

Jordanian EFL Teachers' Awareness and Incorporation of Multiple Intelligences into Their Pedagogical Practices

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Abstract

This study attempts to explore EFL teachers' awareness and incorporation of the Multiple Intelligences Theory (MIT) into their pedagogical practices in light of some variables. The sample consisted of 141 male and female EFL teachers who taught the first-, fourth-, eighth- and eleventh-grade Action Pack textbooks in the public schools of the First Directorate of Education (Irbid, Jordan). The findings revealed that, albeit moderate, EFL teachers' awareness and incorporation of MIT is influenced, to various degrees, by gender, grade level, age, qualifications, experience and training.

Keywords

EFL, MIT, Multiple Intelligence Theory, Jordan

1. Introduction

There is a wide-spread belief that the successful execution of any reform movement depends mainly on teachers [1]. Of all the stakeholders of the educational process, teachers are the ones expected to be the agents of change in their schools in general and classroom in particular. However, there are accounts in the literature which depict the teacher as the single major obstacle to reform, most probably due their beliefs, which, albeit a matter of controversy, are believed to consistently affect teachers' decision making about curriculum and instructional practices (see, for example, [1]-[7]).

Educational literature is rich with calls for teachers to innovate and vary their pedagogical practices to ensure effective learning. To be effectively implemented, innovative pedagogical practices should always be supported by focused, up-to-date pre-service and in-service teacher training [8].

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The contributions of Gardner's Multiple Intelligence Theory (MIT) to language pedagogy are highly acknowledged [9]-[12]. Ref. [12], for example, identified MIT as the fifth of ten scenarios that may shape the teaching of second languages in this millennium.

MIT has been hailed as the instigator of a significant paradigm shift in education [13]. Educational literature calls on EFL teachers not only to be aware of MIT but also to implement it in their teaching. Ref. [14], for example, encourages educators to consider and develop MIT-based practices for their own contexts according to their best professional judgment.

Even though teachers have always been aware that their students usually varied in their academic abilities, it was the research of [15] that provided directions for capitalizing on student individual intelligences. Per the principles of MIT, a learner-centered philosophy that characterizes human intelligence as having multiple dimensions to be acknowledged and developed through education, the learning process should draw on multi-sensory channels and encourage learners to experiment with innovative ways of expression [10] [11]. Along the same vein, [16] claims that unless they teach multi-modally and cater for various intelligence types in each lesson, teachers may fail to reach all their learners no matter what approach they adopt.

Acknowledging that the teacher is the key to any sustainable innovation in practice [17], one has to keep in mind that any sustainable reform can only be successful if teachers' beliefs, prior knowledge and attitudes are seriously taken into account in that reform [18] [19] and then developed step-by-step through experience-based learning and reflection [20].

2. Problem, Purpose, Questions, and Significance of the Study

MIT has been gaining importance in EFL classrooms around the world. However, this gain in momentum has not been matched by supplementation of textbook content. In other words, even though textbook writers have been apt to respond to the changes in foreign language teaching through combinations of methods and approaches, the text books often remained lacking and in grave need for supplementation. Ref. [16], believed to be the first to incorporate the principles of MIT into language teaching, devotes a chapter in his book, *A Multiple Intelligences Road to ELT Classroom*, to a variety of exercises, activities and tasks to cater for each type of intelligence. To the researchers' best knowledge, Jordanian EFL teachers' awareness and incorporation of MIT practices into the language classroom have never been researched.

The purpose of this study is to explore EFL teachers' awareness and incorporation of MIT practices into the language classroom. More specifically, the authors seek answers to the following questions:

- 1) What is the extent of Jordanian EFL teachers' awareness of MIT principles?
- 2) What is the extent of the incorporation, if any, of MIT into Jordanian EFL teachers' instructional practice?
- 3) What is the extent of the incorporation, if any, of MIT into *Action Pack* textbooks?
- 4) Are there significant relationships (at $\alpha \leq 0.05$) between the teachers' awareness and incorporation of MIT practices into the language classroom due to gender, age, grade level, qualifications, experience and training?

The findings are potentially significant for EFL teachers since they are the principal beneficiaries of these findings, especially in light of reports that students vary in their intelligence profiles and, thus, need to have different activities and tasks to ensure optimal learning.

3. Previous Literature

Although Gardner's theory was not originally designed for use in the classroom, it has been widely embraced by educators (see, for example, [21] [22]). The application of the idea of MIT has enjoyed numerous adaptations in a variety of educational settings even though it was originally intended for psychologists [14]. However, even though [15] briefly points out the educational implications of MIT, he had little to say about its classroom application [23]. In fact, [24] himself initially admits that he did not pay much attention to the implications of his theory for educators but later amends by discussing the educational implications of the theory:

Yet, given the mission of the Van Leer Foundation, it was clear that I needed to say something about the educational implications of MI theory. So, I surveyed the literature on education and in the concluding chapters touched on some educational implications of the theory. This decision turned out to be another crucial point because it was educators, rather than psychologists, who found the theory of most interest ([15], p. xv).

Nevertheless, even though it was intended for an audience of psychologists and did not have much to say about classroom application, MIT generated a lot of interest among educators who were drawn by its affinity to

pedagogy and approaches such as whole language and cooperative learning, not to mention its potential to make educators question their work and look beyond the narrow confines of the dominant discourses of skilling, curriculum, and testing [25] [26].

Gardner, who was reportedly amazed by the number of individuals who wanted to revise their educational practices in the light of MIT [27], maintains that it is imperative that teachers take individual differences among learners seriously. However, [28] are quick to point out that teachers do not need to create nine different lesson plans to accommodate all intelligences but rather design rich learning experiences to nurture each learner's combination of intelligences. This is further corroborated by Refs. [16] and [29] who consider it impractical to plan individual lessons for everyone in favor of including materials that cater for all intelligences in every lesson.

