



Higher Education Enhancement Project
Survey for measuring project`s return on beneficiaries
Second Part: ETCP □

Prof. Alia Elmahdy
Prof. Zeinab Khedre
Mr. Ali AbdAllah

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Introduction

This report is the second part of HEEP implementation impact study. This report studies ETCP implementation impact on beneficiary groups, based on the outputs & results report issued by the project`s administration unit.

This report starts with presenting the methodology used in form of questionnaire design, choosing the sample, then presentation and analysis of the study results. Finally, the report presents some concluding remarks that include future vision and main suggestions.

Methodology

The research population was divided into two beneficiary groups as follow:

First group: staff members including both theoretical and practical faculties, technicians in industrial institutes

Second group: students

Accordingly, two questionnaire forms were designed; one for each group. It was taken into consideration – as possible – to ask each beneficiary about the same output, each according to his relation with the supposed impact, in order to design a compound index to know the extent of each result`s achievement.

Questionnaires: design measurement tools, test them and their relation with project mangers` reports

The questionnaire starts with identifying the communication extent between staff members and students from one side and the ETCP from the other side. Each questionnaire includes questions about the outputs previously mentioned within the project`s administration unit report. Both questionnaires contain questions and statements aim to reach some indicators and measures to determine the extent of achievement in areas such as curricula development, developing computer and internet labs, developing workshops in industrial institutes, evaluation methods and exams, communicating with surrounding community, enabling job

opportunities for students, and e-learning. The study is finalized by showing the acceptance extent of enhancement project among staff members as well as their future vision, In addition to the main difficulties and suggestions regarding project's execution.

Designing the sample:

At first was the choice of Technological faculty in Al-Mataaria and the Technological faculty in Al-Mahalla (among eight technological faculties). The first technological faculty includes the Industrial Institute, Commercial Institute and the Institute of Tourism and Hotels. The Technological faculty in Al-Mahalla includes the industrial technical institute and the commercial technical institute. The following table shows the number of staff members and students in each institute and the achieved percentage of the sample.

Table (1):Statistics of the sample

Faculty/ Institute	Actual number		Verified sample size				Percentage to the total	
	Staff Members	Students	Staff Members			Students	Staff Members	Students
			Practical & Theoretical	Technical	Total			
Technological faculty in AlMatariya								
Industrial institute	١٤١	٤٦٨٣	٦٣	١٠	٧٣	185	52	4
Commercial institute	٣٥	٤٨٧١	١٨		١٨	44	51	1
Tourism and Hotels	٢٧	١٥٩٠	١٧		١٧	71	63	4
Total	٢٠٣	١١١٤٤	٩٨	١٠	١٠٨	300	53	3
Technological faculty in AlMahala								
Industrial institute in AlMahala	١٠٤	٤٠٣٤	٤٠	١٩	٥٩	214	57	5
commercial institute in AlMahala	٣٠	٢٤٦٥	١٦		١٦	45	53	2
Total	١٣٤	٦٤٩٩	٥٦	١٩	٧٥	259	56	4
Total of the sample	٣٣٧	١٧٦٤٣	١٥٤	٢٩	١٨٣	559	54	3

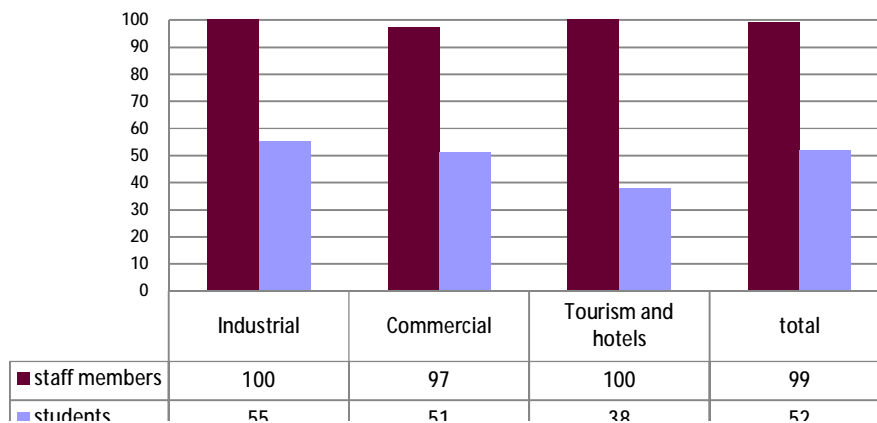
Results of the study

- Part 1: Communication with ETCP
- Part 2: The development achieved in the Technological Faculties
- Part 3: Computer Labs, Internet, and E- learning.
- Part 4: Workshops and Languages Labs
- Part 5: Concluding Remarks

Part 1: Communication with high education project

The following figure shows the knowledge extent of staff members and students about ETCP, and the clarity extent of its goals as well as the degree of interaction between it and the staff members. It is clear that staff members - in all specialties - know about this project; however only 50% of students heard about it, this students` knowledge is less among the Tourism and Hotels Institute.

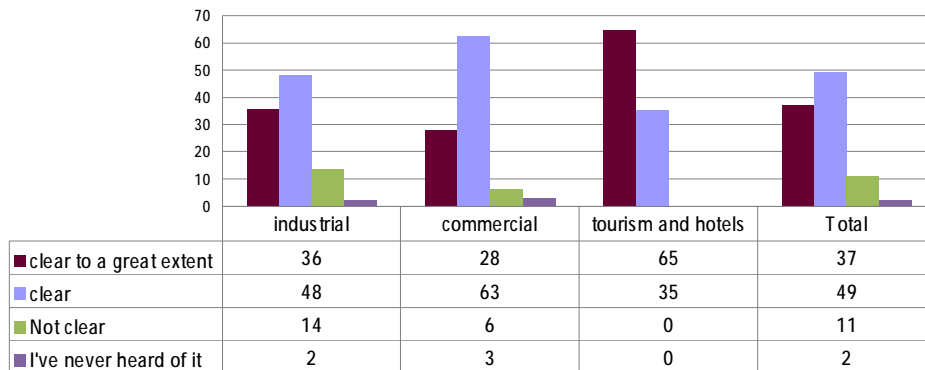
**Figure (1): The knowledge about ETCP
The staff members and students percentage according to the academic section**



Furthermore, the following figure shows the clarity degree of the project`s objectives for staff members, we can conclude that 86% consider them clear with a great or medium degree. The degree of clarity is more obvious among the staff

members in the Tourism and Hotels Institute; however, less clarity within the industrial education.

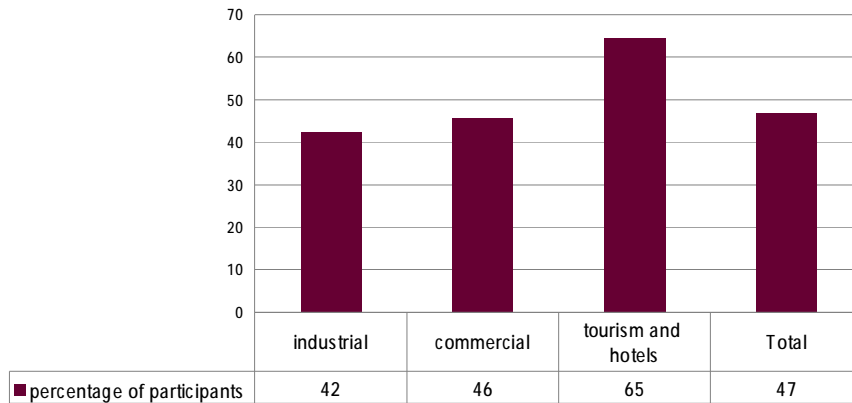
Figure (2): The clarity degree of the ETCP objectives among staff members according to specialization - Percentage distribution of staff members (%)



The main sources of information about the project are obtained through the attendance of meetings, seminars and workshops that are related to the project, as well as from the discussion with colleagues.

