



The Relationship between the Competencies of Graduates of Higher Education and the Needs of the Palestinian Labour Market

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The study aimed at identifying the relationship between the competencies of Palestinian university graduates and the needs of the Palestinian labour market from the perspective of graduates and employers. The study adopted the descriptive analytical approach (quantitative). It found that the level of suitability of the competencies of Palestinian university graduates to the needs of the labour market from the perspective of the graduates was very high, with a total scale mean score equal to 4.42, while the level of suitability of the competencies of university graduates to the needs of the labour market from the employers' perspectives was high with a total scale mean score equal to 3.66. The study found significant statistical differences at the level of significance ($\alpha \leq 0.05$) about the suitability of the university graduates' competencies to the needs of the labour market according to the total score of the domains (organisational competencies, specialised and technical competencies) from the graduates' perspectives, referring to the variables (age, years of experience and specialisation). The study recommended working on designing supportive policies in the higher education sector, such as promoting social responsibility and involving labour market institutions in developing academic plans for universities. In addition, this study recommends conducting further studies to provide research-based evidence regarding the relationship between higher education graduates' competencies and the needs of the Palestinian labour market.

Keywords: competencies, labour market, graduates, employers, higher education

INTRODUCTION

Higher education is considered one of the most important tools for the advancement of societies, for its role in the production and dissemination of science and knowledge and for its position in preparing and setting technical and scientific frameworks qualified to achieve economic and social development. According to Dagher et al. (2016), the world

Citation: Nakhleh, W. A., & Hanini, M. (2022). The relationship between the competencies of graduates of higher education and the needs of the Palestinian labour market. *International Journal of Instruction*, 15(2), 223-242. <https://doi.org/10.29333/iji.2022.15213a>

is living in a time of speed, and it has become necessary for universities to develop themselves and provide their students with the skills necessary for them, and develop their educational level, to become qualified for the requirements of the labour market. However, according to the Palestinian Labour Force Survey's report (2018), the high unemployment among higher education graduates may indicate the mismatch between the outputs of the higher education system and the needs of the market. The report indicated that the unemployment rate for graduates who have an intermediate diploma or higher reached 58% (40% in the West Bank and 78% in Gaza). It is not necessary that the cause of unemployment is the mismatch between the quantity and quality of higher education specialisations and the needs of the labour market (Leonnard and Susanti, 2019). Sometimes the quality of the specialisations offered in higher education is required for the labour market, and the number of graduates from higher education is appropriate to the needs of the labour market (Jarrah and Alkhazaleh, 2020), but the problem remains in the availability of competencies and skills required of graduates.

Radovic and Djuraskovic (2016) Jovović et al (2017) emphasised that the mismatch between the needs of the educational system and the needs of the labour market constitutes a serious threat to economic growth and development. In addition, Al-Qudah and Al-Manaseer (2018) indicated that the positive relationship between higher education outputs and labour market requirements depends on the outputs' ability to meet the needs of the economic activity of the workforce, with the quantity and quality required in various disciplines qualified to interact with market requirements.

Linking the competencies of graduates to the requirements of the labour market requires clarification of these dimensions, clarifying the form of the relationship and defining the required roles, whether from universities, labour market institutions or the government. Bertolin (2015) emphasised what was stated at the UNESCO Conference on Education held in Paris in 1998 that the quality of higher education is a multidimensional concept that includes all educational functions and activities: curricula, educational programmes, scientific research, students, infrastructure, providing services to the local community ... etc. As for Anastasiu et al. (2017), the analysis carried out in their study showed that there is a big problem in the higher education system, and attributed this to the fact that education outputs must be competitive in relation to the labour market and that graduates and employers do not share the same perception regarding the skills of employment. Universities are required to provide more training programmes for students during the university study period, so that these programmes are sufficiently specialised.

Soft skills among students are necessary and crucial for entering the work environment (Ahmad et al., 2018), and higher education institutions are required to distinguish between the levels of knowledge and soft skills of their students in order to implement strategies and intervene to correct their abilities. Deepa and Seth (2013) indicated that CEOs found that 75% of the long-term career success is based on soft skills and only 25% is technical. These skills are categorised into seven general skill groups: communication skills, arithmetic skills, technology skills, learning how to learn skills, problem-solving skills, teamwork skills and specialised skills (Kenayathulla et al., 2019).

