

Multiple Intelligence by Social Studies Teachers in Jordan

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Abstract: The study aimed to verify the level of multiple intelligences by Social Studies teachers in Jordan. The sample consisted of 250 teachers in the Departments of Education of Amman, the first 5 were chosen the way of class and to achieve the objectives of the study, the researcher built its tool in the light of the educational literature and previous studies was applied to the sample after making sure of its sincerity and persistence. The results of the study that the level of multiple intelligences by Social Studies teachers in Jordan was average, also found that there were significant differences in the level of intelligences are attributable to the impact of years of experience in all areas except for intelligence logical mathematical and results showed that there was no statistically significant differences attributable to the impact of qualification in all areas except for emotional intelligence and the differences were in favor of bachelor's. As well as the lack of statistically significant differences attributable to the impact of sex in all areas except for emotional intelligence, intelligence and environmental differences were in favor of males. And the presence of statistically significant differences between groups experience different levels of multiple intelligences.

Key words: Teachers, Social Studies, multiple intelligences, impact, persistence, Jordan

INTRODUCTION

Psychologists offer definitions of the word intelligence, they are normally to be understood as stipulating technical senses rather than attempting to describe the ordinary sense. Certainly, the various definitions they have advanced over the last 100 years or so do not fare well as accounts of the criteria governing ordinary usage.

Therefore, we can note differences between scholars and researchers in explaining the concept of intelligence or the ability to define it. This may be due to it contains many motives and attitudes that can not be revealed. Thus, there are probably as many definitions of intelligence as there are experts who study it. Simply put, however, intelligence is the ability to learn about, learn from, understand and interact with one's environment. This general ability consists of a number of specific abilities which include these specific abilities are adaptability to a new environment or to changes in the current environment, capacity for knowledge and the ability to acquire it, capacity for reason and abstract thought, ability to comprehend relationships and the ability to evaluate and judge.

Gardner (1999) stated that a human being possess at least seven types of mental functions, each one is called intelligence. He stated that those separated intelligences have its own groups of abilities that can be noted and measured, those intelligences are: Logical-mathematical, spatial, linguistic, bodily-kinesthetic, musical,

interpersonal, intrapersonal, naturalistic and existential. Therefore, the theory of multiple intelligence came to expand the traditional view of intelligence, though Gardner (1985) did not separate between scientific and practical intelligence as he thinks that a new theory of intelligence must include both (Gardner, 1997).

In the reality of educational studies on multiple intelligences, conducted study aimed to test the effect of using the strategy of multiple intelligences as a practice teaching in the classroom by teachers of special education, the results indicated that the training is based on the theory of multiple intelligences has led to enhance their capacity to implement this strategy in the classroom. And held study aimed to assess the scale of multiple intelligences using multiple intelligences eight developmental and highlights of results that the highest percentage of intelligence was the intelligence of the social (Ksicinski, 2000).

Statement of purpose and questions: Multiple intelligences theory has expanded its view to the types of intelligences between people and their style in using it in order to develop societies through giving the opportunity to different kinds of intelligence to emerge in producing novel productions while considering the need of individuals (Merritt, 2001).

The related literature stated that there is a dominance of the traditional educational practices in educational performance and awareness of teachers in the educational field but that the presence of multiple intelligences and

differences among students per semester requires approaches and methods of teaching diverse to achieve communication with all students present in the classroom. Gardner (1983) states that the measures of IQ does not take into account only a fraction of the capacity of the learner, linguistic and logical mathematical ability while marginalizing many other capabilities can not ignore the value in the community. Came the theory of multiple intelligences to give equal importance to all mental abilities of the learner that does not take into account measures of intelligence.

Therefore, if the multiple intelligences are represented in the deep understanding of teachers, it will be reflected in their practice to fit all learners while addressing their different types of intelligences. This may contribute in developing the educational process which is considered the core of strength in any society. Accordingly, the current study is trying to answer the following research questions:

- What is the level of multiple intelligences among Social Studies teachers in Jordan?
- Are there any significant statistical differences at the level of $\alpha = 0.05$ in the level of multiple intelligences attributed to gender, years of experience and scientific qualification variables?

