Multiple Intelligences in Light of Gardner's Rating and the Extent of Their Consistency with Academic Disciplines for the Students of Al-Balqa Applied University

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Abstract This study is aiming at illustrating the extent of multiple intelligences consistency in light of Gardner's rating with academic disciplines for the students of Al-Balqa Applied University, besides, to collect the study data, multiple intelligences list was established in light of Gardner's rating in which it is composed, in its final image, of 63 paragraphs distributed to multiple intelligences (linguistic, logical, bodily, personal, social, existential, natural, spatial, and musical), after investigating psychometric properties of the list, they were applied on a sample consisting of (550) students (males and females) who were chosen through random cluster way of the academic disciplines (educational, agricultural, administrative, engineering and medical) at Al-Balqa Applied University. The study findings, moreover, illustrated that prevailing intelligences of the study population sample were consequently as following: (personal, bodily, social existential, spatial, logical, musical, natural, and linguistic). Furthermore, the study has shown inconsistency of multiple intelligences of the students with their academic disciplines' requirements. As a result, the researcher has recommended a set of recommendations in the light of the study findings.

Keywords Multiple Intelligences, Academic Disciplines

1. Introduction

The educational system in many countries of the world has been characterized by betting on the education distinguished by quality, in which the interest has been concentrated on the student's mental abilities and capabilities as far as possible in addition to ensuring their importance in the development and progress of the society as it is considered the most developmental source at all. This educational system has pursued its concentration on the development and nurturing of students' minds to be up to expectations to play a vital role in the society which requires the learner to have a sufficient degree of cognitive adjustment, consequently, the efforts still have been directed towards vital educational planning to develop curricula and build them on the bases of scientific data results of the contemporary, psychological studies, especially in the field of cognitive psychology. For that reason, the scientists of education and educational psychology are interested in development of curricula through analysis of learning mechanisms among individuals, in addition to designing the educational models based on individual differences, of which the most

important theory was the multiple intelligences theory which is based on knowledge discipline that represents the effort to reconsider the theory of mental measurement included in the IQ tests (Silver, Strong & Perin, 1997).

The university is considered as one of the most important sources that provide the individuals who are socially, professionally, and scientifically well qualified. In addition, those individuals are able to be responsible to develop and promote the society. So, there is a need to pay attention to the educational institutions and promotion of these institutions. The person mediating currently in the reality of many of our universities asks these universities graduates many questions: Are our universities' outputs at the level of ambition? And do our universities graduate superior and spatial individuals in their disciplines? Do those individuals seek to innovation and distinguished achievement in the labor fields after their graduation? Do the students recognize the requirements of these disciplines? What is the extent of their abilities to achieve these requirements? And what is their desire to achieve them?

On this stage, it is shown that there is an interaction among a set of motives making the students study the university discipline and some of these motivations: Academic achievement in high school, their wish to find suitable job opportunities after graduation. Furthermore, one of the most important motivations is their love and enjoyment to study a specific discipline. Also, it is important to know that the opinion of the family and friends affects the choice of specialization. Moreover, the intelligences and abilities contribute to choosing the academic disciplines, and these abilities and intelligences are of the most important motivations in which they interact and influence it. The academic achievement in the high school is influenced by the individuals' ability and intelligence, in addition, the individuals' wish and enjoyment in studying specific specialization are influenced by his/her abilities and capabilities which grant him/ her with trust and comfort in studying that specialization. And in spite of developing those abilities and intelligences, this requires more effort and time. So we can say that if the individual has more intelligences and abilities agrees and expands on specific specialization, the percentage of his adjustment with that specialization becomes higher in addition to his enjoyment in learning more and his ability of excel and innovation easily (Alumran, 2006).

The concern about human mind, its capabilities and then development of this minds illustrates the society attention in the human resources and their importance to achieve the social development; as a result, many societies are, currently, caring about human capital in achieving development. For that reason, the scientists have been caring about measuring the human mind to find its intelligence nature and concepts in which it concentrated on the practical applications of the intelligence.

It is no secret that educational practices still have used one method of education because of the common monolithic view of intelligence which represented that the intelligence is one type for all individuals and that deprived a lot of educated people what suits them of education in which courses are presented in dry and boring ways without regard to their individual differences, needs, inclinations and abilities which generated negative trends for them toward learning, teachers and the school and making them vulnerable to failure and frustration in addition to leaving study seats and then directing and heading towards minimal craft or administrative works since they believe that they are unable to continue their academic education.

