

The Attitudes of Instructors and Faculty Members about the Quality of Technical Education Programs in Community Colleges in Jordan

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Abstract: Problem statement: This study aimed to answer the question: What are the attitudes of the members of the study towards the technical education programs in the university colleges in accordance with sex, type of work, years of experience and scientific qualification in Jordan? **Approach:** The study sample consisted of 179 individuals (100 males and 79 females). A performance average of the sample members of the study was employed depending on the quality measure of the technical education in Jordan, and consisted of 62 paragraphs in 2009. The performance averages of the study members were extracted in the scale paragraphs depending on gender, type of college, type of work, scientific qualification and years of experience. A t-test was also carried out to measure sex variables, type of college and type of work. A variance analysis of average performance was made on the scientific qualification variables and years of experience. **Results:** The result of the differences in average performance regarding type of college was an indicator on all aspects and on the scale as a whole for the benefit of the private colleges, where the average performance of individuals on the scale as a whole was 2,947-3,396 for government colleges, which is a neutral indication among individuals and 3,4519-3,7203 for private colleges. These results demonstrate a positive sign for all areas and on the scale as a whole. The study found out that the difference in average performance by gender is not an indicative on the scale as a whole, as the average performance for males was 3,3132 while it was 3,2863 for females. The study also showed that the attitudes of the study members whose years of experience were 1-4 have positive attitudes on the scale as a whole, while those whose years of experience were 5-9 and 10-14 or more than 15, their attitudes on the scale as a whole were neutral. **Conclusion/Recommendations:** Regarding the attitudes of the study members by the scientific qualification, the study found out that holder of diploma, BA and MA degrees showed neutral attitudes on the scale, while Ph.D. holders demonstrated positive attitudes on the scale as a whole. In general, the difference in performance in the study was positive in planning while it was neutral in the rest of the aspects on the scale as a whole.

Key words: Attitudes, technical education, Jordan

INTRODUCTION

Technical and vocational education is formal education which includes educational preparation and behavior orientation and the transmission of manual skills and practical ability and scientific knowledge appropriate to business requirements. It basically aims at preparing technical workforce on which the responsibility of operating, production and maintenance falls upon and is characterized by its close relation with the needs of economic and social activity and trends in technological development witnessed by the

community, putting its responsibility to respond rapidly to changing market needs of the workforce and technical skills in order to achieve the aspirations of the community towards development and continuous progress, in addition to a lot of goals that have emerged in the light of development in the existing technical and vocational education and modern technology. This study aimed to identify the attitudes of the study members about trends in technical education programs in colleges and universities in Jordan and to highlight the means and prospects for its development in the future.

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Origins of technical education in Jordan-as is the case in most Arab states-go back to the last third of the twentieth century, when specialized universities, colleges, institutes and polytechnics were established at the level of technical diploma and certificate equivalent in terms of rights and privileges to those of the universities. That was a step advanced to the other at the postgraduate level in technical subjects, to produce qualified and trained cohorts in various fields, which effectively contributed to the management of the wheel of development^[2,3]. Attitudes are important elements influencing the individual behavior and motivations. They are "one of the cases of preparedness and actual preparedness and nervous system organized by the experience and have an impact in guiding the individual responses to things and different positions".

As a result of the individual exposure to cues and stimuli in the external environment, they will affect him through the adoption process towards a specific and important things that lead to the formation and composition of the trends of individuals to satisfy needs and desires, personal experiences, personal factors, society and family.

The trends have a set of properties and most important of them are educated, connected with feelings and emotions, subject to change and characterized by relative stability.

Technical education is defined by the UNESCO as: "an education which is designed for senior secondary stage and the first undergraduate to prepare members of the middle level of employment and at the end of the university to prepare engineers and technologists to higher administrative positions and includes general education, technical education and theoretical and practical studies and technology and training the relevant skills. The stages of technical education may vary substantially by type of employment to be prepared and the level of education"^[4].

Jordan interest in technical education emerged through the contents of the first paragraph of Article (3) of the Higher Education Act of the definition of "professional job is to prepare trained manpower in the technical level in the fields of industry, agriculture and services to meet the needs of society and development, by providing students the theory and practical knowledge, practical skills, practical values, attitudes and sound work habits, enabling them to carry out the occupations that they are specialized in by being aware of their nature and insights into the stages and results accurately and economically, safety and speed, as well as the social development of their competence^[1]".