Talking about the gap between the basic competencies possessed by graduates of higher education institutions and the requirements of the labour market has become more extensive, and a study of the Palestinian Central Bureau of Statistics (2019) entitled 'The Gap between Education and the Labour Market' reflected the quantitative depth of the gap between education and the labour market, and indicated that there is a noticeable decline in the quality of university education because the university study period lacks training in areas needed by the labour market.

At the local level, there is a dearth of studies that examine the relationship between the competencies of Palestinian university graduates and the needs of the Palestinian labour market. Regionally, there are studies that addressed the relationship between higher education outcomes and the needs of the labour market, but they examined the relationship at narrow levels. Accordingly, the researchers reviewed many foreign studies and research related to the competencies of university graduates and their relationship to the global labour market. Therefore, the problem of the study was to answer the following question: What is the relationship between the competencies of Palestinian university graduates and the requirements of the Palestinian labour market from the perspectives of graduates and employers?

The study questions

1. What is the level of suitability of the quality of higher education outputs to the needs of the labour market in Palestine from the point of view of graduates compared to employers?
2. Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the degree of suitability of the competencies of Palestinian university graduates to the needs of the labour market in Palestine from the perspective of graduates on the total scale score and domains according to the independent variables (age, years of experience, specialisation)?
3. Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the degree of suitability of the competencies of university graduates to the needs of the labour market in Palestine from the perspectives of the employers on the total scale score and the domains according to the independent variables (age, years of experience and nature of work organisation)?

METHOD

The study design

The researchers used the descriptive analytical approach (quantitative) to collect and analyse data. This is due to its relevance to the nature of the study, as the descriptive approach studies the reality or phenomenon and describes it accurately, expressing it quantitatively.

The study population

The study population consists of all workers in the local labour market institutions holding a bachelor's degree, who have graduated from local universities and have been

working in local labour market institutions for 6 months from the date of appointment, and their number reached $N = 21,600$ male and female graduates. As for employers, the direct heads of the study population related to graduates in all labour market institutions in the northern governorates of Palestine ($N = 21,000$), as well as directors of quality units in local universities in the West Bank (11 universities) and the Palestinian Accreditation and Quality Assurance Commission in the Ministry of Higher Education and Scientific Research.

The study sample

1. A convenient sample consisting of 401 graduates working in local labour market institutions, who graduated from local universities 6 months ago to 3 years ago and have been working in local labour market institutions for 6 months or more; it was calculated according to Robert Mason's equation for calculating samples as follows:

$$n = \frac{N}{\left[\frac{S^2 \times (N-1)}{p(1-p)} + 1 \right]}$$

where N = the number of subjects in the population, S = standard error, p = probability of availability and is equal to 0.05.

The equation was entered into MS Excel, and calculated as follows: $N = 21,600$, $S = 0.05$ and $p = 0.5$

2. A convenient sample consisting of 400 heads of labour in the licensed (governmental and private) labour market institutions operating in the first half of the year 2020 and where graduates who graduated from local universities in the West Bank governorates are employed. It was calculated according to Robert Mason's equation for sampling (mentioned previously) with a change in the value of $N = 21,000$.

A total of 343 graduates' questionnaires were retrieved, and 316 employers' questionnaires were retrieved. Table 1 shows the demographic characteristics of the study participants (graduates and employers).

Table 1
Demographic characteristics of the graduates who graduated from local universities (since 6 months up to 3 years) and working in local labour market institutions ($n = 343$)

Independent variable	Level	Percentage (%)
Age	21 to less than 23 years	21
	23 to less than 25 years	43
	25 years and more	36
Years of experience	Less than one year	22
	One to less than two years	28
	two years to less than 3 years	50
Specialisation	Business, management, and law	41
	Education	13
	Agriculture, forestry, fishing and veterinary	4
	Health and well-being	6
	Social sciences, journalism and media	10
	Natural sciences, mathematics and statistics	12
	Engineering, manufacturing and construction work	8
Information and Communication Technology	8	

The study instruments

A questionnaire was designed for graduates and another questionnaire for heads of labour in local labour market institutions. Several previous studies have benefited (Anho, 2011; Sarfraz et al., 2018; Selvadurai et al., 2012). The first part comprised demographic information about the study participants and the second part comprised the domains and items of the questionnaire, which consisted of three domains: the first domain was the adequacy of personal and social competencies to the needs of the labour market in Palestine, the second domain was the suitability of organisational competencies 'performance' to market needs and the third domain was the suitability of specialised competencies. The response to the questionnaire's items by graduates and business leaders in the local labour market institutions according to the 5-point Likert scale was as follows: always (5), often (4), Sometimes (3), rarely (2) and never (1).

