact medical knowledge of urgent cases; Proficiency in practicing the infection protocols with patients; Proficiency in adoption medical priority in critical cases; Commitment to professional conduct and ethical responsibility; Basic technical terminology and Concepts; Critical thinking in solving problems and new ideas; Skills in Job planning.

While the lowest rated skills in regard to performance (rated 3 and lower) include Sales and Marketing skills; Basic fundamentals in Quality Assurance systems; e-Learning Management





System; Skills in Engineering/Medical software; Technical Writing; Ability to operate medical care instruments; Time and Responsibilities management; and Multimedia Production in Teaching.

The most important finding of the Needs Analysis questionnaire is that almost all respondents encouraged the idea of establishing a vocational training centers that offers certificate training programs for the students on related skills to their specialties.

Conclusions and recommendations from the Institutional Survey

Overall, 40 participants from different institutions answered the Needs Analysis questionnaire. The Majority of respondents were Technicians except for the Business/Finance Survey. The vast Majority of respondents holds a bachelor degree. Most of the participated institutions were a small to medium sized institutions that have employees between 4 to 249. Most of the employees were graduates from the Jordanian Universities. Most of participated intuitions' Industrial sectors were Electrical and engineering Industries; Banks and Financial Institutes, and Medical Supplies and Drugs.

The vast majority of participated institutions (medium to small sized institutions) don't have a specialized unit for training and their spending on training is at low levels. While the large size institutions almost have training units.

The respondents rated all skills as important to very important. In regard to the performance rating and ranking results; mostly it was indicated that performance in the different skills is moderate to high. It is recommended to consider the employees evaluation of different skills according to importance and performance to prioritize different training programs.

The most important skills as rated by different institutions employees include General Communication Skills; Function cooperatively on multi-disciplinary teams; Commitment to professional conduct and ethical responsibility; English Language skills; Basic technical terminology and Concepts; Knowledge career ethics and parent rights; Self-Development skills; Time and Responsibilities management; Planning and Management of events; and Proficiency in practicing the infection protocols with patients.

While the lowest rated skills in regard to performance (rated 3 and lower) include Ability to perform first aid with least available facilities; and Interviews through Digital Media.





The most important finding of the Needs Analysis questionnaire is that almost all managers noted a low level of performance in many skills for most of the fresh graduates. Which means that establishing the vocational center will be a good way to improve the graduates performance in many

skills.





GJU Results

Summary of Survey

Workshops	% Students	Type of Workshops	
Workshops	that took	Specialized	Software Skills
Taken as a student at university	32%	63%	37%
Taken as a student outside the university	42 %	92%	8%
Taken after graduation and before working	13%	75%	25%
Taken after graduation and while working	32%	100%	0%

Performance in Various Skills

Question No.	Skill	Performance	Students Results	Company Results
1	General Communication Skills	Good and Above	63%	36%
2	Technical Writing	Good and Above	55%	21%
3	Function cooperatively on multi-disciplinary teams	Good and Above	76%	36%
4	Dialogue, interaction and Conversation Skills	Good and Above	75%	28%
5	Commitment to professional conduct and ethical responsibility	Good and Above	93%	57%
6	e-Social Networks skills at work	Good and Above	70%	28%
7	Self-Development skills	Good and Above	73%	29%
8	Interviews through Digital Media	Good and Above	52%	7%
9	Time and Responsibilities management	Good and Above	61%	57%
10	Sales and Marketing skills	Good and Above	33%	21%
11	Planning and Management of events	Good and Above	58%	43%
12	English Language skills	Good and Above	78%	36%
13	Arabic Language skills	Good and Above	71%	21%
14	Skills in Engineering software	Good and Above	70%	72%





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15	Basic technical terminology and Concepts	Good and Above	78%	58%
16	Critical thinking in solving problems and new ideas	Good and Above	80%	43%
17	Skills in Job planning	Good and Above	65%	21%
18	Basic fundamentals in project management	Good and Above	40%	14%
19	Basic fundamentals in Quality Assurance systems	Good and Above	44%	21%
20	Digital Knowledge Society	Good and Above	46%	14%

Discussion:

The survey is composed of 20 questions that evaluate the strengths and weaknesses of various skills that are required in the working field, and it was done by 60 students and 14 companies.