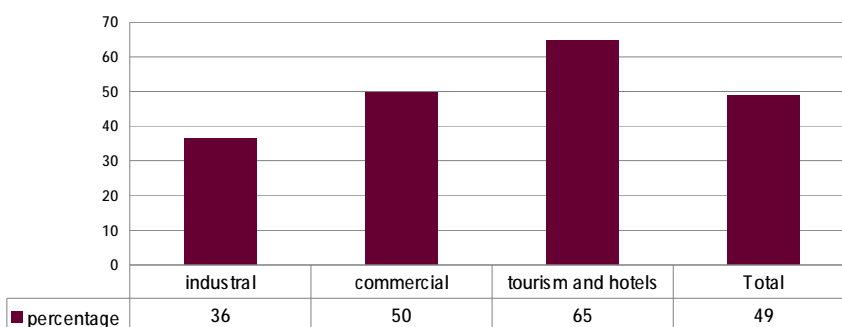
The following figure shows the staff members' percentage participating in one of the development projects at the institute. It is clear that the highest percentage is among the Tourism and Hotels Institute staff members (65%); compared to other specializations. the participation was mainly through curricula development, preparation of books or working at one of the quality programs.

Figure (3) the percentage of staff members' participation in one of the development projects according to specialization (%)



The following figure shows the staff members` percentage that got an ICDL certificate through the institute. The highest percentage was in the Tourism and Hotels Institute (65%), compared to 50% for staff members in the commercial institute and 35% in the industrial institute.

Figure (4) the staff members` percentage that got an ICDL certificate through the institute



The following table shows the numbers & percentage of staff members who passed courses in coordination with the institute related to English language or

participated in the preparation of a developed curriculum according to specialization.

Table (2) Number of staff members who have passed English courses and those who have participated in the preparation of developed curricula in the institute according to specialization

Number	Industrial		Commercial		Tourism		Total	
	English course	Developed curricula	English course	Developed curricula	English course	Developed curricula	English course	Developed curricula
١	50	15	10	6	4	9	64	30
٢	6	7	3	1	2	0	11	8
٣	1	7	0	3	0	0	1	10
٤	3	2	0	0	1	0	4	2
٥	1	3	0	2	0	0	1	5
Total	61	34	13	12	7	9	81	55
Total staff members	١٣٢		٣٤		١٧		١٨٣	
percent from total staff members	46%	26%	38%	35%	41%	53%	44%	30%

On the other hand, almost 81 staff members (44% from the total) have passed at least one English course in the last five years. In addition, 55 of the staff members (from total of 183) have participated in the preparation of a developed curriculum. Moreover, 55 teachers (30% from the total staff) participated in the preparation of a developed curriculum.

Part 2: General overview about the Development in Technological Faculties

The following table shows the percentage distribution of beneficiaries` agreement degree on statements related to the development achieved in education and learning environment in general. The staff members were asked to determine their agreement degree on the statement: “Generally, there is an improvement in the education and learning environment inside the institute”, while students were

asked to determine their agreement degree on the statement: "I'm satisfied about my study inside this institute"

Table (3) percentage distribution of beneficiaries` agreement degree on statements related to the development achieved in education and learning environment according to specialization

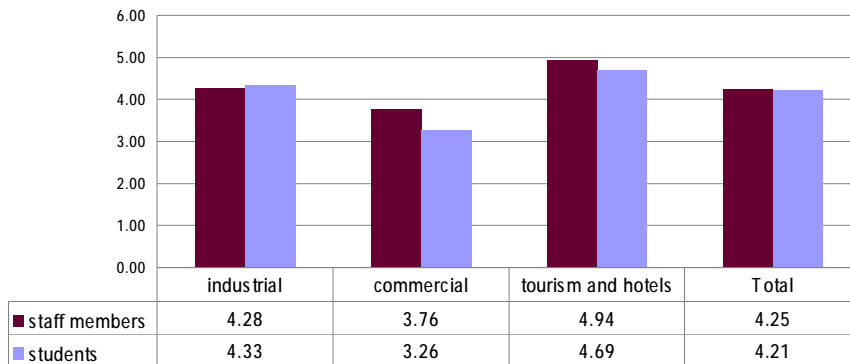
	Strongly disagree ١	٢ disagree	٣ Disagree to some extent	٤ Agree to some some extent	٥ Agree	٦ Strongly agree	Total	Number of respondents
All specialization								
Staff members	3%	14%	9%	21%	36%	17%	100%	182
Students	11%	7%	8%	23%	27%	25%	100%	٥٥٦
Industrial education								
Theoretical and practical teachers	2%	15%	6%	24%	39%	15%	100%	١٠٣
Technician		7%	21%	24%	31%	17%	100%	٢٩
Total staff	2%	13%	9%	24%	37%	15%	100%	132
students	9%	5%	9%	23%	28%	26%	100%	٣٩٨
Commercial education								
Staff members	9%	24%	9%	12%	30%	15%	100%	33
Students	24%	17%	8%	21%	18%	12%	100%	٨٧
Tourism and hotels								
Staff members		6%	6%	12%	41%	35%	100%	17
Students	6%	4%	1%	25%	31%	32%	100%	٧١

Statement for staff members/ Teaching assistants: "Generally, there is an improvement in the education and learning environment inside the institute"

Statement for students' sentence: "I'm satisfied about my study inside the institute"

The average agreement degree by staff members and students on the previous statements was calculated, in order to facilitate presentation and comparisons. The following figure shows those percentages.

Figure (5) average agreement degree by respondents on the improvement/the satisfaction in education and learning environment according to specialization Scale from 1 to 6



By applying Crosstal Wallace test, significant differences in answers were found among staff member within different specializations ($p= 0.025$), as the answers show a higher degree of improvement in the education environment within the tourism and hotels field while a lower improvement in commercial education. On the other hand, the students` answers show significant differences ($p<0.001$) among various specialties, these differences was in favor of tourism and hotels specialization while relatively lower for commercial education. It is also clear that both groups` answers are matched.

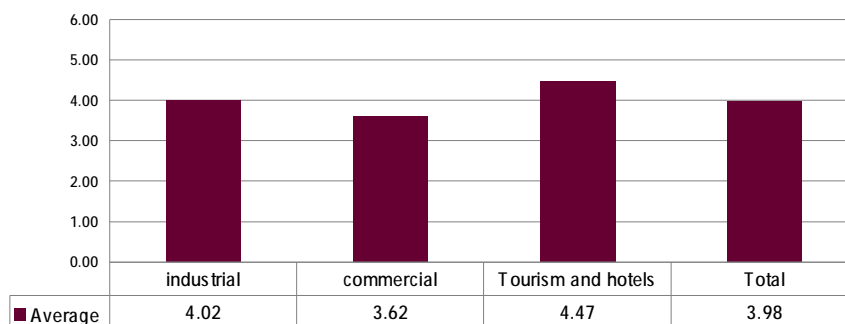
When asking the staff members in different specialties, if integrating the institutes in 8 technological faculties has improved the management level and efficiency of, the answers was as shown in the following table.