Validity of the study questionnaires

Validity of the questionnaire through ensuring the internal consistency

Pearson's correlation coefficient was used between each item and the total score for the domain, in addition to finding the extraction coefficient for each item. It was found that the correlation coefficient of the graduates' questionnaire ranged between 0.49 and 0.88 and all of these values were greater than 0.4, and that the extraction coefficient ranged between 0.56 and 0.90 and all of these values were greater than 0.50, and the correlation coefficient was examined for the items of the employers' questionnaire, which ranged

between 0.53 and 0.91 and all of these values are greater than 0.4, and that the extraction coefficient ranged between 0.56 and 0.93 and all of these values are greater than 0.50. Depending on both the correlation coefficient and the extraction, it turns out that the statements of the questionnaire are related to the purpose of the study and are clear and accurate, and that the study questionnaire related to graduates and business leaders fit to measure the goal for which it was set.

Reliability of the study questionnaires

The reliability coefficient of Cronbach's alpha for the questionnaire for graduates according to the total score and for the three domains were calculated separately. The coefficient of the graduate's questionnaire was 0.95, which is a statistically acceptable value. The reliability coefficients for the three domains that make up the study tool for the graduate were calculated, each separately. The total value of Cronbach's alpha coefficient of the tool items was found to be 0.96, which is a statistically acceptable value, and the value of the reliability coefficient for the three domains ranged between 0.88 for the personal and social competencies domain and 0.93 for the specialised and technical competencies domain, all of which are statistically acceptable values.

Ethical considerations

The study was approved by the Institutional Review Board (IRB) of Birzeit University. The ethical considerations of the present study included ensuring the voluntary participation of the study subjects, as an informed consent was signed by all participating students, ensuring that the participants have the right to quit the study at any time point they would like to do so. In addition, the researchers ensured privacy and confidentiality of participants' identities and responses throughout and after the study was accomplished. All gathered data were kept in a safe drive protected by an alphanumeric password that was known only by the researchers.

FINDINGS

This section deals with the presentation of the quantitative statistical data that were entered using the Statistical Package for the Social Studies (SPSS v. 25.0) programme, which were collected through the study tools represented by analysing the level of 'suitability of the quality of educational outputs to the needs of the labour market in Palestine'.

To answer the study questions, mean scores were used for each statement and domain and for the total score. In order to interpret the results, the following statistically approved weighted mean scores were adopted as follows: 1–1.79 = a very small level; 1.8–2.59 = a low level; 2.6–3.39 = a medium level; 3.4–4.19 = a large level; 4.2–5 = a very large level.

The first main question: What is the level of appropriateness of the quality of education outputs with the needs of the labour market in Palestine from the perspectives of graduates compared to employers?

It is clear from Table 2 that the total degree of the personal and social competencies domain level was very large. As for the domain of organisational competencies for graduates, it ranked last. As for the heads of work, the domain of organisational competencies ranked first, and the domain of specialised and technical competencies ranked last.

Table 2

Means and standard deviations for the level of appropriateness of the quality of education outputs with the needs of the labour market in Palestine from the perspectives of graduates compared to employers

Domain	Graduates			Employers		
	Mean	Standard deviation	Level	Mean	Standard deviation	Level
Personal and social	4.44	0.41	Very large	3.65	0.72	Large
Organisational competencies	4.41	0.44	Very large	3.72	0.68	Large
Specialisation and professional	4.42	0.46	Very large	3.58	0.79	Large
Total score	4.42	0.40	Very large	3.66	0.69	Large

The first sub-question: What is the level of personal and social competencies for the needs of the labour market in Palestine from the perspective of graduates compared to employers?