At the end of 20th century, Gardner's theory has emerged in 1983 in which Gardner refused, in his book "mind's frameworks" to consider the intelligence as one ability and the learner's abilities are limited to the linguistic and verbal abilities only, also he has ignored the other mental abilities, as a result, Gardner's theory which is named as "multiple intelligences theory" came to give importance to all mental abilities of the individual (Davis, Christdoulon, Seider & Gardner, 2011)

This theory had been based on the Gardner's notices of the individuals characterized with some mental abilities and who get middle or low grades in IQ tests. Consequently, Gardner confirmed that the intelligence is composed of separate capabilities, or multiple intelligences in which each of them does its job independently (Afaneh & Alkhazindar, 2007).

The issue of taking individuals differences into account with regard to mental abilities and learning patterns according to gender or specialization is not an illusion that psychologists are invoking to impose new models which imposed itself on the academic society, but it became an educational concern for the educationalists in order to understand this diversity with its all forms among the students to be comprehended and addressed, since looking to the educated person and considering him able or unable to learn is not accepted matter, never the less, we have to believe that every student is able to be educated but in his own way. For instance, the student of humanities tends to controversy and debate through using his linguistic intelligence, but the student of scientific colleges tends to investigate the educational material in tangible way in the laboratory through using his practical intelligence. Besides, the student of sport education is learning through using his body movements, while art student is learning through interaction with artistic materials in their three dimensions. However, the star of the student of the social sciences or media doesn't shine except through interaction with others, moreover, the Islamic student may need for this mental moment to mediate on the greatness of the creator's creativity (Murad, 2018; Kerri, 2002).

For what have been mentioned above, it has been illustrated that the teacher has to seek to reveal the

suitable method through which the student is learning and then to employ and utilize this method or style in educating, so the education becomes good experience and useful attempt practiced by the educated individual when he feels trust, ability and efficiency to achieve the ultimate purpose of learning and building the human who is able to use the scientific thinking style in solving the problems of his practical life.

There is no doubt that the academic success depends on the focusing on the strength points (strengths) and weaknesses in the student's personality and his abilities and capabilities in addition to utilizing these points in the education process, so it is very important to reveal the individual differences among students in the knowledge capabilities according to specialization in order to provide a suitable educational climate through using various teaching methods adapting with the knowledge capabilities of the students by which every student becomes able to get the ultimate benefit of the educational process according to his abilities, trends and capabilities.

1.1. Multiple Intelligences Theory

(Gardner, 1983) indicated that individuals are born with multiple intelligences more than just linguistic intelligence or logical intelligence in which they are evaluated through known and popular IQ tests. Nevertheless, intelligence concept has to be expanded in order to include various capabilities that reveal the innovation and creativity of the individuals such as musical, intelligence, social intelligence, personal intelligence, bodily intelligence, movement intelligence, and spatial intelligence in addition to other intelligences that are greatly influenced by culture or surrounding environment of the individual. Furthermore, Gardner provided a definition of the intelligence states "the ability to solve problems to create valued products, besides, concerning of social environment of the individual in addition to adding new valued product in one or more of cultural frameworks". (Dickinson, Campbell & Campbell, 1999) cared about studying the multiple intelligences theory and indicated that Gardner determined the intelligence concept through the following points:

- The ability to solve and generate new solutions for the problems as one of the confrontations in the real life.
- The ability to make something or useful seeking that has a value within one culture.

Gardner has seen that these intelligences are not the end of the work, but they are research efforts which will lead in the future to generate and create other intelligences such as sexual intelligence, and digital intelligence. As a result, he calls for reconsideration in the nature of the multiple intelligences in the shadow of biological knowledge development which controls the world in general. Moreover, Gardner confirms the importance of

the knowledge and society practices to access new types of intelligences. Furthermore, Gardner aspires to access new types of intelligences in cooperation with his colleagues all over the world.

