

Evaluation the educational outcomes of graduate students in light of the global goals for the 21st century at A-Balqa Applied University

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Abstract

The aim of this study was to investigate the effect of higher education on students' acquisition of global 21st-century skills at Aqaba University College which is affiliated with AlBalqa Applied University. The researchers used the descriptive analytical approach, and a survey was conducted to achieve the purposes of the study. The study sample consisted of a number of graduates students was 56 in the academic year 2019/2020. It was concluded that there is a positive effect of university education on providing graduate students with learning, innovation, technology, life, and job skills.

Key words: 21st century skills, university education, learning and innovation skills, technology skills, life and job skills.

1. Introduction:

Al-Balqa Applied University seeks in its strategic plan to support the labor market by preparing graduates who are able to compete in labor market with their skills and capabilities, in the presence of competition with other universities; Therefore, there is a number of courses were created to enhance students' skills and enable them to engage in the labor market (Al-Balqa University's Strategic Plan, 2021/2017). This reflects the agreement of most educators that students must be provided with the skills necessary for their involvement in work (Chris, 2009).

Al Balqa University presented in its strategic plan a number of strengths and weaknesses that the university owns. Among the weaknesses: the skills of graduates are weak, which include verbal and written communication, listening skill, and creative thinking, as a result, it posed a

challenge for the university to intensify its efforts as well as the efforts of faculty members to turn these weaknesses into strengths (Al-Balqa University's Strategic Plan, 2021/2017). In fact, many studies have shown that these skills have a large disparity in their acquisition. (Fong, Sidhu, & Yuen, 2014), which also imposes an additional burden on higher education to provide students with the skills of the 21st century and what is the current labor market should demand to have graduated student with good skills? (Emerner, 2010) (Almerich, Díaz-García, & Cebrián-Cifuentes, 2018), since there is an increase in demand for it in the labor market, and because of its importance in the continuity of work and production. Thus, the nature of the skills that must be acquired by the students of this century needs to be changed in order to meet the demands of the labor market (Hall, Swart, & Duncan, 2012).

The 21st-century skills were considered a challenge for educators in light of the rush of knowledge and acceleration of technological progress; therefore, it became important to pay attention to the quality of skills the graduates have. Acknowledging these skills is not new, but their value and importance have increased in this century (Chris, 2009). These skills focus on how information can be used and doesn't focus on the students' possession of information (Silva, 2009), the education sector should take into consideration the labor market requirements, and opportunities should be presented for students to acquire skills of the century, by having these skills among the priorities of faculty members in universities, that can enable the transference of the aforementioned skills to students through conducting courses for teachers (Hall, Swart, & Duncan, 2012). Moreover, restructuring the existent curricula to include these skills, so that the content aims to develop those skills, by including information, experiences and examples (Voogt, Erstad, Dede, & Mishra, 2013)

Several studies indicate that a number of measures must be taken to ensure that students acquire the skills of the twenty-first century, namely: the need to form a leadership team that prepares for the integration process and overcomes obstacles facing it, prepare teachers with teacher training programs, design teaching programs that reflect the goals of the century and curricula that include these skills with appropriate evaluation dimensions, ensures the suitability of the learning environment, ensure the availability of infrastructure that contribute effectively to the desired change, strengthen the partnership between the university and the local community since the process of providing students with the skills required by the labor market needs to be collaborative, finally form a continuous improvement and development in the educational process, must have a team follow up role in acquiring skills to enhancing strengths and fixing weaknesses (Abdullah & Ahmed, 2016) (Miller, 2009).

The skills of the twenty-first century are centered on learning, innovation, critical thinking, problem-solving and cooperation skills

(Boyaci & Atalay, 2016). Among the skills of the twenty-first century, according to some studies, the previous study discussed the effective use of technology and its applications in education which entails the need to develop the teachers' skills to enable them to transfer these skills to their students (Tsourapa, 2018; Abdullah & Ahmed, 2016).

