The Importance of the Difference in Intelligence Profiles Among English Language Teachers

İngilizce Öğretmenleri Arasındaki Zeka Profili Farklılıklarının Önemi

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Öz

This study aims to find out the role and the significance of the difference in intelligence profiles among teachers in teaching English. 60 English Language School, Preparatory Programme teachers participated in this study. A Multiple Intelligence (MI) inventory consisting of two sections was administered to the teachers in order to find out their backgrounds and their dominant and weaker intelligence types. In addition to this, the inventory responses were used to find out whether the age of the teachers and the teachers' professional experience have an influence on their MI profiles. Then, the data gathered were listed and analysed using statistical methods. The results revealed that each teacher has different intelligence profiles, and these differences among teachers, and their strengths and weaknesses in intelligence types, influence their teaching styles. Based on the analysis of data, the results of the study were discussed and the importance of the difference in intelligence profiles among teachers in teaching English was highlighted.
Key words: Multiple intelligences theory, intelligence types, English language teaching.

Abstract

Bu çalışmanın amacı, öğretmenler arasındaki zekâ türü farklılıklarının İngilizce öğretimindeki rolünü ve önemini ortaya çıkarmaktır. Bu çalışmaya 60 İngilizce Hazırlık Programı öğretim elemanı katılmıştır. Öğretim elemanlarının geçmişlerini, güçlü ve zayıf zekâ türlerini tespit etmek amacı ile kendilerine iki bölümden oluşan bir Çoklu Zekâ Envanteri verilmiştir. Buna ilave olarak, verilen cevaplardan öğretim elemanının yaşının ve öğretmenlik tecrübesinin zekâ profili üzerinde bir etkisi olup olmadığı araştırılmıştır. Toplanan verileri analiz etmek için istatistiksel metotlar kullanılmıştır. Sonuçlar, her bir öğretmenin farklı zekâ profiline sahip olduğunu ve farklılıkların ve öğretmenlerin güçlü ve zayıf zekâ türlerinin, öğretme şekilleri üzerinde etkisi olduğunu göstermiştir. Yapılan analizlere dayanarak, çalışmanın sonuçları tartışılmış ve öğretmenler arasındaki zekâ profili farklılıklarının İngilizce öğretimindeki önemine dikkat çekilmiştir.
Anahtar sözcükler: Çoklu zekâ teorisi, zekâ türleri, İngilizce dil öğretimi

Introduction

The Theory of Multiple Intelligences (MI) can be regarded as a revolution in education. Unlike many other educational novelties which have limitations, MI is being implemented from pre-school through to university level. Advances in the concept of intelligence have totally changed the traditional definition of intelligence.

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Intelligence defined by the term "Intelligence Quotient" (IQ), was seen as a single general capacity that underlines in-born, inherited, native ability for mathematical and verbal skills to predict school success. Since the previous tests were found too simple, a need to create a more complicated process appeared. It was clearly seen that in educational matters, IQ test results determined the child's place among other children who have taken the same test without considering individual differences. In 1983, there were signs of a reawakening of interest in theoretical and research aspects of intelligence. The failure or the shortcomings of the traditional view caused a Harvard psychologist named

Howard Gardner to question the traditional view of intelligence and propose the Theory of Multiple Intelligences (MI).

F. H. Silver, R. Strong and M. Perini (2000) state that Gardner, by adding "s" to "intelligence", has broken the IQ theory which previously supported two basic principles that human cognition was unitary and that individuals can adequately be described as having a single, quantifiable intelligence. In *Frames of Mind: The*

in comparison, one who believes that intelligence is like a muscle that develops, has many dimensions and ways that is flexible, this means s/he has multiple chance to understand and learn the needed information.