Significance of the problem: The importance of the study can be presented in the following aspects:

- Directing stakeholders, supervisors and Social Studies teachers in Jordan to the importance of revealing the multiple intelligences among the teachers to enable them from practicing those intelligences
- The research conducted in the present study potentially will contribute empirical data aiding in practical application and theoretical discussions regarding multiple intelligences
- The importance of the topic itself, especially for Social Studies teachers in Jordan as it has its benefits on the academic and social life of people
- The study sample which represents a wide category of teachers in Jordan

Limitations of the study: The study is limited within:

- Social Studies teachers working in Amman Educational Directorates: the 1st-5th
- The 1st semester of the schooling years 2011/2012
- The psychometric characteristics of the study instrument and the objectivity of the samples' responses

Purpose of the study: Verifying the level of multiple intelligences by Social Studies teachers in Jordan according to the differences in gender, years of experience and scientific qualification.

Definition of terms

Social Studies teachers: Teachers who teach (Geography, History and Social Studies) in the schooling year 2011/2012.

Multiple intelligences: The ability to solve problems or producing valuable and new products within cultural contexts (Gardner, 1999). In this study, it is teachers' scores on the scale used to gather data.

MATERIALS AND METHODS

Research design: This study was a quantitative study conducted through utilizing an instrument that has been shown to assess levels multiple intelligences among Social Studies teachers in Jordan.

Population: The population of the study consisted of all male and female Social Studies teachers (Geography, History and Social Studies) in the five educational directorates of the capital Amman totaling (1345) male and female teachers according the ministry of education in 2010/2011.

The study sample: The sample of the study consisted of 250 male and female teachers from the five educational directorates of the capital Amman chosen through cluster sampling according to scientific qualification, experience and gender. Table 1 presents the sample's distribution.

Instrumentation: The researchers reviewed the related literature and previous studies then developed a scale consisted of 56 items reflecting the levels of multiple intelligences among teachers in Jordan.

Table 1: Sample distribution according to variables

Variables	Number	Percentage
Scientific qualification		
BS degree	971	78.8
Master degree	53	21.2
Total	250	100.0
Experience (years)		
1-4	56	22.4
5-9	70	28.0
≥10	124	49.6
Total	250	100.0
Gender		
Male	150	60.0
Female	100	40.0
Total	250	100.0

The reliability of instrument: To ensure the reliability of the scale it was rated by 10 qualified raters from the Jordanian Universities in the fields of Psychology, teaching methods and measurement in order to provide their notes and comments. All their comments were considered while writing the final draft of the scale.

The validity of instrument: Validity was checked through a pilot study consisted of 30 teachers from the population of the study. Validity was checked through:

Stability validity: Test-retest technique was used by administrated the scale on the pilot study twice within 2 weeks period interval. Person coefficient was used to measure differences between the two administrations. It shows a rate of 0.78 and its is an acceptable value for the purposes of this study.

Internal constancy: Cronbach's alpha formula was used to check the internal constancy. The internal constancy is shown in Table 2.

To determine the level of multiple intelligences and the effectiveness of teaching for the sample, the means were categorized as follows: Range = 5, scale weight -1 = 4 then range 3/4 = 1.33. Therefore, low (from 1-2.33), average (from 2.34- 3.67) and high (from ≥ 3.68).

Statistical procedures: The researchers adopted many statistical techniques, those are:

- To answer the 1st question, means and standard deviations were used to determine the level of multiple intelligences among Social Studies teachers in Jordan
- To answer the 2nd question, means and standard deviations were used to determine the level of multiple intelligences according to gender, qualification and gender. Sheffe technique was adopted too for post comparison

Study variables

Independent variables:

- Scientific qualification; divided to BS and Master degree
- Experience; distributed into: 1-4, 5-9 and >10 years

Table 2: The internal constancy

Domain	Cronbach's alpha
Linguistic	0.71
Math\Logic	0.84
Interpersonal	0.74
Kinesthetic	0.70
Emotional	0.76
Environmental	0.76
Existential	0.81
Total	0.85

Dependent variables: The degree of possessing multiple intelligences by Social Studies teachers.

RESULTS AND DISCUSSION

The findings of the first question: What is the level of multiple intelligences among Social Studies teachers in Jordan? Means and standard deviations were used to determine the level of multiple intelligences among Social Studies teachers in Jordan (Table 3).

Table 3 shows that the means ranged from 3.58-3.03 as the interpersonal intelligence came first in the highest mean totaling 3.58 followed by Linguistic and Math/Logic with a mean totaled 3.57. Meanwhile, Environmental intelligence came in the last rank with a mean of 3.45. Researchers attributed this result to the nature of the Social Studies that promote interpersonal relations since this related to the senses of the teacher and his ability to use language to present effective situations to his students. This result is consistent with Ksiinski (2000)'s study within the level of multiple intelligences among the sample.