The importance of determining the multiple intelligences of educated persons in the university stage is considered the last step of the individual in the educational ladder before attaching the practical life in the professional field, for instance, if the student can choose the academic specialization that is appropriate to the intelligence type that he has, his achievement will be better, and the university life of him will be full of vitality and activity, also, he can be able to achieve the higher grades in the specialization which reflected on his own thinking style and how to deal with university courses and curricula that he is going forward toward these courses with an open mind and psychic rushing to a new life to achieve himself and his ambitions and goals. Nevertheless, if the student does not know the intelligence type he owns, according to Gardner, he will face frustration and deficit and will be disappointed and he may be destined to stop studying since he believes that the stage of university study is characterized with difficulty and complexity. Besides, the student may continue his achievement without any desire, and can't get high marks and his practical experience is featured with a lot of escape or working in a job a way of majoring, and here his ambitions and goals will not be achieved. Moreover, his personality will be characterized by poor personal and professional compatibility.

The most important facts and truths related to this theory, that is not a theory of patterns which determines the intelligence that it fits a person, yet it is a theory that determines the knowledge performance, in which every individual own abilities of intelligences that perform their job together according to him, knowing that some persons own very high levels of performance in all types of intelligences (Husain, 2005). Gardner sees, (Gardner, 2006) that the mental ability of the human is better to be described in the form of a set or a series of abilities, talents, and mental skills which we call intelligences. It is important to know that all normal people own these skills to some extent, but they vary in the extent in which they own these skills, besides, they differ in the nature of their composition, and these skills work in perfect harmony with each other, in addition, the good performance depends on the extent of the individual owning of other types of intelligences and utilizing these types.

Moreover, Gardner supposes that intelligences types are represented by innate biological abilities which may be noticed obviously in the superior people who reached the point of genius in their intelligence and that by observing them in a specific situation or position. For that reason, Gardner sees that the clever school is represented by the following bases:

- Educated people own different tendencies since single style does not fit for all learners.
- Single style does not fit to train all individuals in all fields.
- It is difficult for learner to know about all knowledge aspects even these aspects were done with superior mental abilities.

1.2. Multiple Intelligences

It is possible to describe the intelligences that have been tackled by Gardner's theory as following (Gardner, 1983, 1999, Husain, 2005):

- **Linguistic or Verbal Intelligence:** it means the ability to use language, words, and the individual, who has this intelligence, enjoys the verbal fluently, and tends to think of words. Besides, he enjoys superior hearing abilities.
- **Logical or Mathematical Intelligence:** which means the ability to use logic or numbers, and the individual, theoretically, thinks of logical and numerical patterns, and he is curious about events surrounding him and having a lot of questions in addition to the ability to utilize computer.
- **Bodily/Kinesthetic Intelligence:** it is the ability of the individual to control his body movements and to deal with things brilliantly in addition to controlling the body through movements, besides, the ability of movement sensory balance and synergy such as using ball and balancing tools.
- **Personal Intelligence:** Are the ability of self-mediating and the awareness of internal emotional status and understanding self-feelings, dreams in addition to understanding self-strength and weaknesses.
- **Social intelligence:** It means the ability to contact with others, read their feelings, motivations, and intention and the ability on verbal contact such as eye contact and body gestures.
- **Existential Intelligence:** It symbolizes the relation between the individual and the globe, the occult thought of death, the fate of living beings and human beings, the ability to debate occult matters, experiment, and address the deep Philosophical questions.
- **Natural Intelligence:** It means the ability of individual to be aware of natural environment and tendency to collect natural things such as tree leaves, flowers, birds feather, in addition to classifying things and raising animals and planting vegetables.
- **Spatial Intelligence:** It means the ability to understand visuals, and according to this intelligence, the individual tends to the thought depending on using the visual image in addition to using maps and reading them, besides, using forms and pictures.
- **Musical Intelligence:** It means tasting music and producing it, and here the learner thinks of the musical voices, rhythms, tunes and patterns.

Many studies were conducted to recognize the role of multiple intelligences as they described as one of the portals of the learning methods in the academic success for students in the stages in the university education and ones of which are the following:

The study of (Al-Awbali & Abdl-rab, 2016) whose findings illustrated that the personal intelligence is the most common for the study sample, then social intelligence, then bodily intelligence, then spatial intelligence, mathematical intelligence, then linguistic intelligence, after that natural intelligence and finally was the musical intelligence. The findings have indicated that most of study sample chose specializations that are suitable to their intelligences. Another study was (Alnajjar, 2016) whose findings illustrated that existential intelligence was the highest among other intelligences, then social intelligence, nevertheless, the final one was the musical intelligence. It is important to know that intelligences were consistent with science specialization, art education, sport education but they were not consistent with mathematics, computer science, Arabic language, English language and Islamic studies. With regard to (Rashid, 2015) study, the findings explained that the percentage of multiple intelligences popularity was accepted, and the most intelligence for the female students of the study sample was the personal intelligence and the least one was the musical intelligence. Also, the findings illustrated that there are statistically indicative relations for the interaction between multiple intelligences and the specialization, academic year and the accumulative average.