Table 3

Means and standard deviations of the level of personal and social competencies for the needs of the labour market in Palestine from the perspective of graduates compared to employers

Statements	Graduates			Employers		
	M	SD	Level	M	SD	Level
I interact socially with colleagues	4.57	0.61	Very large	3.83	0.81	Large
I choose the best path to solve	4.35	0.60	Very large	3.65	0.92	Large
I feel the importance of the work I	4.48	0.73	Very large	3.65	0.98	Large
I accept directions from others	4.31	0.72	Very large	3.61	0.83	Large
I strictly follow directions	4.22	0.63	Very large	3.58	0.87	Large
I have an entrepreneurial spirit	4.37	0.70	Very large	3.51	0.95	Large
I know my strengths and	4.36	0.69	Very large	3.56	0.99	Large
I take the responsibility	4.61	0.49	Very large	3.70	0.95	Large
I can adapt to changing working	4.46	0.67	Very large	3.71	0.89	Large
I have an 'I can do' attitude.	4.62	0.52	Very large	3.80	0.91	Large
I am open to new ideas	4.48	0.60	Very large	3.59	0.98	Large
Total score for personal and social	4.44	0.41	Very large	3.65	0.72	Large

According to Table 3, the mean scores of the personal and social competencies domain for the needs of the labour market from the graduates' point of view, the item 'I have an "I can do" attitude' got the highest mean score. As for the employers, the item 'I interact socially with colleagues with respect' got the highest arithmetic averages.

The second sub-question: What is the level of appropriateness of the organisational competencies 'performance' to the needs of the labour market in Palestine from the perspective of graduates compared to the employers?

Table 4 shows the mean scores of the statements of the organisational competencies domain 'performance' for the needs of the labour market in Palestine from the perspective of graduates; the statement 'able to communicate effectively in Arabic language' got the highest mean score. As for the statement 'Able to communicate in English for the benefit of work', it is the least of the statements, as it obtained a high level. As for employers, the statement 'able to communicate effectively in the Arabic language' got the highest mean score, while the statement 'I offer critical and logical ideas suitable for work' for the lowest and has a large level.

Table 4

Means and standard deviations for the level of appropriateness of the organisational competencies 'performance' to the needs of the labour market in Palestine from the perspective of graduates compared to the employers

Statements	Graduates			Employers		
	M	SD	Level	M	SD	Level
Able to communicate in English for the benefit of work	4.03	0.83	Large	3.70	0.99	Large
Able to communicate effectively in Arabic	4.74	0.47	Very large	3.96	0.95	Large
I negotiate with others with clarity and respect	4.51	0.60	Very large	3.69	0.96	Large
I offer critical and logical ideas suitable for work	4.17	0.75	Large	3.77	0.88	Large
I plan to work to achieve the goals	4.36	0.74	Very large	3.74	0.86	Large
I write the required reports correctly	4.47	0.70	Very large	3.62	0.87	Large
Able to adapt to business developments	4.47	0.61	Very large	3.54	0.90	Large
I can take responsibility	4.6	0.52	Very large	3.73	0.87	Large
I have the ability to self-learn	4.49	0.67	Very large	3.81	0.85	Large
I can convince others with my ideas	4.22	0.70	Very large	3.65	0.89	Large
I work within the team in a participatory style acceptable to others	4.48	0.61	Very large	3.70	0.81	Large
Able to motivate and support others	4.4	0.65	Very large	3.80	0.75	Large
Able to solve problems that I encounter at work	4.43	0.63	Very large	3.72	0.80	Large
Total score for organisational competencies	4.41	0.44	Very large	3.72	0.68	Large

The third sub-question: What is the level of suitability of specialised and technical competencies to the needs of the labour market in Palestine from the point of view of graduates compared to employers?

It is obvious from Table 5 that the mean scores of the statements of the domain of appropriateness of specialised and technical competencies to the needs of the market from the perspective of graduates, the statement 'I know the laws and regulations related to work' got the highest mean. As for the statement 'I implement accurate practical skills according to scientific methods I acquired from my studies', it got the lowest mean score. As for the employers, the statement 'I perform the basic operations related to the field of work with skill' got the highest mean score, and the statement 'I know the laws and regulations related to work' got the lowest mean score.