For the students results it was found that more than 60% of the students' performance in 13 of the 20 skills ranged in the good and excellent category. As such for these skills no extra training is needed.

It was also found that more than 50% of the students have average and poor performance in four different skills that require extra training and workshops in the following skills:

- Basic Fundamentals in Project Management (Q.18)
- Basic Fundamentals in Quality Assurance Systems (Q.19)
- Digital Knowledge Society (Q.20)
- Sales and Marketing Skills (Q.10)

For the remaining three skills it was found that 50-60% of the students have good and excellent performance. Meaning that around 50% of the students have average and poor performance which would require extra training and workshops in these skills:

- Planning and Management of Events (Q.11)
- Interviews through Digital Media (Q.8)
- Technical Writing (Q.2)

For the business results it was found that more than 60% of the survey takers performance was in the excellent and good category for only one skill which does not require any extra training or workshops which is:





• Skills in Engineering Software (Q.14)

It was found that more than 60% of the survey takers performance was in the average and poor category for the remaining 19 skills. As such extra training and workshops are needed for all these skills.

Importance of Various Skills

Question No.	Skill	Importance	Percentage
1	General Communication Skills	Very Important	72%
2	Technical Writing	Very Important	64%
3	Function cooperatively on multi-disciplinary teams	Very Important	76%
4	Dialogue, interaction and Conversation Skills	Very Important	82%
5	Commitment to professional conduct and ethical responsibility	Very Important	88%
6	e-Social Networks skills at work	Very Important Not Important	51% 7%
7	Self-Development skills	Very Important	61%
8	Interviews through Digital Madia	Important	54%
	Interviews through Digital Media	Not Important	11%
9	Time and Responsibilities management	Very Important	83%
10	Sales and Marketing skills	Important	45%
	Sales and Ivial Reting Skills	Not Important	15%
11	Planning and Management of events	Very Important	55%
		Not Important	6%
12	English Language skills	Very Important	76%
13	Arabic Language skills	Very Important	59%
	Arabic Language Skins	Not important	10%
14	Skills in Engineering software	Very Important	69%
15	Basic technical terminology and Concepts	Very Important	74%
16	Critical thinking in solving problems and new ideas	Very Important	78%
17	Skills in Job planning	Very Important	68%
18	Dacis fundamentals in preject management	Very Important	55%
	Basic fundamentals in project management	Not important	10%
19	Pacie fundamentals in Quality Assurance systems	Very Important	51%
	Basic fundamentals in Quality Assurance systems	Not important	8%





20	Digital Knowledge Society	Very Important	47%
	Digital Knowledge Society	Not important	8%











Study report

Vocational training center for undergraduate university student and teacher in Jordan

June 2016





VOCATIONAL TRAINING CENTER FOR UNDERGRADUATE UNIVERSITY STUDENTS AND TEACHERS IN JORDAN (VTC) 561708-EPP-1-2015-1-DEEPPKA2-CBHE-JP

This study focus on identifying the training needs for graduated Jordanian universities and the market needs.

For this purpose a questioner was build and distributed on 64 of the target group in different levels and different qualifications and different sectors and the below tables clarify that, for the reliability of the questioner

Using SPSS 17 programme and get the reliability and constructs validity, Cranach's alpha (is used as a (lower bound) estimate of the reliability of a psychometric test) conducted equal to 0.914. this indicated that the questioner have highly validity and reliability.

Table (A) positions of the targeted group

Number	Position	Frequencies	Percent
1.	General Manager/ officer	26	40.6
2.	Technical (Engineer, lap technical,ets	3	4.7
3.	Accountant	0	0
4.	Teacher	17	26.6
5.	Head of department	1	1.6
6.	Others	17	26.6

Table (B) qualification of the targeted group

Number	Qualification	Frequencies	Percent
1.	Diploma	3	4.7
2.	B.A	22	34.4
3.	Master	14	21.9





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4.	PHD	22	34.4
5.	Others	3	4.7

Table (C) Number of the employee graduated from a Jordanians universities (been supervised) of the targeted group

Number	Qualification	Frequencies	Percent
1.	1-9	6	9.4
2.	10-49	38	59.4
3.	50-249	9	14.1
4.	250 and more	11	17.2

Table (D) Number of the employee graduated from Jordanian universities that the targeted group supervised