Silva (2009) referred to these skills as "technological literacy" and pointed out the benefit of their applications in learning and work, as they facilitate access to information faster. Educational literature indicates that these skills help people in work and life, as they promote creativity, thinking, cooperation, and effective communication with others (Germaine, Richards, Koeller, & Cynthia, 2016). Some referred to them as cognitive skills represented in critical and creative thinking and problem-solving, and also as Interpersonal skills represented in communication skills, cooperation, social skills, self-management, self-organization, time management, self-development, lifelong learning, and working under pressure (Kyllonen, 2012)

Theoretical framework and previous studies

2.1 Learning and thinking skills:

Thinking and intellectuality in the past were considered a condition for responsible citizenship in democratic societies (Cotton, 1991), However, now critical and creative thinking skills are essential as basic requirements for university students as part of the skills of the twenty-first century; since acquiring them enables the students to solve their problems and make more logical judgments (Thomas, 2011). Whoever acquires critical thinking skills becomes more organized in his/her thinking, and uses knowledge in an advanced way to explain, analyze, interpret, and reason, and therefore such student is characterized as being open to others, can evaluate himself/herself, wise in his/her decisions, and can solve his/her problems systematically (Maskur, 2020).

In light of contemporary challenges such as the knowledge rush, the diversity of knowledge

media technologies, and the increased reliance on quick research methods, it became necessary for the learner to increase his/her ability to understand the knowledge presented to him/her, to understand the contradictions in the varied knowledge, and to recognize and distinguish right from wrong in the light of this flood of knowledge. All this can be overcome by enabling the student to think better (Alexander, 2012).

One of the teaching strategies that is used in education is critical and creative thinking, which is not considered a new strategy, but it has received more focus at this stage to develop students' ability to perform high-level thinking and deviate from traditional thinking patterns in which information is retrieved without being analyzed or employed more effectively. With the help of this strategy students can acquire more than one skill, for example: Through collaborative learning; the present a problem to have it solved through creative - unconventional ways of thinking, and at the same time, the students acquire the skill of cooperation and working within one team, as well as it allows the students to communicate and participate with everyone within the group and classroom. Moreover, they are taught how to listen well, how to speak to persuade others with their point of view, and how to manage time to accomplish tasks within the specified time frame (Snyder & Snyder, 2008).

Technological skills

Educational technology is one of the things that meet the students' unconventional needs and can serve as a motivation towards learning for students of this century (Daugherty & Funke, 2007). The world witnessed at the beginning of the twenty-first-century interest in technology, especially education technology because it affects increasing the learner's motivation, the independence in obtaining information, and it reduces the gap between knowledge and skills, thus education technology can be invested in creating enriching opportunities for students to increase the transmission of the impact of learning (Erstad, Dede, & Mishra, 2013).

This imposes a major responsibility on universities to provide the necessary support to benefit from modern technology, including laboratories and equipment inside the classroom, and the activation of the e-learning system. This can only take place if there is sufficient training for faculty members and students (Daugherty & Funke, 2007). However, it may constitute a challenge for universities such as providing substantive and technical support and having to accommodate the 21st-century skills, curricula, and the methods of evaluation. Furthermore, strategies used by teachers may not be practical or effective in acquiring these skills (Voogt J., Erstad, Dede, & Mishra, 2013).

2.3 Life skills

In the academic year (2016/2017), Al-Balqa University introduced new courses that enhance communication skills in Arabic and English, as well as creating courses that enhance positive citizenship and life skills; Al-Balqa University's purpose was to enhance the life skills required by the labor market.

Communication skills are the set of features that make up the difference between one personality and another, and it is referred to as social intelligence. People who have communication skills can communicate with others, social, affectionate, and friendly. The labor market seeks these skills because they increase the productivity of Institutions and thus are a reason for their success (Padhi, 2014) (Chris, 2009).

Moreover, the faculty members have a role to promote these skills through the discussions and meaningful dialogues taking place inside the classrooms, using teaching strategies to develop and direct these skills effectively, drawing the attention of students to the importance of these skills, and guiding them to take courses to develop their skills (Schulz, 2008).

2.4 Theoretical Perspectives and Research Hypotheses

Among the previous studies that investigated the skills of the twenty-first century, (Fong, Sidhu, & Yuen, 2014) study was conducted to reveal the extent to which graduate students have the

skills of the twenty-first century. The following types of skills were included in the investigation: creative thinking skills, technological skills, entrepreneurial skills, soft-skills, life skills, leadership skills, communication skills, and English language skills. The study found a high level of cooperative work skills, followed -in order -by soft-skills, life skills, technological skills, leadership skills, critical and creative thinking skills, communication skills, English language skills, and finally entrepreneurial skills.