The results of the study of (Al-Rashidi, 2014) indicated that personal intelligence was with higher arithmetic average, then social intelligence, then the logical one, then the linguistic intelligence, then the existential one, then the natural intelligence, after that the bodily one, spatial intelligence and finally the musical one. According to the study of (Arafa, 2013), its findings have shown that following to the common intelligences for the students that the personal intelligence was the first and the two intelligences musical and bodily were the last. Furthermore, the findings indicate that there is a statistically indicative relation between multiple intelligences and the specialization, also, the findings illustrated that the personal intelligence came firstly for the students of the literary branch, then the linguistic one, while the personal intelligence came firstly for the students of scientific branch, then the mathematical intelligence. Moreover, the results of the (Fumham & Shagabutdinove, 2012) study have shown that the most common and popular intelligences for study sample were logical intelligence, then the personal, then the natural one. Besides, the results indicated that there are no differences in the intelligences patterns among males and females. The study of (Balawi, 2011) illustrated that multiple intelligences came as following: social, personal,

linguistic, existential, movement, spatial, natural, logical, and finally the musical. The findings, also, explained that there are core differences of some types of intelligences because of sex and specialization in which the specializations of natural sciences have excelled, in the social intelligence, linguistic intelligence and spatial one, over the humanities specializations, while the humanities specializations have excelled over the natural sciences in the logical intelligence.

The findings of (Alkhadem, 2010) study have shown that there are indicative differences in the grades of mathematical, movement and natural intelligences for the interest of scientific specializations, whereas, the students of literary specializations have excelled in the linguistic, social and personal intelligences. While there were no core differences between the literary and scientific specializations in the spatial intelligence. With regard to (Qasayaa, 2009) study, its findings illustrated that there are statistically indicative differences in both logical, mathematical intelligence and personal intelligence for the interest of Applied Colleges and the interest of males. The personal intelligence came firstly in all variables of the study. The results of (Alumran, 2006) study, came to show that most students selected the specializations that are consistent with their intelligences. While the findings of (Chan, 2003) study illustrated that the higher common intelligences for the study sample were the self and social intelligence and the least one was spatial intelligence. Moreover, the study reveals that the specialists in psychological counseling have owned high self and social intelligence and specialists in Arts, or sport have excelled in the musical intelligence over other specializations. Whereas the findings of (Mathews, 1994) study have stated that students of science and mathematics revealed preferences to utilize the method of applied learning (bodily, spatial, and natural intelligences). While the students of the following specializations: education, humanities, and social sciences have revealed preference to use the method of conceptual learning (verbal and linguistic intelligence, logical and mathematical intelligence) and then concluded that the students among different academic specializations select the specializations that are appropriate with their learning method which they prefer and which enhances and improves their capabilities to succeed.

Through reviewing the previous literature, it is noticed that those studies used various measures of multiple intelligences such as (Gardner measurement, Makenzy, Midas and some Arabized lists of different intelligences), the study sample were the university students and secondary stage students. Furthermore, they had shown variant results in the common intelligences for the sample. It is important to know that the current study is significant since it aims to study the multiple intelligences of Al-Balqa Applied University students in South Region and the extent of these intelligences' consistency with

their academic specializations. Moreover, current study is of the less studies that have been conducted in the governorates of South Region.

2. Study Problem and Questions

It is known that the superior goal of the education system in the universities is to prepare students to be successful after university study and to provide them with efficiencies and skills in a way taking into account the change and development of societies and adjust with rapid progress in the scientific and technical fields which make concerning of individual capabilities and benefiting from them very important things.