Number	Qualification	Frequencies	Percent
1.	Non	1	1.6
2.	1-4	1	1.6
3.	5-9	9	14.1
4.	10-49	33	51.6
5.	50 and more	20	31.3

Table (E) the sectors where targeted group work in

Number	qualification	Frequencies	Percent
1.	Education	59	92.2
2.	Higher Education	4	6.3
3.	Banking and financial institute	0	0





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4.	Tourism	0	0
5.	Others	1	1.6

Table (F) the number of the institute have training center

Number	If you have a training center	Frequencies	Percent
1.	Yes	26	40.6
2.	No	38	59.4

Table (G) the amount money they spend in training in their organization

Number	Amount JD	Frequencies	Percent
1.	0-999	4	6.3
2.	1000-9999	6	9.4
3.	10000-49999	6	9.4
4.	50000 and more	1	1.6
5.	They don't now	47	73.4





VOCATIONAL TRAINING CENTER FOR UNDERGRADUATE UNIVERSITY STUDENTS AND

Importance Number Abilities, Attributes, v. important **Frequencies** Percentages Percentage Percentage important + Not important Frequencies Percentage and Skills important important **General Communication** 1 18.8 79.7 98.5 1.6 12 51 2. **Technical Writing** 6 9.4 27 42.2 31 48.4 90.6 Creative Capabilities and 0 0 19 29.7 70.3 100 multiple Intelligence 45 Sensing Dialogue, interaction and 1 1.6 14 21.9 49 76.6 98.5 Conversation Skills Commitment to 5. professional conduct and 1 1.6 3 4.7 60 93.8 98.5 ethical responsibility e-Social Networks skills at 6. 2 3.1 15 23.4 47 73.4 96.8 work 7. Self-Development skills 5 7.8 12 18.8 47 73.4 92.2 Interviews through Digital 8. 10 15.6 26 40.6 28 43.8 84.4 Media Time and Responsibilities 9. 2 3.1 19 29.7 43 67.2 96.9 management Planning and Management 10. 1.6 19 29.7 44 68.8 98.5 1 of events 11. **English Language skills** 2 3.1 34 53.1 28 43.8 96.9 0 0 12. 15 23.4 49 76.6 100 **Arabic Language skills** Skills in using computers 13. 1 1.6 27 42.2 36 56.3 98.5 and software Modern Strategies in 14. 0 0 23 35.9 41 64.1 100 Teaching 15. 4 6.3 19 29.7 41 64.1 93.8 Multimedia Production in





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	Teaching							
16.	Identify Indicators for Quality Assurance in Planning Process	1	1.6	32	50.0	31	48.4	98.4
17.	Modern Evaluation Strategies and Related Tools	0	0	33	51.6	31	48.4	100
18.	e- exams Management and Applications	4	6.3	29	45.3	31	48.4	93.7
19.	e-Learning Management System	7	10.9	38	59.4	19	29.7	89.1
20.	Digital Knowledge Society	2	3.1	34	53.1	28	43.8	96.9
21.	Identifying talented Children	1	1.6	25	39.1	38	59.4	98.5
22.	Identifying special needs and learning Disability	3	4.7	20	31.3	41	64.1	95.4

Table (1) the important of the abilities, attributes and skills

Table (2) the high and very high frequencies and percentages of performance in the market (abilities, attributes and skills)

Z	Abilities, Attributes,		Р	erforman	ce	
Number	and Skills	Frequencies Percentag High		Percent Very high	Percentage	The sum of percentages (High and Very High)
1.	General Communication Skills	8	12.5	13	20.3	32.8
2.	Technical Writing	11	17.2	5	7.8	25
3.	Creative Capabilities and multiple Intelligence Sensing	3	4.7	13	20.3	25
4.	Dialogue, interaction and Conversation Skills	14	21.9	12	18.8	40.7
5.	Commitment to professional conduct and ethical	10	15.6	21	32.8	48.4