Table (4) the agreement percentage distribution by staff members about achieving positive impact of integrating the institutes in 8 technological faculties according to specialization

	Strongly disagree ١	Disagree ٢	Disagree to some extent ٣	Agree to some extent ٤	agree ٥	Strongly agree ٦	Total	Number of respondents
Industrial education	5%	12%	8%	38%	26%	11%	100%	١٢٥
Comercial	15%	15%	6%	32%	24%	9%	100%	٣٤
Tourism and Hotels			12%	29%	59%		100%	١٧
Total	6%	11%	8%	36%	28%	10%	100%	١٧٦

The following figure shows the results of calculating the average agreement degree

Figure (6) Average agreement degree by staff members on the effect of integrating the institutes in 8 technological faculties according to specialization Scale from 1 to 6



Kroskal-Wallace test shows answers similarities among staff members in different specialties regarding the agreement on achieving positive impact (in form of improving management efficiency) from integrating institutes in 8 faculties (p=0.143)

Curricula and performance development inside lectures

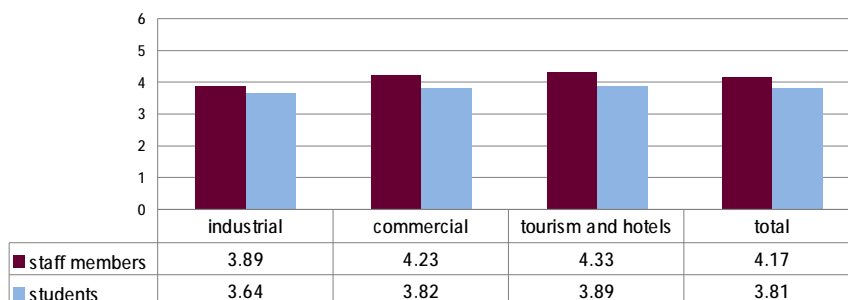
A measurement tool (index) was developed to identify the degree of success of development curricula and performance inside lectures from both staff members` and students` views. The following table shows the statements used in the index as well as the degree of validity and reliability for each group.

Table (5): Measurement of Success in performance development inside lectures and the degree of validity and reliability

The group	Number of sentences	reliability	validity
Staff members	٨	٠.٦٩	٠.٨٣
Students	٨	٠.٧٤	٠.٨٦

The following figure shows the average evaluation of the performance development achieved inside the lectures by both staff members and students according to different specialties.

Figure (7) Measurement of Curricula and performance development inside lectures: average evaluation according to specialty Scale from 1 to 6



The previous figure shows an above average evaluation degree for development level by both staff members and students, however it is more obvious among the staff members ($p < 0.001$). In addition, Kroskal-Wallace test indicated no significant differences among students in different specialty concerning the achieved development ($p = 0.6$). The tests` result shows significant difference in the

average evaluation by staff members in favor for the faculty of tourism and hotels as well as the industrial education, at 5% significance ($p=0.004$).

The following two tables show the percentage distribution for the measurement of performance development inside lectures and the average evaluation degree by both staff members and students according to specialty.

Figure (6) shows a general decrease in the average evaluation of the commercial education staff, regarding most of the statements related to the measure. The results indicates students` interest in attending and learning within both commercial learning (average evaluation of 3.24) and tourism and hotels (3.18) compared to the industrial learning (average degree of evaluation is 3.78). Moreover, there is lack & shortage in modern education facilities inside the commercial education (average evaluation= 3.24) compared to both industrial education and tourism and hotels (3.76 and 3.78). It was also mentioned that there is no sufficient courses & curricula development – match labor market needs - in the commercial education (3.25) compared to the industrial education and tourism (4.04 and 4.76).

Table (7) shows the students are not satisfied about the text book clarity of in commercial education (3.12) and industrial (3.38) compared to a higher degree of satisfaction among students in tourism and hotels (4.10). Regarding students` boring during lectures, it was more obvious among commercial education students, followed by the students of industrial education, while with less degree among students of tourism and hotels.

Table (6): percentage distribution & average evaluation degrees for the success in development performance in lectures and the related statements - Staff members` view - Scale from 1 to 6

Specialization	1 Strongly disagree	2 disagree	3 Disagree to	4 Agree to	5 agree	6 Strongly	Total	Number of respondants	Average degree of acceptance
Students really care and are serious in their attendance and learning									
commercial	12%	18%	15%	47%	9%		100%	34	3.24
Industrial	2%	15%	18%	33%	29%	2%	100%	131	3.78
Tourism & Hotels	12%	12%	35%	35%		6%	100%	17	3.18
total	5%	15%	19%	36%	23%	2%	100%	182	3.62
the institute contains than recent and adequate education means that can be used adequately in explanation (computers, presentation media.....)									
commercial	18%	6%	21%	42%	12%		100%	33	3.24
Industrial	7%	16%	16%	23%	30%	9%	100%	129	3.78
Tourism & Hotels		6%	41%	24%	29%		100%	17	3.76
total	8%	13%	19%	26%	27%	6%	100%	179	3.68
I cares about using the recent education media (computers – presentation media)									
commercial	12%	18%		35%	27%	9%	100%	34	3.74
Industrial	3%	9%	11%	35%	32%	10%	100%	126	4.14
Tourism & Hotels		6%	29%	41%	24%		100%	17	3.82
total	5%	10%	11%	36%	30%	9%	100%	177	4.03
I cares about using new and different methods that can aid in learning									
commercial	3%	3%		29%	44%	21%	100%	34	4.71
Industrial	1%	1%	6%	25%	45%	23%	100%	128	4.81
Tourism & Hotels			6%	41%	47%	6%	100%	17	4.53
total	1%	1%	5%	27%	45%	21%	100%	179	4.77
number of staff is adequate compared to the number of students									
commercial	6%	9%	3%	32%	41%	9%	100%	34	4.21
Industrial	3%	6%	2%	20%	46%	22%	100%	130	4.67
Tourism & Hotels			12%	6%	29%	53%	100%	17	5.24
total	3%	6%	3%	21%	44%	23%	100%	181	4.64
Generally there is a satisfied degree of abidance from the staff inside the institute									
commercial	3%	3%	6%	27%	42%	18%	100%	33	4.58
Industrial	5%	2%	5%	18%	44%	24%	100%	131	4.67
Tourism & Hotels				12%	59%	29%	100%	17	5.18
total	4%	2%	5%	19%	45%	24%	100%	181	4.7
the programs and the curricula are developed to the extent that leads to the graduation of technical cadres in the specialization									
commercial	12%	21%	6%	30%	24%	6%	100%	33	3.52
Industrial	6%	10%	11%	32%	33%	9%	100%	126	4.04
Tourism & Hotels		6%	18%	6%	35%	35%	100%	17	4.76
total	6%	11%	11%	29%	32%	11%	100%	176	4.01
there is an improvement in the level and the content of the study book									
commercial	3%	29%	6%	21%	35%	6%	100%	34	3.74
Industrial	9%	14%	14%	37%	23%	4%	100%	126	3.63
Tourism & Hotels		18%	6%	18%	59%		100%	17	4.18
total	7%	18%	11%	32%	29%	4%	100%	177	3.7
success measure in developing the performance at the lectures									
commercial	3%	13%	59%	25%		100%	3%	32	3.89
Industrial	1%	8%	42%	46%	3%	100%	1%	121	4.23
Tourism & Hotels			65%	35%		100%		17	4.33
total	1%	8%	48%	41%	2%	100%	1%	170	4.17