Another point where individuals differ is the strength of these intelligences, referred to as a "profile" of intelligences. Since people do not have the same intelligence profiles, they have different talents and skills. It is certainly true that each student is an individual

OLD VIEW	NEW VIEW
o Intelligence was fixed	o Intelligence can be developed
o Intelligence was measured by a number	o Intelligence cannot be numerically quantifiable and is exhibited during a performance or problem - solving process
o Intelligence was unitary	o Intelligence can be exhibited in many ways - multiple intelligences
o Intelligence was measured by isolation	o Intelligence is measured in context/real-life situations
o Intelligence was used to sort students and predict their success	o Intelligence is used to understand human capacities and the many and varied ways students can achieve (H. Silver, 2000, 7)

Theory of Multiple Intelligences (1983), Howard Gardner states that intelligence could be defined as the ability to solve problems or to create products that are valued in at least one culture. The chart above shows how our definition of intelligence has changed through out the years.

Gardner's view of intelligence suggests that there are a number of distinct forms of intelligences, and that each person possesses at least eight different intelligences in varying degrees. The eight intelligences are as follows: verbal/linguistic, logical/mathematical, visual/spatial, bodily/kinesthetic, musical/rhythmical, interpersonal, intrapersonal, and naturalistic.

Multiple Intelligence and English Language Teaching

T. Good and J. Brophy (1995) state that how individuals understand intelligence has an important influence on how they think about themselves and others as learners. For instance, if one sees intelligence as something that is fixed at birth, s/he will have a great difficulty in understanding the new information or idea,

and must be treated as such. However, we should also keep in mind that not only are students unique but also each teacher has his/her own individual intelligence type which inevitably affects language teaching. It would appear that teachers show general tendencies towards one intelligence or another and these differing intelligence profiles evoke different teaching styles.

When individual teachers with their particular intelligence characteristics enter their classrooms, their teaching styles reflect their profile of intelligences. Therefore as Gardner (1991) points out, these differences challenge an educational system that assumes everyone can learn and teach the same materials in the same way.

M. A. Christison (1996) states that MI Theory presents ESL/EFL teachers a way to analyse their best teaching techniques and strategies by taking human differences into consideration; moreover, as she (1998) points out in order to implement the theory in their lessons, it is important for teachers to understand not only the theory but also their own intelligence profiles. It is therefore reasonable to assume that teachers should

be aware of their individual MI profile to emphasise and develop their weaker areas and to benefit from their stronger areas. Similar to this idea, J. Wingate (1997) states that teachers should spend time on considering the areas of their own weaker intelligences instead of looking at the strongest ones since they teach strongly in those ways.

As seen in the following diagram, the key question that teachers must ask in order to integrate MI Theory into their lessons is: "How can I integrate a variety of intelligences so that all my students have an opportunity to learn through their strengths?"

Since eight intelligences are required to function productively in society, identifying and teaching to a broader range of skills are exceedingly important in terms of the Theory of MI. In contrast with MI Theory, traditional education systems emphasize only the use of verbal and mathematical intelligences. Armstrong (2000, 39) compares the MI Teacher and a traditional teacher as follows:
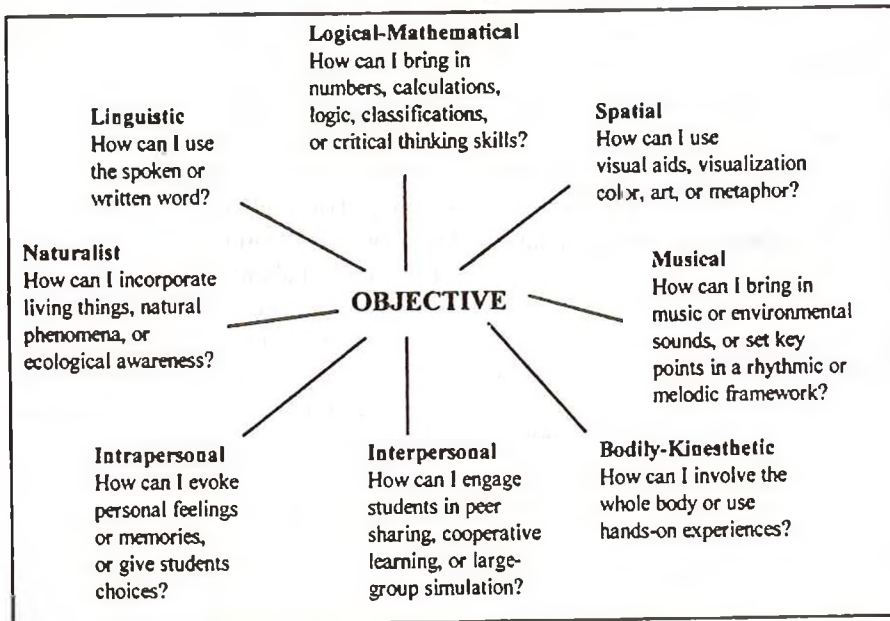
> "A teacher in an MI classroom contrasts sharply with a teacher in a traditional linguistic classroom. In a traditional classroom, a teacher lectures while standing at the front of the classroom, writes on the board, asks students questions about the assigned reading or handouts. In the MI classroom; the teacher continually shifts her method of presentation from linguistic to spatial to musical and so on ..., often combines intelligences in creative ways."

