

The Level of Multiple Intelligences of the Tafila Technical University Students

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How to cite this paper: Al-Kfaween, E. M. (2024). The Level of Multiple Intelligences of the Tafila Technical University Students. *Open Journal of Social Sciences*, 12, 89-97. <https://doi.org/10.4236/jss.2024.1212006>

Received: November 12, 2024

Accepted: December 3, 2024

Published: December 6, 2024

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Abstract

The study investigates the levels of Multiple Intelligences (MI) among university students at Tafila Technical University, Jordan. A random sample of 628 students was selected. The McKenzie scale was used to measure eight MI types. Results indicate an average level of MI among students, with interpersonal intelligence ranking highest and musical intelligences lowest. No statistically significant differences were found based on college (scientific vs. humanities). The study concludes that family socialization prioritizes grades over learning methods, and traditional teaching approaches fail to identify and develop students' diverse intelligences. Recommendations include adjusting family socialization strategies and implementing university programs to foster MI development.

Keywords

Multiple Intelligences, University Students, Tafila Technical University

1. Introduction

The traditional methods used in education do not allow learners to show their skills and abilities appropriately. Therefore, the MI theory will enable learners to learn using their skills. The MI theory, mentioned by Gardner, states that we cannot interpret human intelligence according to one dimension. There are many kinds of intelligence, such as logical-mathematical, musical, linguistic, Bodily-kinesthetic, interpersonal, naturalistic, and social intelligence. Gardner pointed out that people have individual differences in intelligence from each kind (Hajhashemi et al., 2018). Intelligence is the skill that an individual has in problem-solving and dealing with the difficulties they encounter by producing authentic and valuable solutions (Shearer & Karahian, 2017). The different kinds of intelligence can be improved and developed by providing the appropriate environment. Enhancing

and developing these intelligences has an impact on focusing on strategies that contribute to achieving the learning process and assisting learners in meeting the required tasks so they can learn effectively (Nicholson, 1998). The strategies which depend on using the MI theory in learning situations contribute to making each learner to become smart and hence increasing the learning effectiveness because each learner has his own way in acquiring knowledge and analyzing it. For example, a learner who has linguistic intelligence prefers to learn by conversation and discussion during the learning situations (Nulhakim & Berlian, 2020).

The MI theory provides a suitable environment for learner taking into consideration the individual differences by focusing on students' interest and inclinations, and hence direct the concerns of teacher to use different kinds of strategies during the learning situation in the classroom (Kuzu & Akcay, 2011).

Recognizing different kinds of intelligence for individuals is considered very important in helping the learners to discover their inclinations and tendencies to refine their personality in an appropriate way (Thambu et al., 2021).

Logical-mathematical intelligence refers to individuals believing in their logic skills while musical intelligence refers to the ability of individuals to recognize the musical sounds and create musical tones and clips (Tirri, 2008).

Linguistic intelligence is an individual skill to use words and their meanings effectively.

Who has this spatial intelligence can recognize the places and the details skillfully and he can use the lines and colors to make them interfere in a creative way (Hussein, 2014). The individuals with naturalist intelligence possess the ability and recognize the environmental characteristics and the changes that occur in the environment in which they live (Zaza, 2017).

Interpersonal intelligence refers to the ability of individuals to understand and recognize themselves and the emotions they have in different life situations and how to deal with it with these emotions effectively. Social intelligence is interpreted as the ability to read the feelings and emotions of others, understanding motivations, and comprehend the body language and facial expression (Jaber, 2003).

Bodily-kinesthetic intelligence explains an individual skill in harmoniously using the body movement, showing a tendency to excel the tasks relying on physical movements and demonstrating creativity in their application (Hajhashemi et al., 2018).

MI plays a crucial role in contributing to personal development of individuals, aligning with the current era, possessing various types of intelligence enhances individuals' ability to acquire the skills necessary to solve the problems they encounter. Numerous studies indicate that there are differences among learners regarding the levels of MI. For instance, it was noted that the average level of MI among university students was intermediate, with statistically significant differences observed based on gender and the college in which the student was enrolled (Alawneh, 2016).

Additionally, reported that the level of MI among university students was at an

intermediate level, with no statistically significant differences based on gender variable, except for logical intelligence, where differences were statistically significant and favored males (Al-Zoghby, 2023). The results of the study conducted by Geosci & Zidane (2016) revealed that the level of MI among university students was low. There were no statistically significant differences based on the students' gender. Benbrika (2017) indicated that university students tend to focus more on spatial intelligence, with the lowest level observed in existential intelligence.

There were no differences between male and female students in terms of MI levels. Except for linguistic intelligence and existential intelligence, where females exhibited higher levels. Statistically significant differences were observed based on the students' academic specialization, favoring students in humanities colleges, except for bodily intelligence, where the differences were not statistically significant. The findings of study indicated that social intelligence was the most prevalent among students, while musical intelligence ranked the lowest.