**Table (7): percentage distribution & average evaluation degrees for the success in development of performance in lectures and the related statements - Students` view
Scale from 1 to 6**

Specialization	1 Strongly disagree	٢ disagree	٣ Disagree to some extent	٤ - Agree to some some extent	٥ agree	٦ Strongly agree	Total	Number of respondents	Average degree of acceptance
The lecture place is suitable									
commercial	21%	15%	9%	28%	23%	5%	100%	88	3.32
Industrial	14%	16%	15%	31%	21%	4%	100%	394	3.39
Tourism & Hotels	18%	14%	9%	35%	24%		100%	71	3.32
total	16%	15%	13%	31%	22%	3%	100%	553	3.37
Generally the teacher performance is good									
commercial		4%	18%	48%	26%	4%	100%	73	4.08
Industrial	6%	7%	11%	30%	33%	13%	100%	377	4.15
Tourism & Hotels	7%	10%	17%	16%	38%	12%	100%	69	4.01
total	5%	7%	13%	31%	32%	11%	100%	519	4.12
The lectures are boring (adverse measure)									
commercial	12%	16%	14%	29%	23%	7%	100%	87	3.56
Industrial	15%	20%	13%	33%	12%	7%	100%	398	3.29
Tourism & Hotels	18%	30%	16%	24%	10%	3%	100%	71	2.86
total	15%	20%	13%	31%	14%	7%	100%	556	٣.٢٨
the lecturers are abide by the time of starting and ending of the lectures									
commercial	6%	15%	13%	33%	24%	9%	100%	85	3.81
Industrial	15%	13%	11%	25%	23%	13%	100%	398	3.67
Tourism & Hotels	11%	20%	16%	30%	16%	7%	100%	70	3.4
total	13%	14%	12%	27%	22%	12%	100%	553	3.66
٥ the lecturers offer useful information at all times during the lecture time									
commercial	1%	9%	7%	34%	37%	12%	100%	85	4.31
Industrial	7%	8%	8%	30%	30%	18%	100%	398	4.22
Tourism & Hotels	9%	4%	13%	26%	36%	13%	100%	70	4.14
total	6%	8%	9%	30%	32%	17%	100%	553	4.22
the lecturers determined the objectives and the contents of the curriculum at the beginning of the semester									
commercial	6%	9%	1%	21%	49%	13%	100%	85	4.38
Industrial	9%	8%	10%	17%	31%	25%	100%	392	4.29
Tourism & Hotels	13%	9%	11%	9%	39%	20%	100%	71	4.13
total	9%	8%	9%	17%	35%	23%	100%	548	4.28
the study book is useful and clear									
commercial	25%	16%	11%	24%	17%	7%	100%	88	3.12
Industrial	19%	13%	13%	31%	16%	9%	100%	399	3.38
Tourism & Hotels	9%	9%	7%	26%	38%	12%	100%	69	4.1
total	18%	13%	12%	29%	19%	9%	100%	556	3.43
the curriculas and the ways of study helped in improving some of my mental and vocational and practical skills (like the analytical ,problem solving and creativity skills)									
commercial	15%	20%	8%	30%	20%	8%	100%	76	3.45
Industrial	15%	10%	13%	26%	20%	16%	100%	388	3.76
Tourism & Hotels	7%	16%	11%	31%	27%	9%	100%	71	3.8
total	14%	12%	12%	27%	21%	14%	100%	535	3.72
success measure in developing the performance at the lectures									
commercial		5%	43%	31%	21%		100%	65	3.64
Industrial		5%	27%	41%	25%	2%	100%	365	3.٨2
Tourism & Hotels	١%	3%	28%	42%	26%	١%	100%	67	3.٨٩
total		5%	29%	40%	25%	2%	100%	497	3.٨1

Laboratory development (computers- internet and languages)

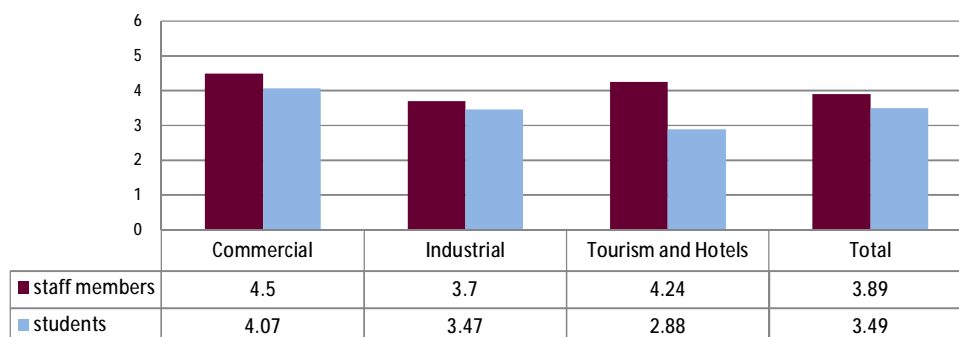
An index was developed to measure the degree of success in preparing suitable labs from the point of view of staff members and students. The following table shows the statements used for measurement as well as the degree of reliability and validity for each group.

Table (8) measurement of the success in performance development inside lectures and the degree of honesty and stability

The group	Number of sentences	reliability	Validity
Staff members	۲	۰.۸	۰.۸۹
students	۲	۰.۷۱۴	۰.۸۵

The following table shows the development measurement of computer, internet and languages labs within the institutes -according to specialization- for both staff members and students. It has appeared an above average degree of development from the staff and students views in commercial education (no significant difference $p = 0.104$). While an average degree was mentioned by both groups within industrial education, as 62% of staff members ranged between (agree to an extent and totally agree) vise a vie 58% among students, accompanied by an average evaluation of 3.7 for staff members and 3.47 for students (no significant differences $p=0.14$)

Figure (8) Laboratory development measurement - average evaluation degree by staff members and students according to specialty- Scale from 1 to 6



Regarding the Institute of Tourism and Hotels, there are opinion differences between students and staff members. The staff members mentioned an above average development degree in the labs (average degree of evaluation=4.24). However, no development achieved from students` view (average degree of evaluation=2.88). (Mann-Whetny test indicates significant differences at 5% significance, as p=0.001)

**Table (9): percentage distribution & average evaluation degrees for the success in Laboratory development and the related statements - (Staff members` view)
Scale from 1 to 6**

Specialization	1 Strongly disagree	2 disagree	3 Disagree to some extent	4 Agree to some extent	5 agree	6 Strongly agree	Total	Number of respondants	Average degree of acceptance
Labs of computer/language/internet at the institute adequately fit the student needs									
commercial	7%	3%	10%	36%	29%	16%	100%	31	4.26
Industrial	9%	20%	18%	25%	18%	10%	100%	127	3.55
Tourism & Hotels	6%	6%		29%	53%	6%	100%	17	4.35
Total	8%	15%	15%	27%	23%	11%	100%	175	3.75
I`m satisfied about the level of prepration of the labs									
commercial		3%	3%	33%	37%	23%	100%	30	4.73
Industrial	12%	14%	10%	25%	26%	14%	100%	129	3.81
Tourism & Hotels		18%		35%	47%		100%	17	4.12
Total	9%	13%	8%	27%	30%	14%	100%	176	3.99
Measure of success in development of labs									
commercial		3%	10%	28%	35%	24%	100%	29	4.5
Industrial	4%	15%	17%	27%	22%	15%	100%	124	3.7
Tourism & Hotels		12%		29%	59%		100%	17	4.24
Total	3%	13%	14%	28%	28%	15%	100%	170	3.89