To this effect, [13] points out how remarkable it is for MIT to provide a minimum of eight potential pathways to learning, which is, no doubt, a catalyst for effective learning. MIT allows teachers to be conscious not only of their own instructional strategies but also of their students' distinct abilities. MIT posits that students would learn better when teachers use different methods, exercises and activities to reach all students—not only those who excel at linguistic and/or logical intelligence.

Ref. [15] argues that multiple intelligences can be either nurtured or weakened, and that each intelligence can be developed, in various degrees, through instruction. The utility of MIT has been addressed in teaching English as a foreign language (TEFL), as [16] is believed to be the first to apply MIT to language teaching. He outlines MIT and illustrates a variety of challenging exercises for promoting various intelligence types in the EFL classroom.

Ref. [30] maintains that MIT is more a way to understand intelligence than a prescribed teaching method. Teachers can use MIT as a guide for developing classroom activities that address multiple ways of learning and allow choices for achieving and demonstrating learning.

Similarly, Ref. [15] warns against setting MIT as an educational goal in itself, as it should be seen as a catalyst for one's own educational goals. For example, if one's educational goals encompass disciplinary understanding, mobilizing several intelligences would help achieve that goal. (Ref. [30], p. 1) posit that instead of "functioning as a prescribed teaching method, curriculum, or technique, MI theory provides a way of understanding intelligence, which teachers can use as a guide for developing classroom activities that address multiple ways of learning and knowing." Moreover, MIT potentially promotes learner-centeredness by partially transferring control from the teacher to the learner who chooses how he/she learns and demonstrates his/her learning.

In MI-based language teaching, ([22], p. 118) address the issue that there are neither "goals stated for MIT instruction in linguistic terms" nor a prescribed or recommended syllabus. However, scholars (see, for example, [16]) have proposed ways for using it—not as a prescriptive pedagogical formula but rather as a framework in which teachers engage in exploratory trial and error reform. The language classroom is seen as a setting for educational support systems that empower the language learner to take charge of his/her own learning.

Ref. [31] put MIT into practice as an alternative to traditional classroom design, as do ([28], p. 23) who present MIT as a viable means to overcome some educational problems:

Think of LEGO building blocks. If we have only one kind of block to play with, we can build only a limited range of structures. If we have a number of different block shapes that can interconnect to create a variety of patterns and structures, we can accomplish more nuanced and complex designs. The eight or nine intelligences work the same way.

In their study of EFL teachers' use of MIT-based materials and activities in Turkish primary schools, [32] reported that MIT is used moderately, albeit in an imbalanced manner. No significant differences were observed for gender, program of graduation and seniority although type of school was found to make a significant difference in favor of private schools.

In her study of Brazilian and International EFL/ESL teachers' perceptions about MIT, [33] reported that while 86 percent of her subjects knew MIT, about 90 percent used it in their teaching (albeit about 41 percent do so unconsciously).

4. Method and Procedures

This research is essentially quantitative. The sample of the study consisted of 57 male and 84 female EFL teachers who teach *Action Pack* for the first-, fourth-, eighth-, and eleventh-grades in the public schools of Irbid First Directorate of Education. These grades were chosen because each represents a mile stone in the child's school-

ing, except for the eleventh-grade which was substituted for the twelfth-grade whose students are never available for research on account of their preparation for the National High School Exit examination.

The distribution of the sample according to the variables of gender, grade level, age, qualification, experience and training is presented in **Table 1**.

A two-part eight-item questionnaire, the first part of which collected demographic information about gender, grade level, age, qualifications, teaching experiences, and training, was used. Seven items were adapted from Ref. [33]'s 15-item questionnaire to measure the teachers' actual knowledge of MIT while an eighth item was added to identify the participants' awareness of MIT.

To conduct the study, consent was obtained from Irbid First Directorate of Education, the schools and the participants themselves. The questionnaire was then distributed and collected hand-to-hand by the first researcher. The return rate of the filled-in questionnaires was a little over 99 percent (All questionnaires were returned except one).

5. Findings and Discussion

To answer the first research question, which seeks to identify the extent of Jordanian EFL teachers' awareness of the principles of MIT, the teachers' responses were analyzed and frequencies and percentages calculated, as shown in **Table 2**.

Table 2 shows that only 48 (34 percent) of the teachers gave affirmative answers, reporting having heard about MIT from the various sources outlined in the questionnaire. The table also shows that the respondents, who were allowed to pick more than one answer to the question, got their knowledge from various sources, top amongst which are books (54 percent), workshops (50 percent), courses (29 percent) and co-workers or friends (17 percent), respectively. It is a bit disheartening that only one third of the teachers reported hearing about MIT which had emerged in the early 1980's. The Ministry of Education (MoE) is partly responsible for this since its regularly-held workshops have not addressed MIT as a recent pedagogical trend in teaching languages and other subject matters.

Table 1. Sample distribution.

Independent Variables	Levels	Frequency	Percentage
Gender	Male	57	40.4
	Female	84	59.6
Grade Level	First	21	14.9
	Fourth	45	31.9
	Eighth	33	23.4
Age (in years)	Eleventh	42	29.8
	Under 30	12	8.5
	30 - 40	47	33.3
Qualifications	Over 40	82	58.2
	Two-year diploma	11	7.8
	B.A.	101	71.6
Teaching Experience (in years)	M.A. & Doctorate	29	20.6
	Up to 5	14	9.9
	6 - 15	53	37.6
Participation in Training Programs	Over 15 years	74	52.5
	Yes	115	81.6
	No	26	18.4

Table 2 further shows that over 23 percent of the respondents report having researched MIT compared to 73 percent who report wanting to know more about it. This is hardly surprising in light of previous reports that Jordanian teachers are often too overwhelmed by excessive teaching loads to do research. For these teachers, research is more a luxury than a necessity, and those who report having researched MIT may have done that as a requirement for a course or workshop in either pre- or in-service teacher training.