Abdullah & Ahmed (2016) also conducted a study to reveal the extent to which university students have the skills of the twenty-first century. It was concluded that the university's role, in general, was moderate, and the skills mostly acquired by students were job and life skills, followed by information technology and media skills, while the least acquired were respectively, Awareness of the global issues, health and environmental education, citizenship education, entrepreneurship, and the last of which is learning and innovation skills.

As Critical Thinking Skills are also considered the 21st-century skills; in 2009, Al-karakia & Almahadeen, 2019 conducted a study to measure the level of critical thinking of Mutah University students and its relationship to the motivation of obtaining knowledge. The study concluded that the level of critical thinking among university students is less than satisfactory, and the study recommended that it is necessary to run courses for students to enhance their thinking skills as well as to conduct training courses for faculty members to familiarize them with the importance of critical thinking and ways of helping students acquire it.

Moreover, Iksan et al. (2012) conducted a study on the level of communication skills among university students, which addressed oral, written, and social communication skills. It was found that their communication skills level is good, likewise the same applies to their levels in social then Verbal and finally written communication. Besides, the study showed that these skills can be developed through the teaching methods used within the classroom, and

by implementing active learning strategies in teaching.

Bridgstock (2009) in his study indicated the economic and social importance of life and job skills which guarantee better job opportunities in the future. These skills must include continuous learning "for life" and it is also important to provide support for universities to enable faculty members to keep up with this shift in the academic trend.

Based on previous studies, the following hypotheses were formulated:

- There is a positive effect of university education on providing students with learning and thinking skills from the perspective of graduate students.
- There is a positive effect of university education on providing students with technological skills from the perspective of graduate students.
- There is a positive effect of university education on providing students with communication skills from the perspective of graduate students.

2. Research problem

The research problem can be formulated through the following question: Is there a positive impact of university education on providing students with the skills of the twenty-first century from the perspective of graduate students?

4. Methodology

4.1 Research Method

The researchers implemented the descriptive analytical method and used the survey method to answer the study's questions. The questionnaire was divided into three main dimensions: the first measures "learning and thinking skills", the second measures "technological skills", and the third measures "communication skills". Five-item Likert scale was used (strongly agree = 5, somewhat agree = 4, disagree = 3, somewhat disagree = 2 and strongly disagree = 1). The hypotheses test was based on the results of one

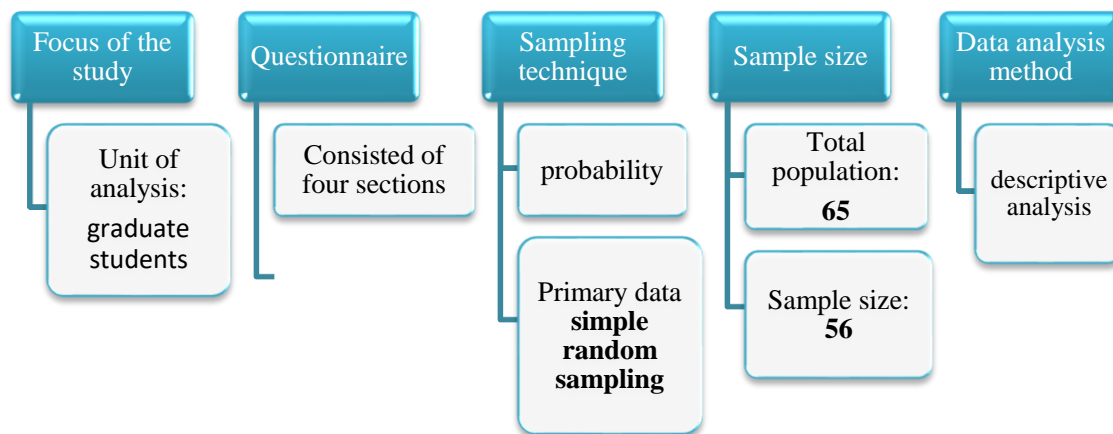
sample t-test that was conducted by the researcher.