**Table (9): percentage distribution & average evaluation degrees for the success in Laboratory development and the related statements - (Student` view)
Scale from 1 to 6**

Specialization	1 Strongly disagree	2 disagree	3 Disagree to some extent	4 Agree to some	5 agree	6 Strongly agree	Total	Number of respondants	Average degree of acceptanc e
Labs of computer/language/internet at the institute adequately fit the student needs									
commercial	11%	11%	15%	21%	32	11%	100	85	3.85
Industrial	20%	16%	12%	22%	20	9%	100	378	3.33
Tourism & Hotels	36%	22%	6%	17%	17	1%	100	69	2.62
total	21%	16%	12%	21%	21	9%	100	532	3.32
I`m satisfied about the level of preparation of the labs									
commercial	2%	7%	14%	22%	42	13%	100	86	4.33
Industrial	14%	18%	10%	18%	27	13%	100	391	3.64
Tourism & Hotels	24%	18%	11%	16%	25	6%	100	71	3.17
total	14%	16%	10%	19%	29	12%	100	548	3.69
Measure of success in development of labs									
commercial		10%	15%	28%	32	16%	100	82	4.07
industrial	8%	15%	24%	18%	23	12%	100	371	3.47
Tourism and	20%	23%	22%	9%	22	4%	100	69	2.88
Total	9%	15%	22%	19%	24	12%	100	522	3.49

Development of Internet service

A measurement tool has been developed to identify the success degree in the Internet service from the staff members` and students` viewpoints. The following table shows the number of statements used in the measurement as well as the degree of validity and reliability for each group.

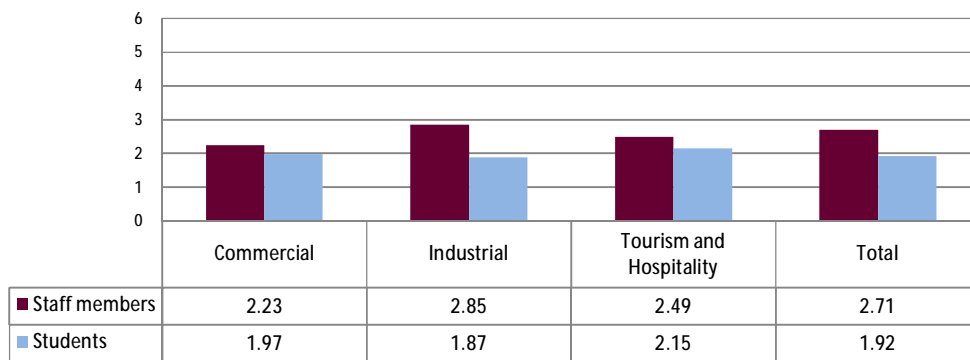
Table (11): The measurement of success in the Internet service development and the degree of validity and reliability

Group	number of statements	reliability	Validity
staff members	3	.938	0.97
students	2	.828	0.91

The following figure presents the average evaluation degree by the staff members and students, according to the success measurement of the development in

Internet-related services within the technological institutes, and it indicates that development results did not reached the beneficiaries in this context (consensus among all staff members and students in all specialties)

Figure (9): Measurement of Internet service development, according to specialization- Scale from 1 to 6



The following tables show percentage distribution & average evaluation degrees for the success in the Internet service development from the staff members` and the students' views according to specialty.

**Table (12): percentage distribution & average evaluation degrees for the success in Internet service development and the related statements - (Staff members` view)
Scale from 1 to 6**

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
I can easily access the Internet from within the Institute									
Commercial	35%	27%	19%	12%	8%		100%	26	2.31
Industrial	25%	18%	11%	21%	17%	9%	100%	120	3.14
Tourism and Hotels	12%	24%	59%	6%			100%	17	2.59
Total	25%	20%	17%	18%	14%	7%	100%	163	2.95
I am satisfied with the level of internet service within the institute (in terms of Downloading rate-the level of reliability of service - etc)									
Commercial	33%	23%	23%	17%	3%		100%	30	2.33
Industrial	28%	16%	14%	25%	11%	6%	100%	119	2.93
Tourism and Hotels	6%	24%	65%	6%			100%	17	2.71
Total	27%	18%	21%	22%	8%	4%	100%	166	2.8
I rely mainly on the Internet within the Institute									
Commercial	39%	32%	19%	3%	7%		100%	31	2.06
Industrial	33%	23%	16%	20%	7%	2%	100%	120	2.49
Tourism and Hotels	12%	59%	29%				100%	17	2.18
Total	32%	28%	18%	15%	6%	1%	100%	168	2.38
Measure of success in the development of Internet service									
Commercial	31%	35%	23%	4%	8%		100%	26	2.23
Industrial	27%	16%	18%	21%	14%	3%	100%	117	2.85
Tourism and Hotels	12%	24%	65%				100%	17	2.49
Total	26%	20%	24%	16%	11%	3%	100%	160	2.71

**Table (13): percentage distribution & average evaluation degrees for the success in Internet service development and the related statements - (Students` view)
Scale from 1 to 6**

Specialization	Do Not Agree At All	Do Not Agree	Do Not Agree to some extent	Agree to some extent	Agree	Totally Agree	Total	No. of Respondents	average ratings
I can easily access the Internet from within the Institute									
Commercial	56%	13%	9%	12%	9%	2%	100	68	2.09
Industrial	61%	20%	6%	8%	3%	2%	100	370	1.79
Tourism and Hotels	57%	16%	8%	10%	9%		100 %	67	1.99
Total	60%	19%	6%	9%	5%	2%	100	505	1.86
I am satisfied with the level of internet service within the institute (in terms of Downloading rate-the level of reliability of service - etc)									
Commercial	65%	7%	7%	12%	5%	4%	100	74	1.99
Industrial	56%	21%	6%	10%	3%	3%	100	359	1.95
Tourism and Hotels	55%	15%	3%	13%	7%	8%	100 %	62	2.26
Total	57%	18%	6%	11%	4%	4%	100	495	1.99
Measure of success in the development of Internet service									
Commercial	56%	15%	11%	8%	6%	5%	100	66	1.97
Industrial	51%	25%	9%	10%	3%	2%	100	356	1.87
Tourism and Hotels	48%	15%	13%	11%	11%	2%	100 %	62	2.15
Total	51%	22%	10%	10%	5%	3%	100	484	1.92

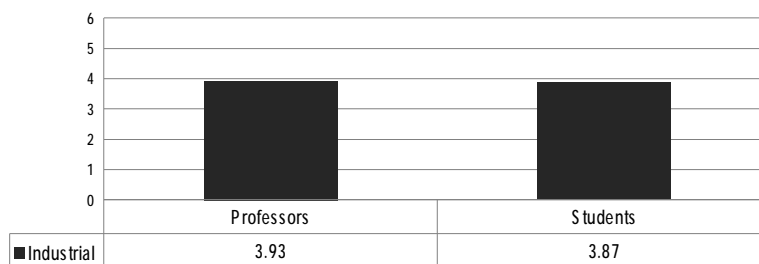
A measurement tool has been developed to identify the success degree in the Internet service within industrial institutes, from the staff members` and students` viewpoints. The following table shows the number of statements used in the measurement as well as the degree of validity and reliability for each group.