Z	Abilities, Attributes,		Р	erforman	ce	
Number	and Skills	Frequencies High	Percentage	Percent Very high	Percentage	The sum of percentages (High and Very High)
	responsibility					
6.	e-Social Networks skills at work	9	14.1	20	31.3	45.4
7.	Self-Development skills	9	14.1	12	18.8	32.9
8.	Interviews through Digital Media	7	10.9	15	23.4	34.3
9.	Time and Responsibilities management	8	12.5	12	18.8	31.3
10.	Planning and Management of events	4	6.3	11	17.2	23.5
11.	English Language skills	18	28.1	1	1.6	29.7
12.	Arabic Language skills	7	10.9	17	26.6	37.5
13.	Skills in using computers and software	12	18.8	11	17.2	36
14.	Modern Strategies in Teaching	15	23.4	10	15.6	39
15.	Multimedia Production in Teaching	16	25	13	20.3	45.3
16.	Identify Indicators for Quality Assurance in Planning Process	4	6.3	11	17.2	23.5
17.	Modern Evaluation Strategies and Related Tools	19	29.7	5	7.8	37.5
18.	e- exams Management and Applications	12	18.8	5	7.8	26.6
19.	e-Learning Management System	14	21.9	5	7.8	29.7





Nr	Abilities, Attributes,	Performance							
Number	and Skills	Frequencies High	Percentage	Percent Very high	Percentage	The sum of percentages (High and Very High)			
20.	Digital Knowledge Society	11	17.2	8	12.5	29.7			
21.	Identifying talented Children	10	15.6	14	21.9	37.5			
22.	Identifying special needs and learning Disability	9	14.1	13	20.3	34.4			

Table (3) the very low, low and medium frequencies and percentages of performance in the market (abilities, attributes and skills)

Z	Abilities, Attributes, and Skills	Performance							
Number		Very low	Percentage	Frequencies low	Percentage	Percent Medium	Percentage	Percentages the sum of Very low and low and medium	
1.	General Communication Skills	3	47	12	18.8	28	43.8	67.3	
2.	Technical Writing	15	23.4	13	20.3	20	31.3	75	
3.	Creative Capabilities and multiple Intelligence Sensing	13	20.3	13	20.3	22	34.4	75	
4.	Dialogue, interaction and Conversation Skills	4	6.3	14	21.9	20	31.3	59.5	
5.	Commitment to professional conduct and ethical responsibility	5	7.8	18	28.1	10	15.6	51.5	
6.	e-Social Networks skills at work	6	9.4	21	32.8	8	12.5	54.7	





Z	Abilities, Attributes, and		Performance							
Number	Skills	Frequencies Very low	Percentage	Frequencies low	Percentage	Percent Medium	Percentage	Percentages the sum of Very low and low and medium		
7.	Self-Development skills	9	14.1	13	20.3	21	32.8	67.2		
8.	Interviews through Digital Media	11	17.2	17	26.6	14	21.9	65.7		
9.	Time and Responsibilities management	6	9.4	24	37.5	14	21.9	68.8		
10.	Planning and Management of events	2	3.1	29	45.3	18	28.1	76.5		
11.	English Language skills	13	20.3	21	32.8	11	17.2	70.3		
12.	Arabic Language skills	3	4.7	20	31.3	17	26.6	62.6		
13.	Skills in using computers and software	3	4.7	14	21.9	24	37.5	64.1		
14.	Modern Strategies in Teaching	5	7.8	21	32.8	13	20.3	60.9		
15.	Multimedia Production in Teaching	15	23.4	14	21.9	6	9.4	54.7		
16.	Identify Indicators for Quality Assurance in Planning Process	13	20.3	21	32.8	15	23.4	76.5		
17.	Modern Evaluation Strategies and Related Tools	9	14.1	12	18.8	19	29.7	62.6		
18.	e- exams Management and Applications	12	18.8	17	26.6	18	28.1	73.5		
19.	e-Learning Management System	16	25	11	17.2	18	28.1	70.3		
20.	Digital Knowledge Society	17	26.6	16	25	12	18.8	70.4		
21.	Identifying talented Children	13	20.3	17	26.6	10	15.6	62.5		
22.	Identifying special needs and	11	17.2	18	28.1	13	20.3	65.6		





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Z	Abilities, Attributes, and					Perforr	mance		
Number	Skills	Very low	Frequencies	Percentage	Frequencies low	Percentage	Percent Medium	Percentage	Percentages the sum of Very low and low and medium
	learning Disability								

Discussions

Tables A,B,C,D,E shows good samples with different positions, qualification and number of employee(graduated from Jordanian universities) that makes availed conclusions and can generalized on education and higher education sectors.