Table 5

Means and standard deviations for the level of suitability of specialised and technical competencies to the needs of the labour market in Palestine from the point of view of graduates compared to employers

statement	Graduates			Employers		
	M	SD	level	M	SD	Level
I have sufficient knowledge and information related to work issues	4.31	0.71	Very large	3.54	0.91	Large
Use of modern technologies and programmes in the field of specialisation	4.41	0.59	Very large	3.55	0.96	Large
I employ sufficient skills related to work issues	4.5	0.63	Very large	3.61	0.91	Large
I perform the basic operations related to the field of work with skill	4.45	0.60	Very large	3.67	0.85	Large
I implement accurate practical skills according to scientific methods I acquired from my studies	4.08	0.87	Large	3.66	0.94	Large
I have high productivity at work	4.45	0.67	Very large	3.58	0.95	Large
I abide by the various working conditions and systems	4.52	0.59	Very large	3.59	0.87	Large
I audit and review the work entrusted to me skilfully	4.43	0.71	Very large	3.63	0.95	Large
I know the laws and regulations related to work	4.56	0.59	Very large	3.46	0.98	Large
I use modern information sources and systems to work skilfully	4.47	0.65	Very large	3.53	0.92	Large
Total score of specialised and technical competencies	4.42	0.46	Very large	3.58	0.78	Large

The second main question: Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the degree of appropriateness of the competencies of Palestinian university graduates to the needs of the labour market in Palestine from the perspective of graduates on the total score and domains based on the independent variables (age, years of work experience and specialisation)?

The first hypothesis states that: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the degree of appropriateness of the competencies of

Palestinian university graduates to the needs of the labour market in Palestine according to the total score and on the domains from the graduates' point of view according to the age variable.

To test the hypothesis, the one-way analysis of variance test was used to examine the differences between the mean scores according to the age variable as shown in Table 6.

Based on the data in Table 6, we accept the null hypothesis in the domains of personal and social competencies, i.e., there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the quality of education outputs to market needs according to the axis of personal and social competencies so that the level of significance reached for this domain is 0.07 and this value is greater than the significance level (0.05). In addition, we reject the null hypothesis in the domain (organisational competencies, specialised and technical competencies), meaning that there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the competencies of university graduates to the market needs according to the total score and on the domain (organisational competencies, specialised and technical competencies) from the graduates' point of view according to the age variable, as its significance level ranged between 0.002 and 0.01 and these values are less than the significance level of 0.05.

As for the direction of differences according to the total degree and domains (organisational, specialised and technical competencies) between age levels, and to determine their direction, the least significant difference (LSD) test was used for *post-hoc* comparisons, and the differences between the age groups were between the two groups: 21 years and less than 23 years and from 23 years and less than 25 years, in favour of 21 years and less than 23 years. As for the specialised and technical competencies domain, it was between the two categories: 25 years and more and 23 years and less than 25 years, in favour of 25 years and more. As for the total score, it was between the age group between the two categories: 21 years and less than 23 years and 23 years and less than 25 years in favour of 21 years and less than 23 years, as well as between 25 years and more and 23 years and less than 25, in favour of 25 years and more. This is because, in recent years, graduates have become more involved in voluntary and training programmes, which have clearly contributed to building their competencies.

Table 6
One-way ANOVA test results for the significant differences based on age variable

Domain	Source of variance	Sum of squares	df	Mean of squares	F	Sig.*
Personal and social competencies	Between groups	0.88	2	0.44	2.64	0.07
	Within groups	56.59	340	0.17		
	Total	57.47	342			
Organisational competencies	Between groups	2.46	2	1.23	6.42	0.002
	Within groups	65.12	340	0.19		
	Total	67.58	342			
Specialisation and technical competencies	Between groups	1.85	2	0.92	4.48	0.01
	Within groups	70.09	340	0.21		
	Total	71.94	342			
Total	Between groups	1.69	2	0.84	5.40	0.01
	Within groups	53.08	340	0.16		
	Total	54.76	342			

*Significant at ($\alpha \leq 0.05$)

The second hypothesis states that: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) regarding the appropriateness of the competencies of university graduates to the needs of the labour market in Palestine according to the total score and on the domains from the graduates' point of view according to the variable years of experience in the field of work. To test the hypothesis, the one-way analysis of variance test was used to examine the differences between the mean scores according to the variable years of work experience as shown in Table 7. Based on the data in Table 7, we reject the null hypothesis, meaning that there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the competencies of university graduates to the labour market needs from the graduates' point of view according to the variable years of experience in the field of work, according to the total degree on the three domains. In order to identify the areas of differences according to the total degree and the three domains between the levels of years of experience in the field of work, and to determine their direction, the LSD test was used for *post-hoc* comparisons. The results showed that the differences were between the category of less than a year and a year and less than 2 years, in favour of less than a year, as well as between 2 and less than 3 years and a year and less than 2 years, in favour of 2 and less than 3 years.