The results revealed statistically significant differences in Bodily-kinesthetic, logical-mathematical, and social intelligence favoring males. Conversely, statistically significant differences were observed in linguistic, existential, and spatial intelligence favoring females. Furthermore, statistically significant differences were noted based on students' majors, favoring scientific colleges in logical-mathematical, existential, and social intelligence, and favoring humanities colleges in linguistic intelligence (Mekhaymer, 2015). The results indicated statistically significant differences based on gender variable, favoring males. Additionally, the study demonstrated that the highest utilization of multiple intelligence patterns among students was in interpersonal intelligence, whereas the lowest was in musical intelligence. No statistically significant differences were observed based on gender in linguistic and bodily-kinesthetic intelligence. However, statistically significant differences were found in existential, logical, interpersonal, and natural intelligence, favoring males.

There were statistically significant differences in musical intelligence based on gender, favoring females in the study sample (Al-Muhammed, 2022). There were no statistically significant differences based on gender, except for linguistic intelligence, where differences were statistically significant and favored females (Al-Jawarneh et al., 2018).

Another study pointed out that the highest level of MI was linguistic intelligence, with bodily intelligence being the lowest. Statistically significant differences were observed based on students' majors in multiple intelligence levels, except for social and bodily intelligence, where differences were not statistically significant (Al-Hadour & Al-Hadi, 2018).

In a study conducted by Olwan & Binmomen (2023), their findings indicated no statistically significant differences in MI based on students' gender. The study also demonstrated that bodily intelligence had the highest level among multiple intelligence patterns, while linguistic intelligence was only at the lowest level. There were no statistically significant differences in multiple intelligence levels

based on students' gender (Al-Jaafra, 2022). The study by Mahasneh (2013) indicated that the differences in multiple intelligence according to students' gender variables were not statistically significant. The study by Zarer et al. (2015) found statistically significant differences based on students' gender variables in natural and existential intelligence, favoring females. Social intelligence was reported to be the highest level, while linguistic intelligence was the lowest. There were no statistically significant differences according to students' gender variables in MI levels. However, statistically significant differences were observed related to the specialization variable in logical intelligence, in social and linguistic intelligence (Al-Nour, 2013).

2. Study Problem

The accelerated global changes and the information revolution have brought transformations in all aspects of life. These changes have introduced new requirements and expectations for the individual's personality, which must be developed to handle and adapt to the vast amount of information and knowledge and to meet the demands of modern life. Therefore, it has become necessary to rearrange the individual's priorities according to these changes, starting with acquiring skills that provide the individual with the driving energy to pursue their goals.

The most important skill is the MI skill that Gardner pointed out in his theory which states that every individual has this kind of intelligence in one level or another (Hajhashemi et al., 2018). Also, this intelligence can be raised and developed by providing the appropriate environment for everyone. Because having such skills can improve the life quality for individuals and provide them with the necessary power to be able to encounter challenges in all situations and events in life (Nicholson, 1998). As a result, this study came to identify the MI levels of university students and related to the college.

3. Study Questions

- The study aimed to answer the question of, what is the level of MI through student's university.
- To what range will college affect the levels of MI through the university students.

4. Method

4.1. Study Design

This study is theorized as a descriptive study.

4.2. Society of Study and Sample

The study society consisted of [8401] university students. enrolled in the first semester in the year of 2023-2024 A random sample was chosen, the study sample consisted of [628] students.

4.3. Study Scale

- Use the Mckenzie scale developed by [Rwajfeh \(2015\)](#). The scale [75] clauses, distributed in eight types as follows:
- Musical Intelligence: it has nine clauses, it measures the musical motivation and the ability to express musical.
- Logical Intelligence: It has nine phrases. It measures the skills problem solving and thinking strategies.
- Social Intelligence: It has nine clauses. It measures the team leadership skills and social interaction.
- Bodily-Motor Intelligence: It has nine phrases. It measures the expressive dance and manual labor skill.
- Linguistic Intelligence: It has nine phrases. It measures the speaking with others and solve puzzles.
- Interpersonal Intelligence: It has ten phrases. it measures the moral values and justice and self-confidence.
- Spatial Intelligence: It has ten clauses and thinking with pictures.
- Natural Intelligence: It has ten clauses. It measures the skills dealing with nature and animals.

The scale was presented to several referees to gather their perspectives on the extent to which it could be valid in the Jordanian environment. Accordingly, the paragraphs were modified based on the referees agreed modifications.

4.4. Reliability Scale

Reliability coefficient was using the Alpha Cronbach factor of the scale Multiple Intelligences as seen in [Table 1](#).

Table 1. Reliability coefficient for the Multiple Intelligence.

Multiple Intelligence	Alpha Cronbach
Musical Intelligence	0.82
Logical Intelligence	0.84
Social Intelligence	0.79
Bodily-Motor Intelligence	0.85
Linguistic Intelligence	0.77
Interpersonal Intelligence	0.86
Spatial Intelligence	0.81
Natural Intelligence	0.83
Multiple Intelligence	0.89

4.5. Study Statistic

To answer the first question, the stranded deviations and means were used.