The researchers define the attitudes towards technical education as a collection of thoughts, feelings,

perceptions and beliefs about technical education and the use of modern methods, which guide the behavior of the individual and determine his position on the subject. There is a need to develop the creative capabilities of students and workers in the area of work. As there are no studies about the capabilities of creative industry workers and their relationship to their attitudes toward modern technology, the need is more urgent than ever to develop the creative abilities and positive attitudes towards technology among workers in the field of industry. This will enable our Arab society to transform from a consumer and importer of foreign technology to a community that can benefit from and absorb in the building of national technology that suits our needs and capabilities and at the same time be able to grow and progress. Hence the importance creating positive attitudes towards technology on the grounds that attitude means "psychological tendency expressed by the evaluation of a particular topic, more or less of a preference or non-preference. The evaluation refers to cognitive preferential responses, emotional and behavioral, either expressed or implied"^[5]. Thus, the attitudes are tendencies, educated and implicit, of preferential responses that can be inferred from the behavioral tendencies to the approach or avoidance and the preference or lack of preference for the theme of attitude^[6-8].

Importance of the study: The population of the Hashemite Kingdom of Jordan, according to estimates for 2003 is (5.480) million, of which the population under the age of (20) years old accounted for almost 54% and the population growth rate is 2.8%.

The number of students in general education is 1515.3 thousand students for the academic year 2003/2004, including 1335.5 thousand in basic education, while secondary-school students have numbered 179.8 thousand, including 132.0 thousand students in the scientific and literary sections, an increase of 73.6% of the students in secondary education and the rest (26.4%) in vocational education.

These statistics indicate that the priority has formerly been given to the academic education at the expense of technical and vocational education, which provides the associated disciplines with the needs of the Jordanian labor market. These statistics highlight the importance of this research to identify the conditions of technical and vocational education and to make recommendations and appropriate mechanisms to ensure the harmonization between education policies and technical and vocational education and the actual needs of the labor market through the answer to the question "What are the attitudes of the study members

towards technical education programs in colleges and universities in accordance with sex, type of work, years of experience and scientific qualification in Jordan?

Aim of the study: This study aims at identifying the attitudes of teachers and instructors towards the reality of technical education in Jordan.

Questions of the study: What are the attitudes of the study members towards technical education programs in university colleges according to gender, type of work, years of experience and scientific qualification in Jordan?

Study sample: The study sample consisted of 179 members of the community colleges, two types of private and governmental colleges. The Table 1 and 2 show the classification of members of the study according to sex and type of work (Table 1).

From the Table 1 and 2, it can be shown that the number of the study members reached 179 (100 males and 79 females) from 7 governmental colleges (Irbid, Princess Alia, Engineering Technology, Salt, Amman, Rahmah and Zarqa) and 4 private colleges (Jerusalem, Arab Community, Naour and Arabic College).

Research procedure: A quality measure of technical education in Jordan, which was prepared by the researchers to measure the quality of technical education in Jordan was employed in this study. It consists of 62 paragraphs of which 11 paragraphs for the field of planning, 9 for the field of programs and curricula, 11 for the area of human resources/staff, 17 for the area of human resources/students and 14 in the area that supports the organization. The quality measure was tested to verify its validity and reliability through factor analysis of the key components of the measure. Its validity significances were extracted using Kronbach Alpha for each domain and the scale as a whole. The total scale reliability coefficient was (0.970) in a former published study. The average performance of the study members on this scale becomes a standard guide to the attitudes towards the quality of technical education in Jordan.

To answer the research question: What are the attitudes of the study members towards the programs of technical education in university colleges in accordance with gender, type of work, years of experience and scientific qualification in Jordan? The following steps were carried out:

- The averages of performance for the study members were derived to each scale of the paragraphs for each domain and the scale as a whole according to gender, type of college and type of work

Table 1: The distribution of faculty members and instructors by gender

Type of university	Males	Females	Total number
Governmental	69	58	127
Private	31	21	52
Total	100	79	179

Table 2: The distribution of the study members

Study members	Number	Valid
Instructor	59	
Teacher	120	
Total	179	

Table 3: The classification of individuals based on their average performance on the paragraphs to get to know their attitudes

Type of classification	Range of degree
High negative attitude	1-1.8
Negative attitude	1.81-2.6
Neutral attitude	2.61-3.4
Positive attitude	3.41-4.2
High positive attitude	4.21-5

- A t-test of gender, type of college and type of work variables was performed. A variance analysis for the averages of performance of the scientific qualifications and years of experience was also conducted
- Attitudes of the individuals were classified according to the median performance of the paragraphs in each area according to penta-classification, where the length of the answer scale (5-1 = 4) was divided on the required categories (5), to arrive at the length of the category $4/5 = 0.8$. And thus the individuals can be classified based on their averages of performance on the paragraphs to get to know their attitudes according to the Table 3.