Table (14): The measurement of success in the Internet service development and the degree of validity and reliability

Group	number of statements	reliability	Validity
staff members	5	0.819	0.9
students	5	0.77	0.88

The following figure presents the average evaluation degree by the staff members and students, regarding workshops development within the industrial institutes, and it indicates an above average success development (3.93 to 3.87 for the staff members and students, respectively), as 72% of the staff members and 72% of the students mentioned to the sufficient availability of workshops for students. Moreover, 78% of the staff members compared to 70% of the students mentioned their satisfaction with the equipment level.

Figure (10): Measurement of workshops development within industrial institutes Scale from 1 to 6



The following table shows the percentage distribution & average evaluation degrees for the success in **workshops** development and the related statements within **industrial institutes** from the viewpoint of both members and students and students.

**Table (15): Table (12): percentage distribution & average evaluation degrees for the success in workshops development and the related statements within industrial institutes - (Staff members` and students` views)
Scale from 1 to 6**

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
Workshops are available in adequate proportion to the number of students									
Staff members	6%	12%	10%	34%	29%	9%	100%	125	3.94
Students	11%	9%	8%	19%	31%	22%	100%	392	4.15
I am satisfied with the workshop equipments									
Staff members	6%	10%	7%	32%	33%	13%	100%	125	4.15
Students	13%	11%	6%	24%	30%	16%	100%	390	3.94
I am satisfied with the level of technical support by professionals in labs and workshops									
Staff members	7%	16%	16%	32%	25%	5%	100%	122	3.66
Students	15%	12%	8%	21%	31%	14%	100%	384	3.8
The level of maintenance available to the workshops and equipment is satisfactory									
Staff members	9%	20%	15%	33%	18%	6%	100%	122	3.48
Students	15%	17%	12%	28%	18%	9%	100%	378	3.44
There is a high degree of safety in dealing with the workshop									
Staff members	5%	5%	13%	26%	38%	13%	100%	123	4.27
Students	8%	5%	7%	26%	35%	19%	100%	378	4.31
Measure of success in the development of workshops									
Staff members	2%	9%	18%	42%	25%	4%	100%	114	3.93
Students	3%	9%	19%	32%	28%	9%	100%	361	3.87

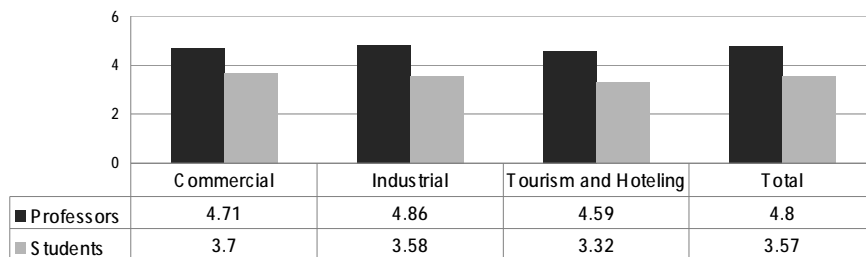
Methods of assessment and examinations

In order to know the success extent of staff members` educational sessions, the staff members were asked to identify their agreement degree on the statement "I'm extremely keen on using and applying new and various methods of students' assessment". Also, the students were asked to identify their agreement degree on the statement "I need only to memorize in order to get high scores in the exam" noting that the measurement is reversed for students.

The following figure shows the average evaluation for each statement. The

answers indicated that staff members are keen on applying a variety of methods to assess the student; also the students` answers indicated that they do not rely on memorizing in order to get a good result.

**Figure (11): The average evaluation of applying various assessment methods according to specialty - (Staff members and students perspectives)
Scale from 1 to 6**



**Table (16) percentage distribution & average evaluation degrees for the evaluation statements regarding the application of various assessment methods
Scale from 1 to 6**

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
Professor: I use new methods to assess the level of students									
Commercial		6%	3%	27%	44%	21%	100%	34	4.71
Industrial		4%	6%	14%	51%	25%	100%	126	4.86
Tourism and Hoteling			12%	18%	71%		100%	17	4.59
Total		4%	6%	17%	51%	22%	100%	177	4.8
Student: I only have to memorize in order to get high scores in the exam (a reversed scale)									
Commercial	9%	21%	19%	12%	21%	19%	100%	86	3.7
Industrial	14%	16%	24%	12%	11%	23%	100%	395	3.58
Tourism and Hoteling	10%	30%	20%	13%	16%	13%	100%	71	3.32
Total	13%	19%	23%	12%	13%	21%	100%	552	3.57

Section III: Communication with the surrounding community associated with the field of specialization

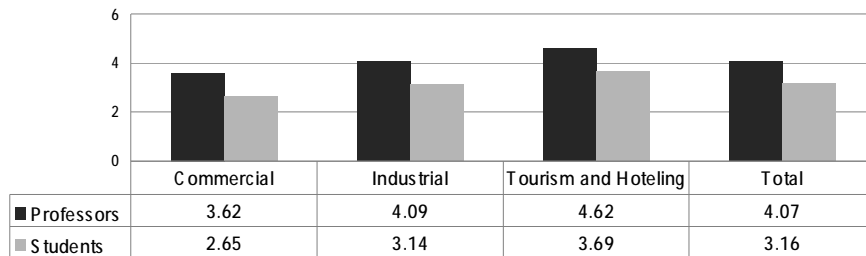
A measurement tool has been developed to identify the success degree in the communication with the surrounding community, from the standpoint of the staff members and students. The following table shows the number of statements used in the measurement and the degree of validity and reliability for each group.

Table (17)
The measurement of success in communicating with the surrounding community and the degree of validity and reliability

Group	number of statements	reliability	validity
staff members	5	0.842	0.92
students	4	0.603	0.78

The following figure shows the average evaluation degree - by staff members and students - of success in communicating with the surrounding community. It shows a higher degree of success within the Institute of Tourism and Hotels from the staff members' viewpoint (4.62), and (3.69) from the students' viewpoint and this is achieved through coordination with the institutions associated with the area of specialization to create practical training opportunities for students. This is in addition to improving the graduate's qualifications to match the labor market requirements, as well as improving the graduate's image in front of the society and the related institutions. It also shows a relative decline in the commercial education success, concerning the adequate communication with the surrounding community. Moreover, students have mentioned the lower society's perception towards the graduate as well as the lack of adequate appreciation.

Figure (12)
The measurement of success in communicating with the surrounding community
Scale from 1 to 6



The following figures show the percentage distribution & average evaluation degrees for the success in communicating with the surrounding community, through 5 different statements.