However, that more than two thirds of the respondents expressed willingness to know more about MIT is encouraging in the sense that it indicates potential readiness to learn more about teaching-related innovations. It is evident that teachers should not rely solely on MoE-held workshops but rather seek up-to-date information from other readily accessible sources such as webinars and other Internet resources.

To answer the second research question, which addresses the respondent's self-reported incorporation of MIT in their instruction, frequencies and percentages were calculated not only for whether or not the respondents reportedly use MIT in their teaching but also for the specific types of materials and activities they use, the former of which is addressed in **Table 3** below.

Table 3 shows that a little under 28 percent of the respondents reportedly use MIT in their instruction albeit infrequently judging by the low percentage of those who use it very often. These teachers should not be expected to use what they do not know in their instruction, which further points to the need for MoE awareness-raising initiatives to keep these teachers abreast of pedagogical innovations and viable practices.

Table 4 presents the results of the analysis of teachers' responses concerning the types of materials and activities they incorporate in their instruction.

Table 4 shows that only 32 (64 percent) of these types of materials and activities are used by more than 50 percent of the respondents whereas activities, such as field trips, playing musical instruments, slides, statistics and jogging, are used by less than 25 percent of these respondents.

The findings of the sixth item of the questionnaire, which addresses the types of materials and activities implemented by the teachers in their instruction, reveal that a large number of these activities are reportedly used

Table 2. Frequencies and percentages of teachers' responses about their awareness of MIT.

Question	Alternatives	Frequency	Percentage
Have you ever heard about MIT?	No	40	28.4
	Yes	48	34.0
	Not sure	53	37.6
If yes, how did you learn about it?	Book	26	54.2
	Course	14	29.2
	Workshop	24	50.0
	Learning from coworkers/friends	8	16.7
Have you ever researched about MIT?	No	108	76.6
	Yes	33	23.4
Would you like to know more about MIT?	No	22	15.6
	Yes	103	73.0
	Not sure	16	11.3

Table 3. Frequencies and percentages of teachers' responses about their use of MIT.

Question	Alternatives	Frequency	Percentage
Do you use MIT in your teaching?	No	31	22.0
	Yes	39	27.7
	Not sure	71	50.4

Table 4. Frequencies and percentages of the types of teaching materials and activities.

No.	Materials and Activities	Frequency	Percentage
1	Reading	138	97.9
2	Writing	136	96.5
3	Pair work	132	93.6
4	Speaking	131	92.9
5	Group work	129	91.5
6	Listening	126	89.4
7	Cooperative learning activities	125	88.7
8	Role plays	116	82.3
9	Options for homework	110	78.0
10	Moving around the class	109	77.3
11	Drawing	105	74.5
12	Body language	104	73.8
13	Categorizing items (animals, adjectives, nouns, etc.)	103	73.0
14	Group problem solving	103	73.0
15	Songs/video clips	100	70.9
16	Story telling	99	70.2
17	Coloring	96	68.1
18	Talking about environmental issues	94	66.7
19	Note-taking	91	64.5
20	Providing materials related to the natural world	90	63.8
21	Visual aids (flashcards, pictures, wall charts, etc.)	87	61.7
22	Hands-on activities	81	57.4
23	Individualized projects	80	56.7
24	Singing	80	56.7
25	Logic puzzles and games	79	56.0
26	Talking about mankind and related issues	78	55.3
27	Crossword puzzles	78	55.3
28	Group brainstorming	77	54.6
29	Maps	76	53.9
30	Board games	74	52.5
31	Activities with a self-evaluation component	74	52.5
32	Classifying and categorizing activities	74	52.5

Continued

33	Debates	69	48.9
34	Talking about (practicing) sports	66	46.8
35	Peer teaching	65	46.1
36	Charts/grids	58	41.1
37	Jazz chants/rhymes	54	38.3
38	TRP (Total Physical Response)/mime	50	35.5
39	videos/movies	44	31.2
40	Dancing	43	30.5
41	Story problems with numbers	43	30.5
42	Talking about philosophical issues	42	29.8
43	Making sculptures or art craft with clay, wood, or other materials	37	26.2
44	Personal journal keeping	37	26.2
45	Reflective journal	36	25.5
46	Jogging	35	24.8
47	Statistics	35	24.8
48	Slides	34	24.1
49	Playing musical instruments	28	19.9
50	Field trips (zoo, museums, restaurants, etc.)	26	18.4

by teachers. Using various modalities for achieving goals is not only necessary but also consistent with calls by the MoE for “variety of instructional strategies: selecting appropriate instructional strategies and methods to insure that all students achieve learning goals” ([34], p. 5).

The authors claim that the use of these materials and activities is more incidental than necessarily MIT-based. This use is most probably CLT-based as, for example, reading, writing, speaking and listening activities are emphasized since the *General Guidelines and General and Specific Outlooks for the English Language* [34] stipulates that students should show mastery over the four language skills.

Table 5 presents the results of the third research question, which pertains to the anal teachers’ responses to the question of whether or not *Action Pack* textbooks incorporate the principles of MIT.

Table 5 shows that the respondent were divided on this issue, with 44 percent reporting that *Action Pack* textbooks incorporate MIT in their activities as opposed to a sweeping 56 percent holding the opposite view. This may be readily explained in light of reports that a lot of these teachers have not heard about MIT and, thus, their ability to judge whether or not MIT principles are in the textbook series is crippled by their lack of knowledge.