Through my job in university education for a period not too long, it is illustrated to me that there are some obstacles facing the students' development and success, the most important of which is represented by the university admission system which depends on the admission of students on the basis of their academic achievement and their general mental abilities, nevertheless, it does not take into account the other abilities of the students, nor their preferences and interests. It is, also, against the orientations of modern theories that consider the intelligence as multiple mental abilities or multiple intelligences. Consequently, the Gardner's theory came to provide practical solution for selecting students and admitting them in the university on the basis of their intelligence which provides them with success and progress opportunities in the educational path in the specializations that are appropriate to their abilities and preferences.

According to the multiple intelligences theory, the researcher sees that first step toward achieving that is to reveal the learning methods which university students prefer in order to make the teachers recognize the learning methods which are preferred by the students on one hand, and to direct academic guides to guide the students to select the specializations appropriate to their intelligences, as a result, the suitable student attends the suitable specialization on the other hand. When looking to the reality of Arab universities in general, we find them witnessing a state of stagnation, and the most important reason is the traditional education method represented by giving lectures, and debating which are incompatible with the fact of discovering individual differences between the students. Consequently, there must be reconsideration of the strategies of education policy to take individual differences into account. It is known for all the remarkable effect of the multiple intelligences theory in helping a lot of educators in revealing the individual differences among students through their different intelligences. For that reason, the teachers can take the appropriate decision in selecting the suitable learning method and helping the students to reveal their abilities and preferences and

developing them in both practical and academic fields specially in the shadow of the current difficult condition and voices raising the slogan “Education for employment” because of the lack of jobs which are provided by the government in public sector.

Because of what have been mentioned above, it is obvious that if the student wants to be distinguished and creative in his professional future, he should like and love his specialty and enjoy performing the missions of his specialty, so this love pushes him for more efforts, patience, and perseverance to achieve the creativity. All of this requires big consistency and high harmony between that specialization and the student’s abilities and intelligences. And it is important to know that students often study disciplines that are not in line with their abilities and wishes, and we often ask where the creators in different specializations are? And why do not our universities graduate who we aspire if distinguished students and innovators?

Consequently, the current study aimed to establish a list for multiple intelligences of the university students to help in recognizing the types of common intelligences for them. In addition to guiding the students to the discipline that is suitable to their different intelligences and abilities. So, the problem of the study is determined to answer the following questions:

1. What are the common intelligences for the students of Al-Balqa Applied University?
2. What is the extent of the multiple intelligences’ consistency for the students of Al-Balqa Applied University with their academic disciplines?

2.1. The Importance of the Study

- Current study can contribute in predicting the most suitable academic specialization for the university student and which is in line with his abilities and intelligences which push him for excellence and innovation in this specialty. Consequently, this leads to invest youth energies and put these energies in the appropriate place.
- Increasing the awareness of the academic advisors and the admission committees at the universities of the importance of guiding the students to the disciplines that are compatible with their abilities, preferences, and intelligences, and to be more aware to follow various teaching methods that are in line with individual differences among learners which contributes to improving the learning and educational products.

2.2. Study Terminology

- **Multiple Intelligences:** “It means variant and multiple abilities that reveal creativity sources of the individual, in addition, they help in performing missions, solving problems, or adding new product. In spite of the relative independence of these intelligences, Gardner sees that they do not work in isolation from one another, since every activity includes various types of intelligences that work together” (Armstrong, 2009).
- **Academic Specialization:** The type of university education that the student attaches after his success in high school exam.
- **Al-Balqa Applied University:** It is an official Jordanian university established in 1996, it is distinguished by applied education at the level of bachelor’s degree and comprehensive diploma. Moreover, its university colleges are spread in the three regions of Jordan (North, center and South).

2.3. Study Limits

- The study sample was limited to the colleges of Al-Balqa Applied University in the south region (Al-Shobak university college and Al-karak university college)
- The study has been applied in the first semester of the academic year (2019/2020).
- The study results will be determined by the conditions of application and analysis in addition to the reliability and validity of its tool.

3. Study Approach

The researcher used field descriptive approach through applying the multiple intelligences list to achieve the study purposes and goals.