RESULTS

In order to classify the attitudes of the study members, the length of the answer scale (5-1 = 4) was divided on the number of categories required (5) to arrive at the length of the category (5/4 = 0.8) and thus the individuals can be classified based on their average performance on the paragraphs to get to know their attitudes according to the Table 4.

Independent samples test: By performing t-test on the averages of performance depending on the type of college, the differences in average performance were indicatives to all fields and on the scale as a whole for the benefit of the private colleges. The value of the average performance of the private colleges was (3.5763), while it was (3.1894) for the governmental colleges, as it is clear in Table 5.

Table 4: The average performance and standard deviation for each area as a result of the t-test analysis by type of college

	Type of college			
	Governmental		Private	
	Mean	SD	Mean	SD
Planning	3.3830	0.56118	3.7203	0.66558
Programs and curricula	3.2231	0.76411	3.6624	0.70786
Human resources/faculty members	3.3966	0.72571	3.5682	0.75587
Human resources/students	2.9477	0.78183	3.5452	0.84589
Human resources	3.1240	0.70307	3.5543	0.75809
Enterprise support	3.1462	0.77674	3.4519	0.89245
College degree	3.1894	0.61801	3.5763	0.70141

Table 5: The average performance and standard deviation for each area based on t-test according to type

	Gender			
	Female		Male	
	Mean	SD	Mean	SD
Planning	3.4764	0.60464	3.4845	0.61915
Programs and curricula	3.2743	0.76688	3.4111	0.77553
Human resources/faculty members	3.4776	0.66238	3.4218	0.79279
Human resources/students	3.0685	0.83755	3.1629	0.85029
Human resources	3.2292	0.68530	3.2646	0.78967
Enterprise support	3.2631	0.76424	3.2129	0.86701
College degree	3.2873	0.60219	3.3132	0.71367

Table 6: Performance attributable to gender

		Levenes' test for equality of variances		t-test for equality of means	
		t	df	Sig. (2-tailed)	
		Lower	Upper	Lower	Upper
Equal variances assumed	Planning	-0.088	177	0.930	
	Programs and curricula	-1.178	177	0.240	
	Human resources/faculty members	-0.502	177	0.617	
	Human resources/students	-0.743	177	0.459	
	Human resources	-0.316	177	0.753	
	Institution supporting	-0.406	177	0.686	
	Total degree	-0.259	177	0.796	

Table 7: The classification of the individual attitudes based on the average performance on each area depending on years of experience

	1-4 years		5-9 years		10-14 years		>15 years	
	Mean	Classification	Mean	Classification	Mean	Classification	Mean	Classification
	Upper bound		Upper bound		Upper bound		Upper bound	
Planning	3.5627	Positive attitude	3.3927	Positive attitude	3.4976	Positive attitude	3.4518	Positive attitude
Programs and curricula	3.5134	Positive attitude	3.3133	Neutral attitude	3.3216	Neutral attitude	3.1549	Neutral attitude
Human resources/faculty members	3.4530	Positive attitude	3.4345	Positive attitude	3.4545	Positive attitude	3.4435	Positive attitude
Human resources/students	3.2657	Neutral attitude	3.0165	Neutral attitude	3.2214	Neutral attitude	2.9109	Neutral attitude
Human resources	3.3393	Neutral attitude	3.1807	Neutral attitude	3.3130	Neutral attitude	3.1201	Neutral attitude
Institution supporting	3.3781	Neutral attitude	3.0986	Neutral attitude	3.1485	Neutral attitude	3.2900	Neutral attitude
Total degree	3.4130	Positive attitude	3.2190	Neutral attitude	3.3098	Neutral attitude	3.2224	Neutral attitude

By performing a t-test on the averages of performance by gender, the differences in average of performance were not indicative of all the areas and on the scale as a whole. The value of the average performance of males was (3.3132), while for females it was (3.2873) as shown in Table 6. This indicates that

there were no differences in performance attributable to gender.