The fourth research question addresses whether or not significant relationships (at $\alpha = 0.05$) exist between gender, grade level, age, qualification, experience and training and the teachers’ knowledge of and perceptions about MIT, as discussed below.

5.1. Gender and Teachers’ Perceived Knowledge and Incorporation of MIT

Table 6 presents the results of the association analysis between gender and teachers’ perceived knowledge and incorporation of MIT.

Table 6 shows that more male teachers reported having heard about and used MIT than their female counterparts. However, female teachers reportedly use *group problem solving*, *pair work*, *songs/video clips*, *role plays*, *board games*, *TPR/mime*, *cooperative learning activities*, *field trips (zoo, museums, restaurants, etc.)*, *videos/*

Table 5. Frequencies and percentages of teachers' responses about their incorporation of MIT in action pack textbooks.

MIT Incorporation	Frequency	Percentage
No	79	56.0
Yes	62	44.0

Table 6. χ^2 test of independence regarding gender.

Gender Crossing Question	χ^2 Tests Value	D_f	Sig.
Have you ever heard about Multiple Intelligences Theory (MIT)?	21.728	2	0.000
Have you ever researched about MIT?	3.567	1	0.059
Would you like to know more about MIT?	1.980	2	0.372
Do you think you use MIT in your teaching?	6.794	2	0.033
Categorizing items (animals, adjectives, nouns, etc.)	3.218	1	0.073
Reflective journal	3.063	1	0.080
Group problem solving	6.592	1	0.010
Pair work	14.167	1	0.000
Songs/video clips	38.526	1	0.000
Role plays	12.579	1	0.000
Board games	22.864	1	0.000
Total Physical Response (TPR)/mime	8.679	1	0.003
Cooperative learning activities	8.958	1	0.003
Field trips (zoo, museums, restaurants, etc.)	3.984	1	0.046
Debates	0.094	1	0.759
Videos/movies	10.592	1	0.001
Individualized projects	2.260	1	0.133
Note-taking	2.284	1	0.131
Drawing	28.006	1	0.000
Listening	24.737	1	0.000
Playing musical/Rhythmic instruments	12.806	1	0.000
Making sculptures or art craft with clay, wood or other materials	21.754	1	0.000
Reading	4.517	1	0.034
Maps	1.643	1	0.200

Continued

Talking about mankind and related issues	0.026	1	0.872
Coloring	25.841	1	0.000
Speaking	15.862	1	0.000
Personal journal keeping	0.139	1	0.709
Talking about environmental issues	1.193	1	0.275
Activities with a self-evaluation component	1.810	1	0.179
Jazz chants/rhymes	9.716	1	0.002
Singing	28.233	1	0.000
Charts/grids	2.405	1	0.121
Dancing	14.978	1	0.000
Group work	10.027	1	0.002
Jogging	19.615	1	0.000
Body language	7.546	1	0.006
Story telling	0.135	1	0.713
Statistics	0.729	1	0.393
Group brainstorming	0.002	1	0.965
Talking about (practicing) sports	11.085	1	0.001
Hands-on activities	26.190	1	0.000
Options for homework	5.134	1	0.023
Writing	7.639	1	0.006
Crossword puzzles	1.486	1	0.223
Visual aids (flashcards, pictures, wall charts, etc.)	15.549	1	0.000
Logic puzzles and games	9.545	1	0.002
Moving around the class	0.001	1	0.979
Slides	7.321	1	0.007
Story problems with numbers	0.053	1	0.818
Peer teaching	2.644	1	0.104
Classifying and categorizing activities	5.646	1	0.017
Talking about philosophical issues	0.575	1	0.448
Providing materials related to the natural world	19.559	1	0.000
Do you think Action Pack textbooks incorporate MIT activities?	0.135	1	0.713

movies, drawing, listening, playing musical/rhythmic instruments, making sculptures or art craft with clay, wood, or other materials, reading, coloring, speaking, jazz chants/rhymes, singing, dancing, group work, jogging, body language, talking about (practicing) sports, hands-on activities, options for homework, writing, visual aids (flashcards, pictures, wall charts, etc.), logic puzzles and games, slides, classifying and categorizing activities and providing materials related to the natural world than their male counterparts across the grade levels.

Both male and female teachers reportedly believe that the *Action Pack* textbooks incorporate MIT in their activities, since no significant association was found between gender and the incorporation of MIT in their teaching.

5.2. Grade Level and Teachers' Perceived Knowledge and Incorporation of MIT

Table 7 presents the results of the association analysis between grade(s) taught and teachers' perceived knowledge and incorporation of MIT.

Table 7 shows that more eleventh-grade teachers reported hearing about MIT than their first-, fourth- and eighth-grade counterparts while more fourth-grade teachers reported having heard about MIT than their first- and eighth-grade counterparts. Meanwhile, more eighth-grade teachers reported having heard about MIT than their first-grade counterparts.

Reflective journals, statistics, group brainstorming and talking about (practicing) sports were more used by eleventh- than eighth-, first-, and fourth-grade teachers, respectively, while pair work, songs/video clips, drawing, listening, making sculptures or art craft with clay wood or other materials, coloring, jazz chants/rhymes, singing, group work and writing were reportedly more used by first-grade teachers than their fourth-, eighth- and eleventh-grade counterparts, respectively.

On the other hand, *playing musical instruments, dancing, jogging and logic puzzles and games* were reportedly more used by first-grade teachers than their eighth-, fourth- and eleventh-grade counterparts, respectively while *debates* and *slides* were reportedly used by eleventh-grade teachers more than their first-, eighth- and fourth-grade counterparts, respectively. By the same token, *individualized projects* and *storytelling* activities were reportedly used more by eighth-grade teachers than their eleventh-, first- and fourth-grade counterparts, respectively.