The findings of the second question: Are there any significant statistical differences at the level of ($\alpha = 0.05$) in the level of multiple intelligences attributed to gender, years of experience and scientific qualification variables? Means and standard deviations were used to determine the level of multiple intelligences according to gender, qualification and gender as shown in Table 4.

Table 4 showed that there are differences in the levels of multiple intelligences according to the study variables. To identify those differences three way-ANOVA was used as shown in Table 5.

There were significant statistical differences at the level of $\alpha = 0.05$ attributed to the effect of experience years in all domains except for Math/Logic domain. Differences were determined by using shaffe test as shown in Table 6.

There were no significant statistical differences at the level of $\alpha = 0.05$ attributed to the effect of the scientific qualification in all domains except for the emotional domain for the BS degree holder, this may be attributed to

Table 3: Means and standard deviations for the level of multiple intelligences among Social Studies teachers

Rank	No.	Domain	Means \pm SD	Level
1	3	Interpersonal	3.58 \pm 0.603	Average
2	1	Linguistic	3.57 \pm 0.562	Average
3	2	Math\Logic	3.57 \pm 0.769	Average
4	5	Emotional	3.53 \pm 0.469	Average
5	4	Kinesthetic	3.44 \pm 0.513	Average
6	7	Existential	3.42 \pm 0.787	Average
7	6	Environmental	3.03 \pm 0.694	Average
Total			3.45 \pm 0.348	Average

Table 4: Mean and standard deviation according to experience, qualification and gender

Variables	Mean							SD						
	Eperience (years)			Qualification		Gender		Eperience (years)			Qualification		Gender	
	1-4	5-9	>10	BS	Master	Male	Female	1-4	5-9	>10	BS	Master	Male	Female
Linguistics	3.54	3.73	3.50	3.61	3.40	3.64	3.54	0.603	0.570	0.500	0.541	0.645	0.579	0.555
Math/Logic	3.52	3.57	3.61	3.59	3.47	3.45	3.62	0.803	0.881	0.656	0.763	0.800	0.798	0.754
Interpersonal	3.63	3.36	3.68	3.60	3.50	3.56	3.59	0.504	0.763	0.541	0.638	0.364	0.732	0.545
Kinesthetic	3.59	3.38	3.34	3.45	3.37	3.45	3.44	0.503	0.480	0.514	0.464	0.721	0.539	0.504
Emotional	3.70	3.48	3.40	3.57	3.28	3.64	3.48	0.600	0.383	0.303	0.481	0.293	0.546	0.427
Environmental	3.16	2.89	3.00	3.02	3.06	3.25	2.94	0.579	0.768	0.728	0.703	0.650	0.668	0.686
Existential	3.67	3.38	3.21	3.43	3.36	3.43	3.41	0.507	1.159	0.639	0.772	0.869	0.590	0.854
Total	3.54	3.40	3.39	3.47	3.35	3.49	3.43	0.257	0.432	0.347	0.334	0.407	0.327	0.356

M = Mean; SD = Standard Deviation

Table 5: Three way-ANOVA for the effect of experience, scientific qualification and gender on the domains of multiple intelligences

Variance	Domain	Mean square	df	Means	F	Sig.
Experience Welx = 0.678 = 0.000	Linguistic	1.964	2	0.982	3.210	0.042
	Math\Logic	1.027	2	0.513	0.872	0.419
	Interpersonal	4.480	2	2.240	6.411	0.002
	Kinesthetic	3.330	2	1.665	6.584	0.002
	Emotional	4.940	2	2.470	13.244	0.000
	Environmental	4.150	2	2.075	4.590	0.011
	Existential	10.572	2	5.286	9.027	0.000
Qualification Hotling = 0.060 = 0.049	Linguistic	0.867	1	0.867	2.835	0.093
	Math\Logic	0.770	1	0.770	1.309	0.254
	Interpersonal	0.764	1	0.764	2.188	0.140
	Kinesthetic	0.060	1	0.060	0.238	0.626
	Emotional	1.803	1	1.803	9.669	0.002
	Environmental	0.222	1	0.220	0.492	0.484
	Existential	0.006	1	0.006	0.010	0.921
Gender Hotling = 0.162 = 0.000	Linguistic	0.594	1	0.594	1.941	0.165
	Math\Logic	2.003	1	2.003	3.403	0.066
	Interpersonal	0.204	1	0.204	0.583	0.446
	Kinesthetic	0.200	1	0.200	0.793	0.374
	Emotional	2.219	1	2.219	11.897	0.001
	Environmental	6.286	1	6.286	13.905	0.000
	Existential	0.789	1	0.789	1.348	0.247
Total	Linguistic	74.945	245	0.306	-	-
	Math\Logic	144.217	245	0.589	-	-
	Interpersonal	85.613	245	0.349	-	-
	Kinesthetic	61.953	245	0.253	-	-
	Emotional	45.696	245	0.187	-	-
	Environmental	110.749	245	0.452	-	-
	Existential	143.469	245	0.586	-	-
	Linguistic	78.699	249	-	-	-
	Math\Logic	147.121	249	-	-	-
	Interpersonal	90.480	249	-	-	-
	Kinesthetic	65.503	249	-	-	-
	Emotional	54.661	249	-	-	-
	Environmental	119.962	249	-	-	-
	Existential	154.225	249	-	-	-