And based on the former classification it is noted that the average performance of individuals on the scale in the areas falls between (2,947-3,396) for governmental colleges. This is an indicator of a neutral

Table 8: The classification of the attitudes of the individuals based on the average performance in each area depending on the scientific qualification

	Medium diploma		Bachelor		Master		Ph.D.	
	Mean	Classification	Mean	Classification	Mean	Classification	Mean	Classification
	Upper bound		Upper bound		Upper bound		Upper bound	
Planning	3.2652	Neutral attitude	3.4991	Positive attitude	3.4773	Positive attitude	3.6303	Positive attitude
Programs and curricula	3.0139	Neutral attitude	3.3962	Neutral attitude	3.3256	Neutral attitude	3.6000	Positive attitude
Human resources/ faculty members	3.2992	Neutral attitude	3.4391	Positive attitude	3.4457	Positive attitude	3.5788	Positive attitude
Human resources/ students	2.9093	Neutral attitude	3.1321	Neutral attitude	3.1373	Neutral attitude	3.2333	Neutral attitude
Human resources	3.0625	Neutral attitude	3.2527	Neutral attitude	3.2584	Neutral attitude	3.3690	Neutral attitude
Institution supporting	3.3393	Neutral attitude	3.2345	Neutral attitude	3.1994	Neutral attitude	3.2381	Neutral attitude
Total degree	3.1539	Neutral attitude	3.3131	Neutral attitude	3.2937	Neutral attitude	3.4194	Positive attitude

Table 9: The results of the t-test according to the type of work (average performance and standard deviation for each area)

	Type of job			
	Instructor		Teacher	
	Mean	SD	Mean	SD
Planning	3.5285	0.67872	3.4576	0.57652
Programs and curricula	3.3992	0.80946	3.3269	0.75611
Human resources/ faculty members	3.4761	0.84041	3.4318	0.68318
Human resources/ students	3.2164	0.91966	3.0745	0.80354
Human resources	3.3184	0.82275	3.2149	0.70256
Institution supporting	3.4431	0.83255	3.1327	0.79955
Total degree	3.3956	0.72239	3.2556	0.63310

attitude of the individuals in all the areas. However, the average performance of individuals among the private colleges was (3.4519-3.7203), which shows a positive indicator for all areas and on the scale in general.

The performance of the females on the paragraphs scale indicates a positive attitude on the areas of (planning-human resources/faculty members), while their attitudes were neutral in other areas on the scale as a whole.

While the average performance of males presented a positive attitude in the areas of (planning - programs and curricula-human resources/faculty members), their attitudes remained neutral in the rest of the areas, including the scale as a whole.

Table 7 shows the attitudes of the study members according to the years of experience in every sphere and on the scale as a whole. It was found that the tendencies of individuals with experience (1-4) were positive on the scale as a whole and on the areas of (planning, programs curricula and human resources/faculty members) and their attitudes were neutral on the rest of areas.

It can also be noted that the tendency of the members of the study experienced (5-9) was neutral to most areas and on the scale as a whole, but positive on the area of human resources/faculty members.

The case for those with experience of (10-14), their attitudes were neutral in most of the areas and on the

scale as a whole, but positive to the areas of human resources/faculty members and planning.

The attitudes of those whose experience is (over 15) were also neutral in most of the areas and on the scale as a whole, but positive to the areas of human resources/faculty members and planning

Table 8 shows that the attitudes of the study members according to scientific qualification were different. Holders of diploma exhibited a neutral attitude to all fields and on the scale as a whole. Holders of MA and BA degrees exhibited a neutral attitude to most areas and on the scale as a whole, but a positive attitude on the areas of human resources/faculty members and planning.

PhDs also showed a positive attitude on the scale as a whole and on the areas of human resources/faculty members, planning, programs and curricula

It can be inferred from Table 9 that the attitudes of the study members with regard to the type of work were positive on the areas of human resources/faculty members and planning and neutral on the rest of areas and on the scale as a whole.

DISCUSSION

In general, it is clear from Table 11 that the attitude of the study members was positive on the area of planning and neutral in the rest of the fields and on the scale as a whole.