3.1. Population and Sample

The study population consists of the students of Al-Balqa Applied University colleges in South Region and the number of the sample was (3500) students males and females. The study sample included (550) students (males and females) in the study programs (engineering, medical, administrative, agricultural and educational), and the sample was selected by the random cluster method, table (1) shows the distribution of the study sample individuals according to the academic specialization:

Table 1. Distribution of the study sample according to the academic specialization

Academic specializations	Gender		Total	Percentage of the total sample
	Male(%)	Female(%)		
Educational	60(10.9%)	49(8.9%)	109	19.8%
Agricultural	34(6.2%)	28(5.1%)	62	11.3%
Administrative	62(11.3%)	95(17.2%)	157	28.5%
Engineering	65(11.8%)	58(10.6%)	123	22.4%
Medical	43(7.8%)	56(10.2%)	99	18%
Total	264(48%)	286(52%)	550	100%

3.2. Study Tool

3.2.1. Multiple Intelligences List

After reviewing theoretical writings and previous literature (Jayousi & Zeidan, 2016), (Abdul Qader & Abu Hashem, 2007), and (Mukhaimer, 2015), the study tool was established to consist of (70) phrases in initial form, these phases are distributed to (9) intelligences: (linguistic, logical, bodily, personal, social, existential, natural, spatial, and the musical). Every phrase has (5) responses (Fully applicable, frequently applicable, sometimes applicable, Little applicable, and is not applicable at all)

Tool Validity:

- To verify the validity of the multiple intelligences list, it was applied to a survey sample consisting of (35) students (males and females) from the study population individuals and from outside its sample in which correlation coefficients were calculated between paragraphs (items) and intelligences to which they belong ranged between (0.64-0.92), and with total degree between (0.56-0.81), and it was statistically indicative and had acceptable values.

Tool Reliability:

- Test-Retest: Person coefficient between the two applications (15 days between the two applications) was calculated on which total reliability coefficient (0.87), and reliability coefficient of the nine intelligences ranged between (0.70-0.90), and they had acceptable values that achieved the study purposes.
- Internal consistency: the reliability coefficient was calculated by using Alpha Cronbach Equation for each of the different intelligences (0.75-0.88), total reliability coefficient was (0.92).

4. Study Findings and Discussion

First question: What are the common intelligences for the students of Al-Balqa Applied University? To answer this question, the arithmetic averages and standard deviations of various intelligences, and total intelligence were calculated and they are as in the table (2).

The findings of the table mentioned below that the common intelligences of the study sample individuals were a descending order as the following: personal, bodily, existential, spatial, logical, musical, natural, and finally linguistic). The findings, also, illustrate that personal intelligence was the first order, and the researcher explained that this result was because that study sample population is in the late adolescence in which Erickson theory in social psychological growth that the teenager identity in this stage is in its way toward determination and identification, so the researcher named it as "the stage of intimacy versus solitude" by which the individual seeks to confirm his self and his social identity and achieve the professional and mood compatibility in addition to overcoming common mood swings in the previous stages in addition to achieving emotional mood balance (Hadiya, 2004).

With regard to the bodily intelligence which means the individual ability to control the bodily movements, it was the second order. The researcher attributes the reason since the students in this stage enjoy energy, activity vitality, and they are utilizing, most of times, movements to express their feelings and thoughts. Furthermore, they love sport and movement specially soccer game, balance games and other games that lead to empty energies for this age group.

In the third order was the social intelligence and this can be illustrated since Jordan society specially in South Region is tribal traditional society in which the social relations are of the most behavioral values that individual adheres to and calls for social communication and enhancement of social relations. Moreover, the late adolescence through which the study sample population passes is considered as a stage to construct the normal social relationships based on interaction, and mutual balance exchange between self-requirements, society values, and social intelligence has been showing the individual ability to recognize others' feelings and interaction with them positively.

Table 2. Arithmetic means and standard deviations of the multiple intelligences and total degree on the list (N=550)

Statistical	Multiple intelligences									Total degree
	Linguistic	Logical	Bodily	Personal	Social	Existential	Natural	Spatial	Musical	
Mean	3.46	3.63	3.79	4.04	3.75	3.70	3.47	3.67	3.60	3.68
Standard deviation	0.63	0.65	0.64	0.64	0.65	0.66	0.75	0.71	0.83	0.47
Rank	9	6	2	1	3	4	8	5	7	

The intelligences: musical, natural, and linguistic were at the least evaluations. This can be explained by that music material is neglected and cancelled out of the educational plan in the most educational stages.