Role play activities were reportedly used more by fourth-grade teachers than by their first-grade counterparts, while *crossword puzzles* were reportedly more used by eighth-grade teachers than their first-, fourth- and eleventh-grade counterparts, respectively. Similarly, *peer teaching* was reportedly more used by eleventh-grade teachers than their fourth-, eighth- and first-grade counterparts, respectively, while *talking about environmental issues* was reportedly used more by eleventh-grade teachers than their eighth-, fourth- and first-grade counterparts, respectively. Finally, *hands-on activities* were reportedly used most by first-grade teachers, more so than their eighth-, eleventh- and fourth-grade counterparts, respectively.

Teachers across the four grades reported that *Action Pack* textbooks incorporate MIT in their activities, since no significant association was found between the grade(s) taught and reported incorporation of MIT in *Action Pack* textbooks.

5.3. Teachers' Age and Their Perceived Knowledge and Incorporation of MIT

Table 8 presents the results of the association analysis between teachers' age and perceived knowledge and incorporation of MIT.

Table 8 shows that more teachers younger than 30 years reported hearing about MIT than both teachers 40 years or older and those between 30 and 40 years of age. It further shows that more teachers 40 years or older reported hearing about MIT than their 30-40-year-old counterparts.

Songs/video clips, board games, cooperative learning activities, videos/movies, listening, playing musical/rhythmic instruments, jogging, body language, talking about (practicing) sports, visual aids (flashcards, pictures, wall charts, etc.) and classifying and categorizing activities were reportedly used more by 30-40-year-old teachers than their 40 or above and under 30-year-old counterparts, respectively, whereas drawing, group work, hands-on activities, logic puzzles and games and moving around the class were reportedly more used by 40 or above teachers than their 30-40- and under 30-year-old counterparts, respectively. By the same token, talking about mankind and related issues, coloring and speaking were reportedly used more by 30-40-year-old teachers than by their under 30 and 40-year-old and above counterparts, respectively.

Table 7. Results of χ^2 test of independence regarding grade taught.

Grade Crossing Question	χ^2 Tests Value	D_f	Sig.
Have you ever heard about Multiple Intelligences Theory (MIT)?	33.739	6	0.000
Have you ever researched about MIT?	1.512	3	0.680
Would you like to know more about MIT?	9.202	6	0.163
Do you think you use MIT in your teaching?	4.436	6	0.618
Categorizing items (animals, adjectives, nouns, etc.)	1.487	3	0.685
Reflective journal	13.979	3	0.003
Group problem solving	0.249	3	0.969
Pair work	22.661	3	0.000
Songs/video clips	8.183	3	0.042
Role plays	14.874	3	0.002
Board games	5.083	3	0.166
TPR/mime	5.109	3	0.164
Cooperative learning activities	5.310	3	0.150
Field trips (zoo, museums, restaurants, etc.)	7.068	3	0.070
Debates	30.228	3	0.000
Videos/movies	2.086	3	0.555
Individualized projects	16.109	3	0.001
Note-taking	7.291	3	0.063
Drawing	17.243	3	0.001
Listening	9.536	3	0.023
Playing musical/Rhythmic instruments	15.780	3	0.001
Making sculptures or art craft with clay, wood, or other materials	26.444	3	0.000
Reading	3.899	3	0.273
Maps	7.221	3	0.065
Talking about mankind and related issues	3.896	3	0.273
Coloring	42.365	3	0.000
Speaking	3.145	3	0.370
Personal journal keeping	4.450	3	0.217
Talking about environmental issues	11.724	3	0.008
Activities with a self-evaluation component	5.390	3	0.145
Jazz chants/rhymes	20.797	3	0.000
Singing	33.113	3	0.000
Charts/grids	8.097	3	0.044
Dancing	18.606	3	0.000
Group work	15.155	3	0.002
Jogging	23.694	3	0.000
Body language	6.573	3	0.087
Story telling	18.615	3	0.000
Statistics	9.405	3	0.024

Continued

Group brainstorming	8.991	3	0.029
Talking about (practicing) sports	24.343	3	0.000
Hands-on activities	18.331	3	0.000
Options for homework	0.200	3	0.978
Writing	12.219	3	0.007
Crossword puzzles	7.819	3	0.050
Visual aids (flashcards, pictures, wall charts, etc.)	3.809	3	0.283
Logic puzzles and games	9.470	3	0.024
Moving around the class	4.858	3	0.182
Slides	11.730	3	0.008
Story problems with numbers	5.613	3	0.132
Peer teaching	16.279	3	0.001
Classifying and categorizing activities	1.661	3	0.646
Talking about philosophical issues	5.120	3	0.163
Providing materials related to the natural world	6.331	3	0.097
Do you think action pack textbooks incorporate MI activities?	5.475	3	0.140

Table 8. χ^2 test of independence regarding teachers' age.

Age Crossing Question	χ^2 Tests Value	D_f	Sig.
Have you ever heard about Multiple Intelligences Theory (MIT)?	15.939	4	0.003
Have you ever researched about MIT?	1.828	2	0.401
Would you like to know more about MIT?	6.526	4	0.163
Do you think you use MIT in your teaching?	5.166	4	0.271
Categorizing items (animals, adjectives, nouns, etc.)	4.708	2	0.095
Reflective journal	3.374	2	0.185
Group problem solving	5.816	2	0.055
Pair work	2.435	2	0.296
Songs/video clips	16.935	2	0.000
Role plays	0.475	2	0.789
Board games	6.264	2	0.044
TPR/mime	5.001	2	0.082
Cooperative learning activities	28.810	2	0.000
Field trips (zoo, museums, restaurants, etc.)	2.387	2	0.303
Debates	3.154	2	0.207
Videos/movies	9.799	2	0.007
Individualized projects	0.767	2	0.681
Note-taking	1.213	2	0.545
Drawing	7.456	2	0.024