Table 7
One-way ANOVA test results for the significant differences based on years of experience variable

Domains	Source of variance	Sum of squares	df	Mean of squares	F	Sig.*
Personal and social competencies	Between groups	4.30	2	2.15	13.73	0.00
	Within groups	53.17	340	0.16		
	Total	57.47	342			
Organisational competencies	Between groups	10.72	2	5.36	32.05	0.00
	Within groups	56.86	340	0.17		
	Total	67.58	342			
Specialisation and technical competencies	Between groups	6.42	2	3.21	16.66	0.00
	Within groups	65.52	340	0.19		
	Total	71.94	342			
Total	Between groups	7.10	2	3.55	25.32	0.00
	Within groups	47.66	340	0.14		
	Total	54.76	342			

*Significant at ($\alpha \leq 0.05$)

The third hypothesis states that: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the competencies of university graduates to the needs of the labour market according to the total score and on the domains from the graduates' point of view according to the specialisation variable. To test the hypothesis, the one-way analysis of variance test was used to examine the differences between the mean scores according to the variable of specialisation shown in Table 8. Based on the data in Table 8, we reject the null hypothesis, meaning that there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the quality of education outputs to the market needs from the graduates' point of view according to the specialisation variable, according to the total score and on the three domains. In order to identify the direction of differences according to the total score and for the domains (personal and social competencies, organisational competencies, and specialised and technical competencies) between the levels of specialisation, the LSD test was used for post-hoc comparisons. As for the differences, they were in favour of the disciplines of health and well-being, education, agriculture, forestry, fishing and veterinary. Apparently, these differences were because students in these disciplines and within the study plans implement compulsory training courses more than other disciplines.

Table 8
One-way ANOVA test results for the significant differences based on the specialisation variable

Domains	Source of variance	Sum of squares	df	Mean of squares	F	Sig.*
Personal and social competencies	Between groups	7.33	7	1.05	6.99	0.00
	Within groups	50.14	335	0.15		
	Total	57.47	342			
Organisational competencies	Between groups	7.49	7	1.07	5.96	0.00
	Within groups	60.10	335	0.18		
	Total	67.58	342			
Specialisation and technical competencies	Between groups	12.32	7	1.76	9.89	0.00
	Within groups	59.61	335	0.18		
	Total	71.94	342			
Total	Between groups	8.05	7	1.15	8.24	0.00
	Within groups	46.72	335	0.14		
	Total	54.76	342			

*Significant at ($\alpha \leq 0.05$)

The third question: Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the degree of appropriateness of the competencies of university graduates to the needs of the labour market in Palestine from the point of view of the employers on the total degree and the domains according to the independent variables (age, years of experience in the field of work and nature of facility's business)?

The fourth hypothesis states that: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) regarding the appropriateness of the quality of education outputs to the needs of the labour market according to the total score and on the domains from the point of view of the employers referring to the age variable.

The one-way analysis of variance test was used to examine the differences between the mean scores according to the age variable (Table 9). Based on the data in Table 9, we reject the null hypothesis. In this regard, there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the quality of education outputs to the needs of the labour market according to the total score and on the domains from the point of view of the employers according to the age variable. In order to identify the direction of differences according to the total score and to the domains between the age levels, the LSD test was used for *post-hoc* comparisons, and the results were in favour of the employers under the age of 30 years. It is also clear that there are differences between the age group of 45 years and less than 60 years and the age group of 60 years and more, in favour of employers whose ages range between 45 and less than 60 years. This is due to the convergence of competencies between new graduates and young employers in terms of competencies, especially those related to work procedures that are constantly evolving.