The intelligences: musical, natural, and linguistic were at the bottom of the list of estimates. This can be explained because neglecting and canceling music out of the studying plans in most educational stages in which official curricula do not concentrate on the musical aspect which does not help the sample population to develop their musical intelligence in addition, the students do not resort to discover knowledge by untraditional methods such as using music or seeking in the environment surrounding them. Furthermore, the academic environment in which they exist is distinguished with mostly dry character of educational classrooms, scientific laboratories and engineering workshops.

The linguistic intelligence was at the last order, and that was not expected, and the researcher attributes that because of the declining of the importance of using the language as a key mean for expression and communication, because of great progress in social media and electronic communication which leads to use letters and numbers in writing in addition to the popularity of using slang language versus classical language (Fusha) in communication. Besides, many scientific materials have

been reviewed in foreign language other than Arabic language and could be on the form of symbols and numbers instead of depending on linguistic construction.

The current study findings were compatible with the findings of the following studies:

(Al-Awbali & Abdl-Rab, 2016), (Alnajjar, 2016), (Rashid, 2015), (Alrashidi, 2014), (Arafeh, 2013), (Fumham & shagabutdinova, 2012), (Balawi, 2011), (Qusayaa, 2009), (Chan, 2003), (Mathew, 1994) which indicated the prevalence of one of the two intelligences (personal, bodily) in the first order and second order. Nevertheless, the current study findings differed from the findings of the two studies (Alkhadem, 2010), and (Alnajjar, 2016) in which their findings illustrated the prevalence of other intelligences as existential intelligences, social, movement intelligence and linguistic at the first order among common intelligences for the population of these two studies.

Second question: What is the extent of the multiple intelligences' consistency for the students of Al-Balqa Applied University with their academic specializations? Arithmetic averages and standard deviations of the different intelligences and total intelligence have been calculated according to the student's academic specialization and table (3) illustrates the findings:

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Table 3. The arithmetic means and standard deviations of the multiple intelligences and total degree on the list according to the academic specialization (N=550)

Academic specializations	Multiple intelligences										Total degree
	Statistical	Linguistic	Logical	Bodily	Personal	Social	Existential	Natural	Spatial	Musical	
Educational	M	3.58	3.73	3.93	4.18	3.80	3.86	3.61	3.72	3.48	3.76
	Std	0.55	0.58	0.60	0.54	0.66	0.51	0.66	0.62	0.91	0.41
Agricultural	M	3.36	3.62	3.70	3.90	3.81	3.79	3.63	3.76	3.86	3.71
	Std	0.80	0.93	0.77	0.88	0.87	0.86	0.88	0.91	0.93	0.71
Administrative	M	3.43	3.57	3.72	4.0	3.70	3.63	3.45	3.68	3.71	3.65
	Std	0.61	0.59	0.66	0.58	0.58	0.66	0.75	0.67	0.78	0.45
Engineering	M	3.42	3.60	3.80	4.08	3.76	3.56	3.27	3.61	3.43	3.61
	Std	0.62	0.64	0.62	0.64	0.66	0.65	0.76	0.74	0.82	0.44
Medical	M	3.50	3.63	3.80	4.02	3.72	3.76	3.48	3.61	3.57	3.70
	Std	0.63	0.60	0.56	0.64	0.56	0.63	0.73	0.69	0.72	0.42

From the findings mentioned above, it is noticed that multiple intelligences are distributed to the academic specializations as followings:

Educational specializations: personal, bodily, existential, social, logical, spatial, natural, linguistic and musical.

Agricultural specializations: personal, musical, social, existential, spatial, bodily, natural, logical, and linguistic.

Administrative specializations: personal, bodily, musical, social, spatial, existential, logical, and natural.

Engineering specializations: personal, bodily, social, spatial, logical, existential, musical, linguistic, and natural.

Medical specializations: personal, bodily, existential, social, logical, spatial, musical, linguistic, and natural.