Continued

Listening	8.400	2	0.015
Playing musical/Rhythmic instruments	8.093	2	0.017
Making sculptures or art craft with clay, wood, or other materials	0.632	2	0.729
Reading	0.299	2	0.861
Maps	1.260	2	0.533
Talking about mankind and related issues	8.320	2	0.016
Coloring	12.701	2	0.002
Speaking	7.605	2	0.022
Personal journal keeping	5.764	2	0.056
Talking about environmental issues	5.888	2	0.053
Activities with a self-evaluation component	1.962	2	0.375
Jazz chants/rhymes	3.918	2	0.141
Singing	3.161	2	0.206
Charts/grids	5.031	2	0.081
Dancing	1.855	2	0.396
Group work	7.763	2	0.021
Jogging	6.223	2	0.045
Body language	6.615	2	0.037
Story telling	1.374	2	0.503
Statistics	2.662	2	0.264
Group brainstorming	2.417	2	0.299
Talking about (practicing) sports	10.789	2	0.005
Hands-on activities	9.983	2	0.007
Options for homework	4.208	2	0.122
Writing	1.143	2	0.565
Crossword puzzles	3.086	2	0.214
Visual aids (flashcards, pictures, wall charts, etc.)	12.559	2	0.002
Logic puzzles and games	8.400	2	0.015
Moving around the class	16.477	2	0.000
Slides	2.439	2	0.295
Story problems with numbers	2.664	2	0.264
Peer teaching	2.397	2	0.302
Classifying and categorizing activities	10.273	2	0.006
Talking about philosophical issues	0.083	2	0.959
Providing materials related to the natural world	3.456	2	0.178
Do you think Action Pack textbooks incorporate MI activities?	1.767	2	0.413

Teachers of the various age groups believed that *Action Pack* textbooks incorporate MIT in their activities, since no significant association was found between the grade taught and the perceived incorporation of MIT in *Action Pack* textbooks.

5.4. Teachers' Qualification and Their Perceived Knowledge and Incorporation of MIT

Table 9 presents the results of the association analysis between the teachers' qualification and their responses to the items of the questionnaire.

Table 9 shows that teachers with a Masters' or a Doctorate reportedly heard about MIT, researched it, want to know more about it, and use it in their teaching more than their counterparts who have a two-year diploma or a Bachelor's degree.

Group problem solving, debates, talking about environmental issues, body language, group brainstorming, peer teaching and talking about philosophical issues were reportedly used more by teachers with Masters' and Doctorate than those with Bachelor's and two-year diploma degrees, respectively, whereas songs/video clips, board games, drawing, coloring, singing, writing, visual aids (flashcards, pictures, wall charts, etc.) and story problems with numbers were reportedly used more by teachers with two-year diplomas, Bachelor's, and Masters' than those with Doctorate degrees, respectively.

Furthermore, *TPR/mime*, *note-taking* and *slides* were reportedly used more by teachers with two-year diplomas, Masters' and Doctorate degrees than those with a Bachelor's degree, respectively, while *group work*, *options for homework*, *logic puzzles and games* and *classifying and categorizing* were reportedly used more by teachers with a Bachelor's degree than their counterparts with Masters' and Doctorate degrees and two-year diplomas, respectively.

Table 9. χ^2 test of independence regarding teachers' qualification.

Qualification Crossing Question	χ^2 Tests Value	D_f	Sig.
Have you ever heard about the Multiple Intelligences Theory (MIT)?	37.175	4	0.000
Have you ever researched about MIT?	20.806	2	0.000
Would you like to know more about MIT?	16.031	4	0.003
Do you think you use MIT in your teaching?	23.954	4	0.000
Categorizing items (animals, adjectives, nouns, etc.)	4.932	2	0.085
Reflective journal	4.996	2	0.082
Group problem solving	11.612	2	0.003
Pair work	4.316	2	0.116
Songs/video clips	7.858	2	0.020
Role plays	3.654	2	0.161
Board games	14.128	2	0.001
TPR/mime	14.083	2	0.001
Cooperative learning activities	2.108	2	0.349
Field trips (zoo, museums, restaurants, etc.)	1.650	2	0.438
Debates	11.646	2	0.003
Videos/movies	2.105	2	0.349
Individualized projects	0.070	2	0.966
Note-taking	16.480	2	0.000
Drawing	15.429	2	0.000

Continued

Listening	1.620	2	0.445
Playing musical/Rhythmic instruments	2.077	2	0.354
Making sculptures or art craft with clay, wood, or other materials	2.759	2	0.252
Reading	4.034	2	0.133
Maps	3.807	2	0.149
Talking about mankind and related issues	0.678	2	0.713
Coloring	12.244	2	0.002
Speaking	2.258	2	0.323
Personal journal keeping	2.702	2	0.259
Talking about environmental issues	11.635	2	0.003
Activities with a self-evaluation component	0.264	2	0.876
Jazz chants/rhymes	2.710	2	0.258
Singing	22.393	2	0.000
Charts/grids	0.701	2	0.704
Dancing	4.319	2	0.115
Group work	14.685	2	0.001
Jogging	3.403	2	0.182
Body language	6.887	2	0.032
Story telling	0.949	2	0.622
Statistics	0.215	2	0.898
Group brainstorming	7.451	2	0.024
Talking about (practicing) sports	1.120	2	0.571
Hands-on activities	3.540	2	0.170
Options for homework	13.778	2	0.001
Writing	11.236	2	0.004
Crossword puzzles	0.766	2	0.682
Visual aids (flashcards, pictures, wall charts, etc.)	7.576	2	0.023
Logic puzzles and games	7.789	2	0.020
Moving around the class	0.260	2	0.878
Slides	14.068	2	0.001
Story problems with numbers	6.182	2	0.045
Peer teaching	12.361	2	0.002
Classifying and categorizing activities	9.301	2	0.010
Talking about philosophical issues	9.612	2	0.008
Providing materials related to the natural world	0.424	2	0.809
Do you think the Action Pack textbooks incorporate MI activities?	1.477	2	0.478

In short, teachers from various qualification levels perceived *Action Pack* textbooks to incorporate MIT in their activities, since no significant association was found between qualification and teachers' knowledge and perception of MIT incorporation in *Action Pack* textbooks.