Tables F and G shows a high percentage (60%) which do not have a training center while low percentage (40%) of the organization have a training center and a lot of the sample (73.4) do not know how much their company spend on training which mean a little interest of training in their field.

Table (1) shows (the high and very high importance) of the abilities, attributes and skills related to their employees all of these the abilities, attributes and skills are agreed as important and highly important 100% to 84%). That indicates all these abilities, attributes and skills should be trained to graduated students to be skillful and meet the need of the market.

Table (2) shows the performances of the graduated student from Jordanian universities who meet the expectation (high and very high) and the percentages (48.4 to 23.5) is less than the market need which means there is a lack of the competence and skillful employees needed in the market .

Table (3) supports the conclusion we have addressed in the previous paragraph and gives us the priority in order and it should be very soon to improving the quality of the





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graduated student to meet the need of the market and providing it with a skillful employees .

That means a highly needed to establishing a training center to train the graduated and in serves employees to build their capacities on the skills below, and we will rank them according to their low performances.

The first priority is the five abilities, attributes and skills (Planning and Management of events, Identify Indicators for Quality Assurance in Planning Process, Technical Writing, Creative Capabilities and multiple Intelligence Sensing e- exams Management and Applications)

The second priority is the six abilities, attributes and skills (e-Learning Management System, Digital Knowledge Society, English Language skills, Time and Responsibilities management, General Communication Skills, Self-Development skills)

The third priority is the seven abilities, attributes and skills (Identifying special needs and learning Disability, Interviews through Digital Media, Skills in using computers and software, Identifying talented Children, Arabic Language skills, Modern Strategies in Teaching, Modern Evaluation Strategies and Related Tools).

The Final priority is four abilities, attributes and skills (Dialogue, interaction and Conversation Skills, e-Social Networks skills at work, Multimedia Production in Teaching, Commitment to professional conduct and ethical responsibility

Recommendations

Build an institute for training the graduated students and teacher to empower them to lead the community and to build the future of our student by meeting the different needs of them to fulfill their needs.





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Al-Balqa' Applied University

This report is about the training needs for students of **Al-Balqa' Applied University** based on the questionnaires that were filled by both graduate students and employers. Data were analyzed using the SPSS. The significance is determined based on the average of both graduate students mean and employers mean.

For the general trainings:

Table 1 showed the degrees of the **general** training courses importance based on the opinion of the graduate students and employers

No.	Training course	Student	Employer	Average	Significance
		mean	mean	mean	
1	Social Communication	2.71	2.68	2.695	*
	Skills				
2	General Communication	2.42	2.71	2.565	
	Skills				
3	Technical Writing	2.03	2.53	2.28	
4	Function cooperatively on	2.83	2.82	2.725	*
	multi-disciplinary teams				
5	Dialogue, interaction and	2.63	2.74	2.685	*
	Conversation Skills				
6	Commitment to	2.68	2.88	2.78	*
	professional conduct and				
	ethical responsibility				
7	e-Social Networks skills at	2.41	2.33	2.37	
	work				
8	Self-Development skills	2.61	2.59	2.6	
9	Interviews through Digital	2.08	2.06	2.07	
	Media				
10	Time and Responsibilities	2.54	2.74	2.64	*
	management				





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11	Planning and Management	2.34	2.38	2.36	
	of events				
12	English Language skills	2.29	2.68	2.485	
13	Arabic Language skills	2.34	2.62	2.48	
N		59	34		

^{*}Means is close to 3 is very important

For the Engineering training:

Table 2 showed the degrees of the training courses importance based on the opinion of the graduate students and employers for the **engineering and industrial sectors**

No.	Training course	Student	Employer	Average	Significance
		mean	mean	mean	
14	Skills in Engineering	2.8	2.8	2.8	*
	software				
15	Basic technical	2.67	2.7	2.68	*
	terminology and Concepts				
16	Critical thinking in solving	2.4	2.4	2.4	
	problems and new ideas				
17	Skills in Job planning	2.8	2.8	2.8	*
18	Basic fundamentals in	2.87	2.5	2.68	*
	project management				
19	Basic fundamentals in	2.13	2.4	2.27	
	Quality Assurance systems				
N	-	15	10		

^{*}Means is close to 3 is very important

For the Education training:

Table 3 showed the degrees of the training courses importance based on the opinion of the graduate students and employers for the **educational sector**