Table 10: The classification of the attitudes of the individuals based on the average performance on each area depending on the type of work

	Type of job			
	Instructor	Attitude	Teacher	
	Mean		Mean	
Planning	3.5285	Positive attitude	3.4576	Positive attitude
Programs and curricula	3.3992	Neutral attitude	3.3269	Neutral attitude
Human resources/faculty members	3.4761	Positive attitude	3.4318	Positive attitude
Human resources/students	3.2164	Neutral attitude	3.0745	Neutral attitude
Human resources	3.3184	Neutral attitude	3.2149	Neutral attitude
Institution supporting	3.4431	Positive attitude	3.1327	Neutral attitude
Total degree	3.3956	Neutral attitude	3.2556	Neutral attitude

Table 11: The average performance of individuals on each area in general

	Number	Mean	SD
Planning	179	3.4810	0.61109
Programs and curricula	179	3.3507	0.77257
Human resources/ faculty members	179	3.4464	0.73662
Human resources/students	179	3.1213	0.84364
Human resources	179	3.2490	0.74359
Institution supporting	179	3.2350	0.82137
College degree	179	3.3018	0.66509
Valid N (list wise)	179		

Interpreting the results: In answering the research question which is concerned with the attitudes of the members of the study depending on the type of college, it was positive for those who work in private colleges, but it was neutral for those who work in governmental colleges. The average of performance in the governmental colleges was between (2.947-3.396) in general. This is a neutral attitude of the members in all the fields. The average performance in the private colleges was between (3.7203-3.4519), which indicates a positive attitude in all the fields and on the scale as a whole.

In studying the attitudes of the study members according to gender, the performance of the females on the items of the scale was an indicative of a positive attitude on the areas of (planning-human resources/faculty members), while their attitude was neutral in the other areas on the scale as a whole.

The study also revealed that the attitude of the males in the sample of study was positive in three areas (planning-programs, curricula and human resources/faculty members). However, their attitude remained neutral in the rest of the areas, including the scale as a whole.

The attitude of the study members with regard to type of work for both instructors and teachers was positive in all areas of the scale and on the scale as a whole, where the two agreed to a positive attitude on the areas of (planning and human resources/faculty members). Regarding their attitudes on the support of the institute, the instructors demonstrated a positive attitude, while the teachers manifested a neutral one.

In the analysis of the attitudes depending on the years of experience, the study indicated that there is a kind of agreement between the members of the study. They showed a neutral attitude on the areas of (human resources, human resources/students and supporting institution). The results also revealed that their attitudes towards (human resources/faculty members) were positive. However, the various years of experience groups showed a positive attitude on the area of planning, while class (5-9) showed a neutral attitude on the same domain. All groups of experience showed a positive attitude towards the area of programs and curricula except group (1-4), which demonstrated a neutral attitude on the same domain.

In general, all groups of experience manifested a neutral attitude on the scale as a whole and the group (1-4) showed a positive attitude in general.

As analyzing the attitudes according to the scientific qualification in the areas of the scale and on the scale as a whole, it was found out that diploma holders showed a neutral attitude in all the areas and on the scale as a whole. But all holders of BA and MA degrees demonstrated a positive attitude in the areas of (planning and human resources/faculty members) and a neutral one on the rest of the areas and on the scale as a whole.

Concerning the holders of Ph.D. degrees in the study, the results showed that they were positive in their attitude with regard to (planning, programs, curricula and human resources/faculty members), but neutral on the areas of (human resources/students, human resources and institution supporting). Generally, their attitude on the scale as a whole was positive.

CONCLUSION

In analyzing the average performance of the attitudes of the study members and in classifying these attitudes as it is illustrated in Table 10-12, the members of the study showed a positive attitude in the area of planning and a neutral one to the rest of the areas and on the scale as a whole.

Table 12: The classification of individuals based on the attitudes average performance on each area in general

	Number	Mean	SD	Individual attitudes classification
Planning	179	3.4810	0.61109	Positive
Programs and curricula	179	3.3507	0.77257	Neutral
Human resources/faculty members	179	3.4464	0.73662	Neutral
Human resources/students	179	3.1213	0.84364	Neutral
Human resources	179	3.2490	0.74359	Neutral
Institution supporting	179	3.2350	0.82137	Neutral
College degree	179	3.3018	0.66509	Neutral
Valid N (list wise)	179			

Recommendations:

- Adopting studies that focus on the development of attitudes about technical education in all aspects and especially in the fields of programs, curricula and human resources, which is a strong supporter for it and for its institutions progress
- Adopting plans which contribute to supporting organizations working in technical education programs and human resources qualified by civil society organizations to bridge the cooperation between them
- Maintaining the positive attitudes among workers in technical education in Jordan to upgrade it to a high level of technical excellence in the era of information and technology we live in

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