5.5. Teachers' Experience and Their Perceived Knowledge and Incorporation of MIT

Table 10 presents the results of the association analysis between teaching experience and teachers' perceived knowledge and incorporation of MIT.

Table 10 shows that teachers with moderate experience (viz., 6 - 15 years) expressed willingness to know more about MIT than teachers with little (viz., ≤ 6 years) or extensive (viz., >15 years) experience. On the other hand, teachers with extensive experience reportedly use MIT in their instruction more than their counterparts with little or moderate experience.

Teachers reportedly use MIT-based activities. Group problem solving, songs/video clips, cooperative learning activities, debates, drawing, playing musical/rhythmic instruments, making sculptures or art craft with clay, wood, or other materials, coloring, speaking, jazz chants/rhymes, singing, charts/grids, dancing, jogging, hands-on by activities and logic puzzles and games were reportedly used more by teachers with moderate experience than their counterparts with extensive or little experience as were videos/movies, maps, options for homework, crossword puzzles, visual aids (flashcards, pictures, wall charts, etc.), moving around class and classifying and categorizing activities. By contrast, note-taking, listening and group brainstorming were reportedly more used by teachers with little experience than their counterparts with extensive or moderate experience.

To reiterate, teachers from various experience levels perceived *Action Pack* textbooks to incorporate MIT in their activities, since no significant association was found between experience and perceived incorporation of

Table 10. χ^2 test of independence regarding teachers' experience.

Experience Crossing Questions	X ² Tests Value	D _f	Sig.
Have you ever heard about the Multiple Intelligences Theory (MIT)?	6.067	4	0.194
Have you ever researched about MIT?	1.030	2	0.598
Would you like to know more about MIT?	13.797	4	0.008
Do you think you use MIT in your teaching?	13.108	4	0.011
Categorizing items (animals, adjectives, nouns, etc.)	1.358	2	0.507
Reflective journal	2.827	2	0.243
Group problem solving	8.639	2	0.013
Pair work	2.255	2	0.324
Songs/video clips	9.511	2	0.009
Role plays	4.397	2	0.111
Board games	3.644	2	0.162
TPR/mime	5.274	2	0.072
Cooperative learning activities	35.991	2	0.000
Field trips (zoo, museums, restaurants, etc.)	3.670	2	0.160
Debates	7.280	2	0.026
Videos/movies	7.330	2	0.026
Individualized projects	3.362	2	0.186
Note-taking	7.107	2	0.029
Drawing	19.746	2	0.000

Continued

Listening	6.888	2	0.032
Playing musical/Rhythmic instruments	6.087	2	0.048
Making sculptures or art craft with clay, wood, or other materials	17.786	2	0.000
Reading	2.961	2	0.228
Maps	7.797	2	0.020
Talking about mankind and related issues	1.651	2	0.438
Coloring	25.668	2	0.000
Speaking	6.662	2	0.036
Personal journal keeping	5.582	2	0.061
Talking about environmental issues	1.851	2	0.396
Activities with a self-evaluation component	5.868	2	0.053
Jazz chants/rhymes	21.288	2	0.000
Singing	20.829	2	0.000
Charts/grids	8.866	2	0.012
Dancing	9.179	2	0.010
Group work	3.975	2	0.137
Jogging	10.653	2	0.005
Body language	5.517	2	0.063
Story telling	0.309	2	0.857
Statistics	0.118	2	0.943
Group brainstorming	12.574	2	0.002
Talking about (practicing) sports	1.237	2	0.539
Hands-on activities	24.561	2	0.000
Options for homework	11.231	2	0.004
Writing	0.579	2	0.749
Crossword puzzles	14.834	2	0.001
Visual aids (flashcards, pictures, wall charts, etc.)	10.821	2	0.004
Logic puzzles and games	9.964	2	0.007
Moving around the class	19.053	2	0.000
Slides	1.300	2	0.522
Story problems with numbers	2.607	2	0.272
Peer teaching	4.884	2	0.087
Classifying and categorizing activities	13.091	2	0.001
Talking about philosophical issues	1.276	2	0.528
Providing materials related to the natural world	1.103	2	0.576
Do you think Action Pack textbooks incorporate MI activities?	2.672	2	0.263

MIT in *Action Pack* textbooks.

5.6. Teachers' Participation in Training and Their Perceived Knowledge and Incorporation of MIT

Table 11 presents the results of the association analysis between the teachers' participation in training programs and their perceived knowledge and incorporation of MIT.

Table 11 shows that teachers who participated in training programs reported having heard about, having researched, wanting to know more about and using MIT in their teaching than teachers who did not participate in training programs.

As for the use of MIT-oriented activities, *debates*, *talking about environmental issues* and *options for homework* were reportedly more used by the teachers who participated in training programs than those who while *role plays* and *storytelling* were reportedly used more by the teachers who did not participate in training programs than those who did. In short, teachers, who did or did not participate in training programs, perceived *Action Pack* textbooks to incorporate MIT in their activities, since no significant relationship was found between participation in training programs and perceptions of MIT-incorporation in *Action Pack* textbooks.