To answer the second question T-test for was used.

Alpha Cronbach was used to find out Reliability coefficient.

4.6. Study Limits

This study was determined by the bachelor students registered in the first semester of the year 2023-2024. They were chosen from educational science, engineering, information technology, science, business, and faculty of arts.

5. Results

Table 2. The mean, standard deviation, ranking and level for the grades of the students in sample on the scale of MI.

Multiple Intelligences	Mean	Stand Deviation	Ranking	Level
Interpersonal Intelligences	8.46	1.43	First	High
Bodily Motor Intelligences	7.41	1.99	Second	Average
Logical Intelligences	7.35	1.83	Third	Average
Social Intelligences	7.30	2.20	Fourth	Average
Linguistic Intelligences	7.20	2.06	Fifth	Average
Spatial Intelligences	7.17	2.20	Sixth	Average
Natural Intelligences	6.31	2.5	Seventh	Average
Musical Intelligences	5.87	2.30	Eighth	Average
Multiple Intelligences	7.13	1.36		

The result showed that the level of MI was in the average, and the highest intelligence are the interpersonal intelligence and the musical intelligence lowest (**Table 2**).

Table 3. The result of T-test for according to the college variable.

College	MI	Mean	Standard Deviation	T	df	Sig
Scientific	Musical Intelligences	5.88	2.42	0.23	626	0.81
Humanities		5.84	2.07			
Scientific	Logical Intelligences	7.43	1.88	1.48	626	0.14
Humanities		7.20	1.74			
Scientific	Social Intelligences	7.25	2.24	0.76	626	0.45
Humanities		7.40	2.14			
Scientific	Bodily-Motor Intelligences	7.34	1.99	1.13	626	0.26
Humanities		7.53	1.98			
Scientific	Linguistic Intelligences	7.20	2.02	0.02	626	0.99
Humanities		7.21	2.13			
Scientific	Interpersonal Intelligences	8.48	1.41	0.47	625	0.64
Humanities		8.47	1.46			
Scientific	Spatial Intelligences	7.16	2.18	0.07	626	0.94
Humanities		7.17	2.25			

Continued

Scientific	Natural Intelligences	6.20	2.50	1.47	625	0.14
Humanities		6.51	2.49			
Scientific	Multiple Intelligences	7.12	1.36	0.35	626	0.72
Humanities		7.16	1.37			

The result has shown that there are no significant differences indicated students of human and scientific faculties (**Table 3**).

6. Discussion

The conclusion can be interpreted as that the family which is considered as the main point for the individual personality focuses during the socialization and in all the age stages of the individual on the result and they don't give strategic importance that the individual use it to reach to the result, so in the majority of families focus more on how their sons got the higher grade and an excellent average and they don't give much importance for the learning methods and acquiring knowledge. In fact, to develop and enhance intelligence skills, the focus should be on the strategies individuals use to acquire knowledge. Therefore, intelligence was at a moderate level. To elevate interpersonal intelligence to a higher level and the top rank, it is important to remember that interpersonal intelligence entails understanding one's emotions and being aware of emotional situations they experience. As University students are at a stage where they can understand their emotions, this result is consistent with Study (Alawneh, 2016) and Study (Al-Zoghby, 2023), but it contradicts the findings of Study (Geosci & Zidan, 2016).

The lack of differences between students in scientific and humanitarian colleges can be interpreted as the emphasis on achieving grades (academic achievement) by families and different education institutions whether schools or universities which can lead students to neglect showing their skills as their primary goal is to obtain grades. Additionally, traditional teaching methods used whether in learning situations or during extracurricular activities and initiatives do not focus on identifying students' interests and guiding them in a way towards developing and improving them. This lack of focus applies to both scientific and humanitarian socialization, all these factors contribute to the observed outcome. This result contradicts the findings of Study (Alawneh, 2016; Mekhaymer, 2015; Al-Muhamed, 2022; Al-Nour, 2013).

Finally, to assist families in developing multiple intelligences, this can be achieved by changing how they treat their children, giving them the chance to test their skills in real-life situations, encouraging them to improve their hobbies and build self-confidence. Teachers should also adjust their methods of encouragement, punishment, and evaluation used with children, giving them the opportunity to express their thoughts and achieve the required success.

7. Recommendations

In general, the findings indicate the need for families to adjust their socialization strategies to encourage children to develop their abilities across different stages of life. Furthermore, universities should work on building programs, creating initiatives, and adjusting teaching strategies to assist students in learning situations enhancing their multiple intelligences. The current era presents numerous challenges that require students to possess various skills to effectively navigate the changes happening in the world and successfully face the future. And creating strategies to elevate student's multiple intelligence and the study recommended doing additional researchers about multiple intelligence and their relation with other variables.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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