Table (17): The percentage distribution & average evaluation degrees for the success in communicating with the surrounding community and the related statements (Staff members` view) - Scale from 1 to 6

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
Institutions associated with the area of specialization recognizes and commends the good level of Institute graduate									
Commercial	3%	10%	17%	38%	24%	7%	100%	29	3.9
Industrial	4%	9%	14%	39%	24%	10%	100%	127	3.99
Tourism and Hotels		12%		12%	77%		100%	17	4.53
Total	4%	10%	13%	36%	29%	9%	100%	173	4.03
Society appreciates the institute graduate better now compared to prior periods									
Commercial	6%	21%	15%	24%	32%	3%	100%	34	3.65
Industrial	4%	8%	9%	29%	42%	9%	100%	130	4.24
Tourism and Hotels		13%		6%	75%	6%	100%	16	4.63
Total	4%	11%	9%	26%	43%	8%	100%	180	4.16
There is improvement in the level of the Institute graduate in terms of specialization skills and capabilities acquired in line with the requirements of the labor market									
Commercial	12%	21%	6%	35%	21%	6%	100%	34	3.5
Industrial	2%	8%	11%	43%	27%	9%	100%	129	4.11
Tourism and Hotels			6%	18%	77%		100%	17	4.71
Total	4%	9%	9%	39%	31%	7%	100%	180	4.05
Institute Department succeeded in providing Summer training opportunities to their student									
Commercial	19%	41%	6%	13%	9%	13%	100%	32	2.91
Industrial	6%	14%	10%	18%	27%	25%	100%	121	4.21
Tourism and Hotels	6%		6%	6%	65%	18%	100%	17	4.76
Total	8%	18%	9%	16%	28%	22%	100%	170	4.02
organs of the society cooperate for the provision of adequate training opportunities for students									
Commercial	9%	28%	25%	19%	9%	9%	100%	32	3.19
Industrial	6%	10%	16%	31%	27%	9%	100%	129	3.91
Tourism and Hotels	6%			24%	65%	6%	100%	17	4.59
Total	7%	12%	16%	28%	28%	9%	100%	178	3.84
Measure of success in networking with the external community									
Commercial	8%	4%	31%	35%	15%	8%	100%	26	3.62
Industrial	1%	6%	21%	37%	28%	8%	100%	116	4.09
Tourism and Hotels		6%	6%		88%		100%	16	4.62
Total	2%	6%	21%	33%	32%	7%	100%	158	4.07

Table (18)
The percentage distribution & average evaluation degrees for the success in communicating with the surrounding community and the related statements (Students` view) - Scale from 1 to 6

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
The society appreciates the graduate in a good way									
Commercial	32%	37%	8%	11%	12%	1%	100%	85	2.38
Industrial	39%	23%	20%	15%	4%	0%	100%	387	2.24
Tourism and Hotels	22%	15%	19%	26%	15%	4%	100%	69	3.1
Total	35%	24%	18%	16%	6%	1%	100%	541	2.37
We learn in the institute the Skills and knowledge in line with the labor market needs									
Commercial	4%	10%	12%	29%	36%	9%	100%	77	4.1
Industrial	8%	8%	7%	25%	31%	21%	100%	386	4.25
Tourism and Hotels	6%	6%	4%	26%	36%	23%	100%	70	4.49
Total	7%	8%	7%	26%	33%	19%	100%	533	4.26
Institute Department succeeded in providing Summer training opportunities to their student									
Commercial	40%	37%	7%	7%	10%		100%	62	2.08
Industrial	27%	14%	10%	9%	20%	20%	100%	354	3.42
Tourism and Hotels	23%	12%	3%	22%	22%	19%	100%	65	3.62
Total	28%	17%	9%	10%	19%	18%	100%	481	3.28
I am optimistic with regard to access to suitable employment after graduation									
Commercial	48%	15%	1%	12%	14%	10%	100%	81	2.58
Industrial	42%	13%	8%	16%	9%	12%	100%	382	2.74
Tourism and Hotels	21%	9%	7%	27%	23%	13%	100%	70	3.6
Total	40%	13%	7%	17%	12%	12%	100%	533	2.83
Measure of success in networking with the external community									
Commercial	2%	36%	44%	14%	4%		100%	50	2.65
Industrial	6%	24%	25%	30%	13%	1%	100%	319	3.14
Tourism and Hotels	3%	7%	26%	25%	39%		100%	61	3.69
Total	5%	23%	28%	28%	16%	1%	100%	430	3.16

Section Four: Level of Infrastructure

By asking the staff members and students about their satisfaction degree with the infrastructure in the Institute, a clear dissatisfaction appeared in general among both groups within the technological institute of El-Materia, as 61% of staff members indicated that they are not satisfied with the level of infrastructure compared to 71% of the students, as shown in the next table.

**Table (19): The percentage distribution & average evaluation degrees with the infrastructure level - (Staff members` and students` views)
Scale from 1 to 6**

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
Mataria									
Staff members	20%	24%	17%	26%	12%	1%	100%	107	2.9
Students	34%	20%	17%	16%	12%	2%	100%	296	2.56
Mahla									
Staff members		4%	8%	23%	43%	22%	100%	74	4.7
Students	14%	12%	12%	21%	33%	8%	100%	252	3.71

Section Five: Electronic Education

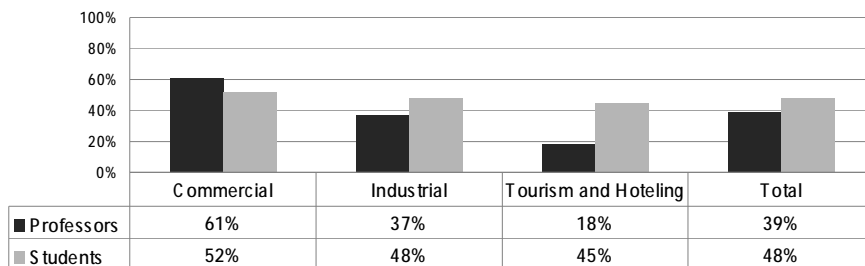
With regard to the dissemination of electronic learning, there was an agreement to expand this experience by staff members as shown in the following table.

Table (20): Percentage distribution & average agreement degree on the expansion of E-learning (staff members` views) - Scale from 1 to 6

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
Staff members									
Commercial	6%	9%	15%	27%	24%	18%	100	33	4.09
Industrial	8%	14%	11%	23%	26%	18%	100	125	3.97
Tourism and Hotels		12%	35%	18%	18%	18%	100%	17	3.94
Total	7%	13%	14%	23%	25%	18%	100	175	3.99

By asking the staff members if they prefer teaching an electronic form book compared with the traditional book, the answers showed a high degree of support among staff members in commercial education (61%) while a lower support in the industrial education (37%), and even a low percentage in the tourism and hotels (18%). As for students, 52% in commercial education reported their preference to study an electronic book, while 48% in the industrial education and 45% in Tourism and Hotels.

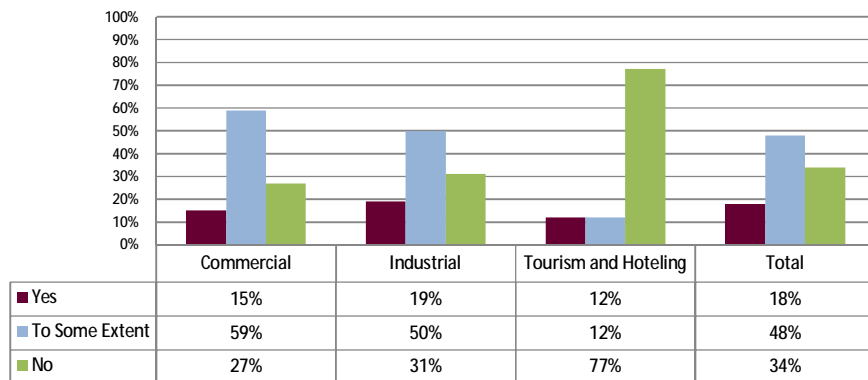
Figure (13): The percentage of staff members and students who prefer teaching an electronic book than the traditional one (%)



The following figure shows the percentage of staff members who can deal easily with the electronic book according to the specialty. It is clear that the highest percentage of Tourism and hotels staff members, can not deal with the electronic book (77%), followed by 31% among Industrial education staff members, whereas

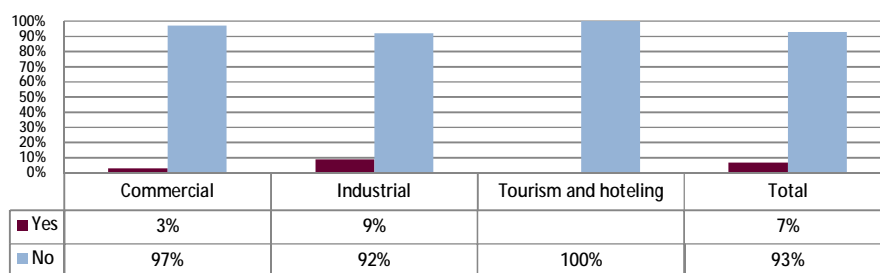
only 27 % of commercial education staff members can not deal smoothly with the electronic book.