6. Conclusions, Pedagogical Implications, Recommendations and Limitations

To summarize, for the most part, the findings reveal that teachers reported both awareness and incorporation of MIT in their teaching, even though more so for male teachers than their female counterparts, which could be attributed to self-study or access to other resources. Furthermore, having such knowledge encouraged them to use MIT-based activities in their instruction. The findings also reveal that fourth-, eighth- and eleventh-grade teachers and those who are younger than 30 and 40 years or above reported hearing about MIT as did teachers with

Table 11. χ^2 test of independence regarding teachers' training.

Training Crossing Questions	X^2 Tests Value	D_f	Sig.
Have you ever researched about MIT?	4.390	1	0.036
Would you like to know more about MIT?	8.764	2	0.013
Do you think you use MIT in your teaching?	24.649	2	0.000
Categorizing items (animals, adjectives, nouns, etc.)	0.243	1	0.622
Reflective journal	0.666	1	0.415
Group problem solving	2.146	1	0.143
Pair work	0.091	1	0.762
Songs/video clips	1.361	1	0.243
Role plays	4.213	1	0.040
Board games	2.128	1	0.145
TPR/mime	3.669	1	0.055
Cooperative learning activities	0.516	1	0.472
Field trips (zoo, museums, restaurants, etc.)	1.525	1	0.217
Debates	4.210	1	0.040
Videos/movies	0.003	1	0.958
Individualized projects	0.299	1	0.584
Note-taking	0.653	1	0.419
Drawing	1.726	1	0.189

Continued

Listening	0.291	1	0.590
Playing musical/Rhythmic instruments	0.208	1	0.649
Making sculptures or art craft with clay, wood, or other materials	0.165	1	0.685
Reading	0.693	1	0.405
Maps	0.770	1	0.380
Talking about mankind and related issues	1.083	1	0.298
Coloring	0.019	1	0.890
Speaking	0.956	1	0.328
Personal journal keeping	2.460	1	0.117
Talking about environmental issues	3.985	1	0.046
Activities with a self-evaluation component	0.024	1	0.877
Jazz chants/rhymes	0.000	1	0.985
Singing	0.299	1	0.584
Charts/grids	0.094	1	0.759
Dancing	0.954	1	0.329
Group work	0.027	1	0.868
Jogging	0.534	1	0.465
Body language	1.941	1	0.164
Story telling	10.257	1	0.001
Statistics	0.075	1	0.784
Group brainstorming	7.310	1	0.007
Talking about (practicing) sports	1.517	1	0.218
Hands-on activities	0.169	1	0.681
Options for homework	5.045	1	0.025
Writing	1.602	1	0.206
Crossword puzzles	0.028	1	0.867
Visual aids (flashcards, pictures, wall charts, etc.)	0.833	1	0.362
Logic puzzles and games	2.436	1	0.119
Moving around the class	0.325	1	0.569
Slides	1.327	1	0.249
Story problems with numbers	0.192	1	0.661
Peer teaching	0.000	1	0.995
Classifying and categorizing activities	0.347	1	0.556
Talking about philosophical issues	0.355	1	0.551
Providing materials related to the natural world	0.033	1	0.855
Do you think the Action Pack textbooks incorporate MI activities?	3.761	1	0.052

Masters' or Doctorate degrees and those who participated in training programs.

MIT-incorporation in *Action Pack* textbooks was positively perceived by teachers across the variables of the study, which may indicate that the textbook series under study incorporates different types of MIT-oriented activities. As mentioned earlier, the abundance of MIT-related activities may have resulted from the CLT-orientation of the textbooks under study, which is consistent with previous research findings (cf., for example, [33]) that the variety of materials encouraged in CLT promote communicative language use and, thus, foster multiple intelligences. When MIT is implemented, a minimum of eight different pathways to learning are available to students, which not only facilitates learning but also makes it more enjoyable. MIT further allows teachers to be conscious of their teaching strategies and students' abilities and strengths which, in turn, allows them to better present the curriculum.

To help EFL teachers know about and implement new innovative methods in foreign language teaching, the Jordanian MoE is called upon to organize more workshops and training programs. Conference participation may also be a good opportunity for teachers to exchange experiences with fellow practitioners. The MoE may also make use of its vast electronic capabilities to disseminate materials (e.g., a newsletter) to EFL and other teachers promoting educational innovations and viable teaching and learning practices.

In conclusion, within the limitations of this study, it appears that if attempts at educational reform are to be successful, future research efforts should focus on the facilitative effect of teachers' beliefs prior to planning classes, workshops or seminars. Failure to do so may prove counter-productive in terms of time and funding.

With the rapid educational innovations, made better and more accessible by technology, this is an ideal time for advances in MI-related instructional delivery to meet the ever-growing spectrum of learners. By using MIT, ESL teachers can adopt multiple modalities to develop not only their students' linguistic abilities but also these students' cognitive, social and emotional abilities.

These researchers are aware of the fact that self-reported data, not backed by classroom observation, may reflect preferred rather than actual classroom practice [35]. Thus, more research that triangulates by combining survey, classroom observation and case studies, among other techniques, is in order to carry these findings along and add more rigorous generalizable data about the relationship between teachers' awareness, beliefs and perceptions about instructional innovations and their classroom use of these innovations.

This research examined potential relationships among gender, age, qualifications, years of experience, grade level and participation in training programs, but other variables, including teachers' knowledge (both of subject matter and pedagogy), school type and resources (public vs. private; primary vs. secondary; rural vs. urban) as well as teachers' beliefs, may be readily investigated. One aspect that these researchers find worth researching, following from the current findings, is whether or not school context could affect teachers' pedagogical practices even among teachers with similar self-reported awareness or beliefs about MIT.

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