Table 6: Two way analysis for the effect of experience, scientific qualification and gender on the domains of multiple intelligences

Variance	Domain	Mean square	df	Means	F-values
Experience	1.410	2	0.705	6.132	0.003
Qualification	0.283	1	0.283	2.462	0.118
Gender	0.366	1	0.366	3.187	0.075
Error	28.159	245	0.115	-	-
Total	30.189	249	-	-	-

their updated information about this issue. This result is goes with explanations. There were no significant statistical differences at the level of $\alpha = 0.05$ attributed to

the effect of the gender in all domains except for emotional and environmental domains for the favor of males whom interests lies in general in political, economical and environmental issues encouraging them to transfer this interest to their students:

- There were significant statistical differences at the level of $\alpha = 0.05$ attributed to the effect of experience years as F totaled 6.132 with a statistical significance of 0.003. Shaffee test was used for post comparision

- There were no significant statistical differences at the level of $\alpha = 0.05$ attributed to the effect of qualification as F totaled 2.462 with a statistical significance of 0.118
- There were no significant statistical differences at the level of $\alpha = 0.05$ attributed to the effect of gender as F totaled 3.187 with a statistical significance of 0.075

Table 7 shows the following:

- There are significant statistical differences at the level of $\alpha = 0.05$ between 5-9 years experience and >10 years experience for the favor of the first in linguistic intelligence. Researchers attributed this as this category is the middle experience one and individuals in this period always try to prove themselves especially their major is a type of addressing emotional and mental aspects of students
- There are significant statistical differences at the level of $\alpha = 0.05$ between 5-9 years experience and >10 years experience from one hand and 1-4 years experience from the other hand for the favor of that latter in interpersonal intelligence
- There are significant statistical differences at the level of $\alpha = 0.05$ between 5-9 years experience and

>10 years experience from one hand and 1-4 years experience from the other hand for the favor of that latter in kinesthetic and emotional intelligences and intelligences as a whole

- There are significant statistical differences at the level of $\alpha = 0.05$ between 1-4 years experience and >10 years experience for the favor of the first in environmental intelligence
- There are significant statistical differences at the level of $\alpha = 0.05$ between 1-4 years experience and >10 years experience for the favor of the first in existential intelligence

CONCLUSION

Enhancing awareness of intelligences in all domains through the courses and workshops held by the ministry of education for all teachers. Determining the conceptual structure of intelligences in different subject matters and in Social Studies. Directing teachers' preparation courses in all stages to benefit from the international applications of intelligences.

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Table 7: Shaftee test results for the effect of gender

Domains	Years	Mean	1-4 years	5-9 years	>10 years
Linguistic	1-4	3.54			
	5-9	3.73	0.19		0.23*
	>10	3.50	0.03		
Interpersonal	1-4	3.63			
	5-9	3.36	0.26*		0.31*
	>10	3.68	0.05		
Kinesthetic	1-4	3.59			
	5-9	3.38	0.22*		0.03
	>10	3.34	0.25*		
Emotional	1-4	3.70			
	5-9	3.48	0.22*		0.08
	>10	3.40	0.30*		
Environmental	1-4	3.16			
	5-9	2.89	0.27*		0.11
	>10	3.00	0.16		
Existential	1-4	3.67			
	5-9	3.38	0.29		0.17
	>10	3.21	0.46*		
Total	1-4	3.54			
	5-9	3.40	0.15*		0.01
	>10	3.39	0.15*		

*Sig = 0.5