From what have been mentioned above, it is illustrated that the two intelligences (personal and bodily) were at the first and second orders consequently in all academic specializations for the study sample population, excluding the agricultural specializations in which the personal intelligence was at the sixth order. This result confirms what is coming in the result of the first question of the study which explained that the preference of the two intelligences (personal and bodily), it is also noticed that the common intelligences of the study sample individuals according to the academic specializations are not consistent with these specializations in general, besides, Gardner indicated that the performance of any mission requires interaction among multiple intelligences, so there must be a specific combination among intelligences that have been owned by the person to solve his problems and practice his work, since there is no intelligence that achieves missions. For instance, we find that findings illustrating that linguistic intelligence in the educational specializations were at the eighth order and this was not expected since the students of these specializations need the linguistic intelligence that contributes in using language easily and in ways of variety and understanding in addition to establishing debate during learning process in the university. Moreover, they need linguistic skills in explanation and debating during application in practical education in schools.

Consequently, the students of the educational specializations could succeed in spite of the lack of the linguistic intelligence they have, and also the linguistic intelligence will not be the linguistic intelligences they have. So, this indicates that the students of these specializations have no abilities and intelligences which distinguish them from others of the other academic specializations. For that reason, they attach the specialization which doesn't harmonize with their multiple intelligences, and so is the case in agricultural specializations in which the natural intelligence was at the seventh order, knowing that the natural intelligence one of the intelligences that the agricultural specializations students must be distinguished with since of their relationship with earth, and natural environment in

addition to the specialization nature that requires dealing with natural environment whether trees, vegetables, flowers, and animals in addition to other components of their surrounding environment.

With regard to the administrative specializations, their student's responses were by selecting the two intelligences (personal and bodily) as other academic specializations, the musical intelligence was at the fourth order, and we find that this is not consistent with these specializations' requirements. Furthermore, it was expected that the administrative specializations students are distinguished with logical intelligence as administrative specializations deal with numbers, in addition to the administrative and computer information. Furthermore, it was expected that social intelligence occupies advanced orders since these specializations' graduates need high level of the communication skills with audience in the governmental departments, private companies and banks. It is also noticed from the findings that linguistic intelligence was at the last order, and this is considered as a weakness source of these specializations' students. For what have been mentioned before, the researcher concludes that the common intelligences of the administrative specializations were not consistent with these specializations' requirements.

With regard to the engineering specializations, the researcher noticed that the logical intelligence was at the fourth order, in which it was expected to be at the first order among multiple intelligences because engineering specializations require high degree of logical intelligence because of the nature of curricula of these specializations that requires high level of thinking and dealing with logic and numbers. The researcher notices also that their spatial intelligence was at late ranking among intelligences knowing that engineering students have to be characterized with the ability to understand visuals and thinking depends on maps and forms reading.

According to the medical specializations, the author finds that the common intelligences of these specializations were most consistent with sample individual, for instance, personal intelligence was at the first rank as other specializations, and the bodily intelligence was at the second rank and this is considered as an excellence for the students of medical specializations, in which bodily intelligence achieves muscle and neural synergy to perform scientific experiments and use medical devices accurately, and these specializations students have to be distinguished with using senses skill and a lot of manual skills required in medical job as the specialization of Co-nursing, radiation imaging, dental technician, laboratory test and other medical specializations.

For what have been mentioned above, it is clear that common intelligences of the study sample individuals in the specializations of (educational, agricultural, and engineering) were not consistent with their academic

specializations they study, and the researcher justifies that because many reasons of which: the policy of university admission that is followed by university admissions coordination unit which depends on general average of the students in the high school exams without looking to the students' abilities, their intelligences, preferences and their wishes, in addition, the students themselves select specializations required in the local labor market seeking to find a job after graduation without taking their abilities and preferences into account, in addition to the family guidance of their sons toward specific specializations that are not suitable to their intelligences which forms an obstacle in front of the students' development and their future successes.

The current study findings were compatible with the study findings of (Arafeh, 2013) which indicates that personal intelligence was the first rank for all literary and scientific specializations in addition to the study findings of (Qasayaa, 2009) which illustrated that personal intelligence was at the first rank in all study variables, nevertheless, the current study findings are not compatible with the study findings of (Mathews, 1994), (Aumran, 2006), (Al-Awbali & Abdl-rab, 20016) which indicated the harmony between the intelligences with the academic specializations of these studies samples individuals.

5. Recommendations

- Taking into consideration the multiple intelligences of the students in the university admission.
- Taking advantages of the developed multiple intelligences list and using it to identify the multiple intelligences of the university students in order to use and utilize the suitable learning methods and strategies of their intelligences.
- Getting the attention of the academic advisors to guide the university students to the academic specializations that are consistent with their multiple intelligences.

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