Table 9
One-way ANOVA test results for the significant differences based on the age variable

Domains	Source of variance	Sum of squares	df	Mean of squares	F	Sig.*
Personal and social competencies	Between groups	6.78	3	2.26	4.49	0.004
	Within groups	156.96	312	0.50		
	Total	163.73	315			
Organisational competencies	Between groups	5.54	3	1.85	4.12	0.007
	Within groups	139.98	312	0.45		
	Total	145.52	315			
Specialisation and technical competencies	Between groups	7.31	3	2.44	4.08	0.007
	Within groups	186.34	312	0.60		
	Total	193.65	315			
Total	Between groups	6.38	3	2.13	4.60	0.004
	Within groups	144.14	312	0.46		
	Total	150.52	315			

*Significant at ($\alpha \leq 0.05$)

The fifth hypothesis states that: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the competencies of university graduates to the needs of the labour market in Palestine according to the total score and on the domains from the point of view of the employers according to the variable years of experience in the field of work. To test the hypothesis, the one-way analysis of variance test was used to examine the differences between the mean score according to the variable years of work experience (Table 10). Based on the data in Table 10, we reject the null hypothesis, i.e., there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the competencies of university graduates to the market needs from the point of view of employers according to the variable years of experience in the field of work, according to the total score and the domains (personal and social competencies, specialised and technical competencies). Besides, we accept the null hypothesis for the organisational competencies domain, as the level of significance for this domain was 0.12. In order to find out the direction of differences according to the total score and the domains (personal and social competencies, and specialised and technical competencies) between the levels of years of experience in the field of work, the LSD test was used for the *post-hoc* comparisons. The results indicate that the differences were between the group of 10 and less than 15 years and the two groups of 5 and less than 10 years as well as more than 15 years, in favour of 10 and less than 15 years. This is also due to the development that employers observe in the qualifications of graduates in recent years in Palestinian higher education.

Table 10

One-way ANOVA test results for the significant differences based on the years of experience in the field of work variable

Domains	Source of variance	Sum of squares	df	Mean of squares	F	Sig.*
Personal and social competencies	Between groups	6.60	3	2.20	4.37	0.01
	Within groups	157.13	312	0.50		
	Total	163.73	315			
Organisational competencies	Between groups	2.72	3	0.91	1.98	0.12
	Within groups	142.81	312	0.46		
	Total	145.52	315			
Specialisation and technical competencies	Between groups	5.67	3	1.89	3.14	0.03
	Within groups	187.97	312	0.60		
	Total	193.65	315			
Total	Between groups	4.36	3	1.45	3.10	0.03
	Within groups	146.16	312	0.47		
	Total	150.52	315			

*Significant at ($\alpha \leq 0.05$)

The sixth hypothesis states that: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) regarding the appropriateness of the quality of education outputs to the needs of the labour market in Palestine according to the total score and on the domains from the point of view of the employers referred to the variable nature of facility's business. To test the hypothesis, the one-way analysis of variance test was used to examine the differences between the mean scores according to the nature of facility's business variable (Table 11). Based on the data in Table 11, we reject the null hypothesis. In this regard, there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the competencies of university graduates to the needs of the market from the point of view of employers according to the variable nature of facility's business, according to the total score and the three domains. In order to identify the directions of differences according to the total score and the domains between the levels of the nature of facility's business, and to determine its directions, the LSD test was used for *post-hoc* comparisons. The analysis indicates that the differences were between the nature of the work of the 'private enterprise' and both 'industrial, commercial and governmental' for all domains and the overall score, in favour of the nature of the private enterprise. The results of the interviews with the employers confirmed that due to the high number of job applicants the employing facilities choose the best graduates for their employment, and this is more consistent with the private institutions whose salaries are the highest for new graduates and therefore are able to attract the best graduates with better qualifications.

Table 11
One-way ANOVA test results for the significant differences based on the nature of facility's business variable

Domains	Source of variance	Sum of squares	df	Mean of squares	F	Sig.*
Personal and social competencies	Between groups	16.98	3	5.66	12.03	0.000
	Within groups	146.76	312	0.47		
	Total	163.73	315			
Organisational competencies	Between groups	10.39	3	3.46	8.00	0.000
	Within groups	135.13	312	0.43		
	Total	145.52	315			
Specialisation and technical competencies	Between groups	8.12	3	2.71	4.55	0.004
	Within groups	185.53	312	0.60		
	Total	193.65	315			
Total	Between groups	11.36	3	3.79	8.49	0.000

*Significant at ($\alpha \leq 0.05$)