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No.	Training course	Student	Employer	Average	Significance
		mean	mean	mean	
14	Skills in using computers	2.48	2.8	2.64	*
	and software				
15	Modern Strategies in	2.44	2.67	2.555	*
	Teaching				
16	Multimedia Production in	2.12	2.6	2.36	
	Teaching				
17	Identify Indicators for	2.12	2.67	2.395	
	Quality Assurance in				
	Planning Process				
18	Modern Evaluation	2.36	2.6	2.48	
	Strategies and Related				
	Tools				
19	e- exams Management and	2.44	2.47	2.455	
	Applications				
20	e-Learning Management	2.28	2.6	2.44	
	System				
21	Digital Knowledge Society	2.08	2.4	2.24	
22	Identifying talented	2.48	2.67	2.575	*
	Children				
N		25	15		

^{*}Means is close to 3 is very important

For the Medical training:

Table 4 showed the degrees of the training courses importance based on the opinion of the graduate students and employers for the **medical sector**

No.	Training course	Student	Employer	Average	Significance
		mean	mean	mean	
14	Skills in Medical software	2.5	2.73	2.62	*
15	Ability to operate medical	2.6	2.53	2.57	
	care instruments				





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16	Ability to exact medical knowledge of urgent cases	2.6	2.8	2.7	*
17	Ability to perform first aid with least available facilities	2.5	2.29	2.39	
18	Proficiency in dealing with stressed patients	2.5	2.53	2.52	
19	Principles of hospital/pharmacy - management skills	2.5	2.2	2.35	
20	Proficiency in practicing the infection protocols with patients	2.2	2.53	2.37	
21	Proficiency in adoption medical priority in critical cases	2.9	2.73	2.82	*
22	Basic technical terminology and Concepts	2.6	2.4	2.5	
N		10	15		

^{*}Means is close to 3 is very important

For the Business training:

Table 5 showed the degrees of the training courses importance based on the opinion of the graduate students and employers for the **administrative and business sector**

No.	Training course	Student	Employer	Average	Significance
		mean	mean	mean	
14	Skills in Business software	2.39	2.8	2.6	*
15	Basic technical terminology	2.46	2.6	2.53	
	and Concepts				
16	Critical thinking in solving	2.45	2.6	2.52	
	problems and new ideas				
17	Skills in Job planning	2.35	2.8	2.58	*
18	Basic fundamentals in	2.04	2.7	2.37	
	project management				





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19	Basic fundamentals in	2.08	2.1	2.09	
	Quality Assurance systems				
20	HR systems	2.19	2.7	2.45	
21	Customer management and	2.42	2.9	2.66	*
	customer service				
22	Budgeting and Bookkeeping	2.12	2.6	2.36	
23	Bank credit management	2.23	2.4	2.32	
24	Personal selling skills	2.54	2.3	2.42	
25	Final Accounts preparation	2.13	2.6	2.37	
N		25	10		

^{*}Means is close to 3 is very important

Summary:

The training needed by Al-Balqa' Applied University for the different faculties graduates are as follows:

1. General training needed is:

- Social Communication Skills
- Function cooperatively on multi-disciplinary teams
- Dialogue, interaction and Conversation Skills
- Commitment to professional conduct and ethical responsibility
- Time and Responsibilities management

2. Engineering training needed is:

- Skills in engineering software
- Basic technical terminology and Concepts
- Skills in Job planning
- Basic fundamentals in project management

3. Education training needed is:

- Skills in using computers and software
- Modern Strategies in Teaching
- Identifying talented Children

4. Medical training needed is:





- Skills in Medical software
- Ability to exact medical knowledge of urgent cases
- Proficiency in adoption medical priority in critical cases
- 5. Business and administrative training needed is:
- Skills in Business software
- Skills in Job planning
- Customer management and customer service





ANNEX III: VTC Surveys needed from each partner

Partner	Engineering Companies	Engineering Students/ Graduates	Medical/health care Institutions	Medical/health care students	Humanities /Education institutions	Humanities /Education students	Business/ Finance Institutions	Business/ Finance students
JU	10	15	15	20		25	10	25
MU	10	15	15	20	10	25	10	25
GJU	10	15	15	20		15	10	25
BAU	10	15	15	10	15	25	10	25
AABU	10	15	10		10	25	20	25
AEG	15		15		65		20	