4.2. Research Framework

The independent variable in this study is university education, while the dependent variable is the 21st century skills represented by the following dependent variables: learning and innovation skills, and job and life skills.

4.3. Population and study sample

The population of this study consists of all bachelor and diploma students who are graduate or expected to graduate during the academic year 2019-2020. The study sample was intentionally selected to achieve the objectives of the study. 56 questionnaires were distributed, 7 of which were excluded due to the incomplete information and data, and thus the valid questionnaires for statistical analysis were 49, which represents ___% of the total number of the study sample.



This study obtained the graduate students' information from the Admission and Registration Department, farther more added the information of graduated student in Microsoft excel in order to run test to select respondent randomly.

4.3.1 Demographic Profiles of the Respondents.

In this study ,the demographic profiles of the respondents were described and examined according to four classifications, the respondents' demographic profiles included (i) gender; (ii) age; (iii) education; (iv) income; the table shows that 57% were female while males were 42%, most of respondent aged between 22-23 around 71%, majority of respondent is bachelor student about 66%, furthermore most respondent income 500 JD almost 80%.

Categories	Frequency	Percentage
<i>Gender</i>		
<i>Male</i>	24	42.86
<i>Female</i>	32	57.14
<i>Age</i>		
22-23	40	71.42
23-24	9	16.07
24-25	7	12.2

<i>Education (graduate students)</i>		
<i>Bachelor</i>	37	66.07
<i>Diploma</i>	19	33.92
<i>Income</i>		
<i>Less than 500 JD</i>	45	80.35
<i>500-1,000 JD</i>	8	14.28
<i>More than 1,500 JD</i>	3	5.35

4.4 Data Analysis

Researchers used SPSS, version 16, to analyze data. Therefore, the coefficients of reliability, frequencies, average, standard deviation, and one sample T-test were calculated.

4.5 Reliability Statistics

Table 1 shows the measured value of (Alpha Cronbach) for the three dimensions, which

Dimensions	Cronbach's Alpha	N of Items
Learning and innovation skills	.634	7
Technological skills	.634	6
Job and life skills	.679	7
Overall Dimensions	.824	20

ranges between 0.791 and 0.844. Moreover, the total value of all dimensions is 0.898, and therefore, we can conclude that the test is correct.

These are the independent variables: learning and thinking skills, technological skills, and Job and life skills. As you see, dimensions are not consistent.

5. Findings and Discussion

Arithmetic Averages, Standard Deviations, and Ranks for the Impact of University Education on Improving Global 21st Century Skills at Aqaba University College.

Table (2)

No.	Dimensions	Arithmetic Averages	Standard Deviations	Ranks	significance
1	Learning and innovation skills	3.7901	.58981	2	medium
2	Technological skills	3.7279	.59579	3	medium
3	Job and life skills	3.8192	.58159	1	medium

Refer to Table (2), in which the dimensions are reviewed, that the life skills were ranked first with an arithmetic average of (3.8192) and a standard deviation of (.58159) followed by learning and innovation skills with an arithmetic average of (3.7901) and a standard deviation of

(.58981), and finally technological skills with an arithmetic average of (3.7279) and a standard deviation of (.58159).

Arithmetic Averages, Standard Deviations, and Ranks for type (1) Learning and Innovation Skills.

Table (3)

No.	Statements	Arithmetic Averages	Standard Deviations	Ranks	significance
	I have sufficient basic knowledge and skills in my area of specialization	3.76	.855	4	High
	I stay informed on all that is new in my field to keep up with the rapid updated of information	3.53	1.260	6	medium
	I think I can solve problems in creative and unusual ways	3.71	.935	5	High
	I have verbal and written communication skills that enable me to interact with others	3.98	1.010	2	High
	I respect working in a team and can engage in a team smoothly	4.45	.679	1	High
	I can employ all my capabilities and skills to create new ideas	3.78	1.104	3	High

	Whenever I encounter a problem, I collect information and evaluate evidence and arguments	3.33	1.375	7	medium
Total value		3.7901	.58981		

As for the “learning and innovation skills”, the statement “I respect working in a team and can engage in it effectively” was ranked first with an arithmetic average of (4.45) and a standard deviation of (.679), while the statement “Whenever I encounter a problem, I collect information and evaluate evidence and arguments ” was rated last with an arithmetic

average of (3.33) and a standard deviation of (1.375).