DISCUSSION

The harmonisation between the outputs of higher education and the labour market, according to Abu Odeh (2018), aims to provide the labour market with qualified graduates, capable of continuous self-learning and at the same time possessing the knowledge, skills and competencies (Dagher et al., 2016) that help them integrate in their work in a way that is required by the labour market and is satisfactory for employers. Mok and Wu (2016) explained that the reason for the large gap between the university system and the labour market is the quality of education and the poor quality of its outputs. The International Labour Organisation (ILO, 2016) report clarified that the term skills mismatch is the mismatch between the skills possessed by the worker and those required for the labour market. While Isra et al. (2018) confirmed that universities are developing a system in which employability is able to inculcate skills in students before they enter the labour market. In addition, Raquel et al. (2019) demanded that all sectors related to education, whether educational institutions and the labour market, prepare students, acquire the necessary skills and provide them with what contributes to increasing their chances of entering the labour market.

The relationship between higher education and the labour market is an integrative relationship determined by plans and policies in various fields of work, in accordance with the requirements of development. Suleman (2018) stressed that higher education institutions strive to identify the employability skills that employers demand, and Perera et al. (2018) argue that universities have begun to integrate these skills into the curricula within their core programmes. Therefore, employability, according to Tentama and Abdillah (2019), is a difficult concept to define, as it is multidimensional. As for the skills that an individual possesses, according to Ho (2015), they are known as

employability, which is an interwoven mixture of personal qualities and skills of different types. In addition, Zegwaard et al. (2018) explained that employability depends on the graduates possessing competencies in terms of knowledge, skills and attitudes, and presenting them to potential employers appropriately.

There is compatibility between the competencies of Palestinian university graduates and the needs of the labour market in Palestine from the perspective of graduates compared to the employers to a different degree, as it was found that the level of competencies with its different dimensions (personal, social, organisational 'performance' and technical) for the needs of the labour market in Palestine from the perspective of graduates came compatible to a very large extent. As for the employers, it was compatible to a large extent. The large number of graduates – five times higher than the needs of the Palestinian market – helped the labour market institutions to choose the best qualified people.

There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the degree of appropriateness of university graduates' competencies to the needs of the labour market in Palestine from the graduates' point of view on the total score and domains according to the age variable in favour of the age group between 21 and less than 23 years, as well as in favour of the group 25 years or more. As for the variable years of experience in the field of work, it was in favour of 1 year and less than 2 years, and 2 years and less than 3 years. As for the specialisation variable, it was in favour of the specialisations of health and well-being, education, agriculture and forestry, which are the specialisations that their students are involved in organised training programmes during their university studies.

There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) about the appropriateness of the competencies of university graduates to the needs of the labour market in Palestine, according to the total score and on the three domains from the point of view of the employers according to the age variables. The work of the facility was in favour of the nature of the private facilities. As for the variable years of experience in the field of work, it was in favour of years of experience from 10 to less than 15 years in the domains of personal and social competencies and specialised and technical competencies.

CONCLUSION AND RECOMMENDATIONS

The researchers recommend the importance of designing many policies in the education sector to ensure that university graduates acquire the competencies needed by the Palestinian labour market through the systematic involvement of labour market facilities in developing academic plans for higher education institutions, as they are the main bodies for receiving new graduates, which allows for further determination of the level of the graduates' competencies with their various domains – personal, social, organisational, 'performing' and technical, which are compatible with the needs of the labour market in Palestine. The necessity of providing more applied and professional education for students during their studies, as well as areas of voluntary work in order to ensure that students acquire and introduce them to the competencies that the labour

market needs while they are still studying. In addition to the necessity of enhancing the awareness of students on the study seats of the importance of research and engaging in training and voluntary programmes to provide them with more competencies that have a subsequent impact on effective competition for limited job opportunities. Moreover, the importance of evaluating the training and practical programmes that universities adopt within their study plans to determine their direct impact, and work to build national capacities, whether for universities or those in charge of labour market facilities in the field of preparing appropriateness studies and market needs in a way that ensures the provision of directives and suggesting clear procedures that contribute to more harmonisation, as well as ensuring Effective follow-up to the implementation of the results of these studies.

The managerial implications of the present study include the strategic development of the higher education institutions in terms of the study programmes and the syllabus of these programmes. Furthermore, the theoretical implications of this study include providing baseline data to inspire future researchers to conduct further studies examining the relationship between higher education graduates' competencies and the labour market needs.

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