Figure (14): The percentage of staff members who can deal smoothly with the electronic book according to the specialty%



The following figure shows the percentage of staff members who attended e-learning sessions. A low percentage has appeared among the industrial education staff members (9%), and 3% in commercial education.

Figure (15): The percentage of staff members who attended e-learning training courses according to the specialty%



Section six: the usage pattern of computer labs and Internet access to staff members and students

The following four tables show students and staff members' usage pattern of internet and computer labs inside and outside the Institute.

Table (21) shows that about 25% of staff members use the computer labs outside the Institute on daily or weekly basis, while they do not use or rarely use the laboratories within the Institute.

While it is clear from table (22) that about 36% of the staff access the Internet on a daily or weekly basis, and that they do not access the internet or rarely access it within the Institute.

Table (21): The staff members` usage pattern of computer labs inside and outside the Institute - Percentage of the total

Pattern of use of the computer laboratory outside the university (%)								
Pattern of use of the computer laboratory within the Institute (%)		Every day	Every week	Every two weeks	Every month	Rarely	No Use	Total
	Every day	12%	4%	1%		1%	3%	21%
	Every week	17%	1%	1%	1%	2%	4%	26%
	Every two weeks	2%			1%		1%	3%
	Every month	2%					1%	3%
	Rarely	8%	3%	1%	1%	4%		18%
	No Use	6%	7%	2%	1%	3%	13%	31%
	Total	47%	16%	3%	3%	10%	21%	100%

Table (22): The staff members' access pattern of computer labs inside and outside the Institute - Percentage of the total

Pattern of access of the computer laboratory outside the university (%)								
Pattern of access of the computer laboratory within the Institute (%)		Every day	Every week	Every two weeks	Every month	Rarely	No Use	Total
	Every day	2%	1%			1%	1%	5%
	Every week	5%	1%			1%		6%
	Every two weeks	5%	2%	1%				7%
	Every month	1%	2%					3%
	Rarely	5%	1%	2%	1%	5%	1%	14%
	No Use	19%	11%	6%	5%	6%	18%	65%
	Total	36%	18%	9%	6%	12%	20%	100%

Table (22): The students' usage pattern of computer labs inside and outside the Institute Percentage of the total

Pattern of use of the computer laboratory outside the university (%)								
Pattern of use of the computer laboratory within the Institute (%)		Every day	Every week	Every two weeks	Every month	Rarely	No Use	Total
	Every day	2%	0%			0%	1%	3%
	Every week	20%	5%	2%	2%	13%	25%	65%
	Every two weeks		0%			0%	1%	1%
	Every month	0%	0%				1%	1%
	Rarely	4%	3%	1%	1%	3%	4%	16%
	No Use	4%	1%	1%	1%	2%	5%	14%
	Total	29%	9%	4%	3%	18%	36%	100%

Table (22): The students' access pattern of computer labs inside and outside the Institute Percentage of the total

Pattern of access to the computer laboratory outside the university (%)									
Pattern of access of the computer laboratory within the Institute (%)		Every day	Every week	Every two weeks	Every month	Rarely	No Use	Total	
	Every day	1%	0%	0%				0%	2%
	Every week	2%	1%	1%	0%	1%	1%	6%	
	Every two weeks	0%		0%	0%		0%	1%	
	Every month			0%		0%		0%	
	Rarely	4%	1%	0%		3%	3%	10%	
	No Use	19%	7%	2%	3%	12%	38%	80%	
	Total	26%	8%	4%	4%	16%	43%	100%	

With regard to student, results indicated (Table 23) that the students mainly use the computer labs inside the institutes, while 31% of them access the site daily or weekly from outside the Institute, they rarely or do not access the website from inside the Institute. Also, it should be noted that 56% of them do not handle or rarely deal with the Internet in general.

Section Seven: Faculty members' acceptance for the project of technological colleges' development

The following table shows the agreement degree of staff members on some statements related to the development project. The answers showed the an optimism towards the development project ability to achieve positive results, regarding qualifying graduates to increase his competition in the labor market, as well as achieving satisfactory image of the Technological Institute.

Table (25): The percentage distribution & average evaluation degrees for some statements related to staff members` viewpoint concerning the development project Scale from 1 to 6

Specialization	Do Not Agree At All 1	Do Not Agree 2	Do Not Agree to some extent 3	Agree to some extent 4	Agree 5	Totally Agree 6	Total	No. of Respondents	average ratings
I believe that the development project will lead to better qualifications of graduates enhancing the chance of competition in the labor market									
Commercial	3%	12%	6%	32%	35%	12%	100%	34	4.21
Industrial	3%	2%	9%	35%	34%	18%	100%	129	4.49
Tourism and Hotels		6%		18%	71%	6%	100%	17	4.71
Total	3%	4%	7%	33%	38%	16%	100%	180	4.46
I believe that the development project will succeed in achieving satisfactory picture of the Institute in the									
Commercial		12%	3%	42%	30%	12%	100%	33	4.27
Industrial	2%	2%	7%	25%	42%	21%	100%	130	4.65
Tourism and Hotels		6%	6%	24%	59%	6%	100%	17	4.53
Total	2%	4%	6%	28%	42%	18%	100%	180	4.57

Conclusion

Here are summary of the main conclusion points of the report:

- most staff members know about ETCP project, as opposed to a large proportion of students up to 50% who do not know about the project; which requires greater communication and publicity to familiarize students with the project and its objectives.
- As indicated by both staff members and students, there is a significant development in the divisions of the industrial and tourism education, while the answers pointed to the existence of a lower degree of development in the commercial education, which requires greater attention to development within the section.
- The staff members' responses showed that integrating of technological institutes into 8 colleges led to a significant improvement in the level and efficiency of management, although this effect revealed a lower degree within commercial education staff members.
- The answers assured the achievement of a medium degree of development with respect to computer and Internet labs, language and the development of workshops for the Industrial education, while there was a low degree of development with regard to the development of Internet service for both staff members and students, and it is clearly shown that the students and staff members do not have access to the Internet inside Institutes.
- The answers of staff members indicated the achievement of a good degree of development with regard to the success of the project to achieve connectivity

with the outside community through the coordination with related bodies to provide specialized job training opportunities for students and better qualifying in line with the labor market requirements, although this appeared less successful in commercial education section in particular, and among students in general.

- With regard to e-learning, there are a higher degree of supporting generalization of E-book experience among commercial education staff members compared to industrial and tourism education. As for the students, there is a medium-degree of support for the study of the E- book among different institutes. It is also clear that there is a need to raise awareness and publicize the benefits of E-learning among the faculty staff, where there are a low proportion of staff members who attended training courses related to this matter.
- Finally, there exists a good degree of acceptance of the project by staff members within all sections, as well as optimism to achieve good results in reaching satisfactory results through the project development.