Thus, the first hypothesis is accepted, which is: There is a positive effect of university education on learning and innovation skills.

Arithmetic Averages, Standard Deviations, and Ranks for type (2) Technological Skills.

Table (4)

No.	Statements	Arithmetic Averages	Standard Deviations	Ranks	significance
	I have computer skills (word / Access / Power point / Excel) which are essential for work and communication	3.16	1.231	6	medium
	I stay up to date regarding innovations in technology and benefit from applications related to work.	3.96	.865	1	High

	I can access and use information using technology as it is a research tool available to you	3.84	1.067	3	High
	I can develop ideas with the help of modern technology	3.69	1.103	5	High
	I use social media to exchange information and enrich my thoughts and experiences	3.80	.912	4	High
	I can evaluate the information exchanged on websites and realize what is true and what is illogical	3.92	.759	2	High
Total value		3.7279	.59579	High	

As for the "information technology skills", its statements had a high level of significance, with an arithmetic average of (3.7279). The statement " I stay up to date regarding innovations in technology and benefit from their applications in work and life in general " was rated first with an arithmetic average of (3.96) and a standard deviation of (.865). While the statement " I have computer skills (word /

Access / Powerpoint / Excel) which are essential for work and communication " was ranked last with an arithmetic average of (3.16).

Thus, the second hypothesis is accepted, which is: There is a positive effect of university education on technological skills.

Arithmetic Averages, Standard Deviations, and Ranks for type (3) Life and Job Skills.

Table (5)

No.	Statements	Arithmetic Averages	Standard Deviations	Ranks	significance
	At every stage of my life in college, I set my goals and priorities	4.08	.812	1	High
	I can work and fulfill my duties regardless of homework conditions as a student	3.76	.969	4	High
	I listen to positive criticism and benefit from it in developing my abilities	3.80	1.040	3	High
	I can deal with others who have different social and cultural backgrounds smoothly	3.51	.869	5	medium
	I have communication skills that enable me to take initiative to easily understand others' problems	3.51	1.102	5	medium
	I can benefit from others' strengths to get work done	4.00	1.041	2	High
	I realize that it is necessary to respect others and to carry out my duties in the society in which I live	4.08	1.096	1	High
Total value		3.8192	.58159	High	

As for the “life skills”, it was rated highest among the skills types, with an arithmetic average of (3.8192). The statements that were ranked first were each of the following “At

every stage in my life, I set my goals and priorities” and “I realize that it is necessary to respect the freedom of others and fulfill my duties in society in which I live, "with an

arithmetic average of 4.08 each. While the statements that were ranked last are the following: " I can deal with others who have different social and cultural backgrounds skillfully" and " I have communication skills that enable me to initiate to solve others' problems easily " with an arithmetic average of (3.51) each.

Thus the third hypothesis is accepted which is: There is a positive effect of university education on the global skills of the 21st century.

6. Conclusion

The skills of the 21st century are considered the primary guide for educational institutions, especially higher education institutions. Thus, they work on refining and reinforcing these skills with the strategies they undertake to advance the outputs of higher education. AlBalqa University works continuously to improve the general level of its students, and this is expressed in the strategic plan of the university.

According to the analysis of the data, we found that university education had a positive role in providing students with the global skills of the 21st century and this corresponds to the studies of (Abdullah and Ahmed, 2016); Fong, Sidhu, and Yuen, 2014). Moreover, it is necessary to consider the statements which had a medium significance in order to fix weaknesses, such as problem solving, self-development, keeping up with what is emerging in the field of specialization, and finally focusing on technology which is the least acquired skill, and this reflects a reality that must be improved to keep pace with the century and its needed skills (Daugherty and Funke, 2007; Miller , 2009).

This study provides an evaluation of the reality of university education and shows decision-makers what skills the students acquire during this stage to enhance the strengths, improve weaknesses, and meeting the requirements of the labor market concerning the characteristics that must be available in the labor force. Finally, the research must be continued to evaluate the performance of students after graduation and their involvement at work from the perspective of employers (Eisner, 2010) (Almerich, Díaz-García, & Cebrián-Cifuentes, 2018)

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