Armstrong (2000) also adds that the MI teacher not only draws pictures on the board, shows a video tape but also plays music during the lesson or provides appropriate environment for study. In addition to that, the MI teacher lets students interact with each other and sometimes gives time for students to engage in self reflection and so forth. As T. Hoerr (1996, 52) mentions:

> "By definition, MI is student-centered. Students benefit from our use of MI, but that is only the beginning. Teachers who use MI gain as well. They may work harder, but they will derive a stronger sense of satisfaction from their work."

It is exceedingly important to remember that although the concept of intelligence and the attitude towards individual differences differences have changed in the last quarter of the last century, unfortunately, our education system is still not ready to focus the needs of all the intelligences and is still neglecting to address the development of most of these areas. As teachers, we can regard all intelligence types as equally important both by taking our own intelligence profiles into consideration and thinking about our own experiences as a learner and as a teacher. Therefore, as Tanner (2001) suggests we can make an effort to plan our lessons carefully especially in the specific intelligence types in which we feel uncomfortable.

MI PLANNING QUESTIONS

Logical-Mathematical
How can I bring in numbers, calculations, logic, classifications, or critical thinking skills?

Linguistic
How can I use the spoken or written word?

Spatial
How can I use visual aids, visualization color, art, or metaphor?

Naturalist
How can I incorporate living things, natural phenomena, or ecological awareness?

OBJECTIVE

Musical
How can I bring in music or environmental sounds, or set key points in a rhythmic or melodic framework?

Intrapersonal
How can I evoke personal feelings or memories, or give students choices?

Interpersonal
How can I engage students in peer sharing, cooperative learning, or large-group simulation?

Bodily-Kinesthetic
How can I involve the whole body or use hands-on experiences?

(Armstrong, 2000, 45)

Method

Participants

In this study, 60 teachers who are teaching at Başkent University, English Language School, Preparatory Programme were taken as test subjects.

By looking at the figures, it can easily be seen that teachers in this study come from a wide range of backgrounds, age and experience groups.

Subjects participating in the study come from five different fields. There are 60 teachers who are all university graduates of different departments. There are 31 (51 %) ELT, 19 (32 %) Literature, 8 (13 %) Linguistics and there is 1 (2 %) Interpretation and Translation, 1 (2 %) Psychology graduates among the teachers, as shown in Figure 1.
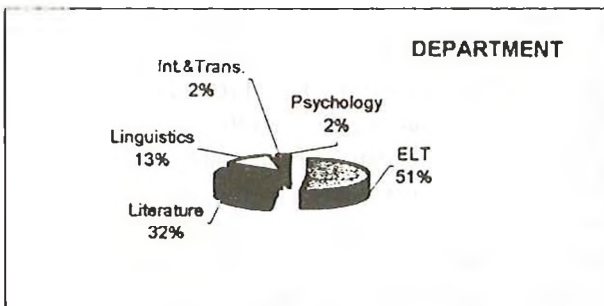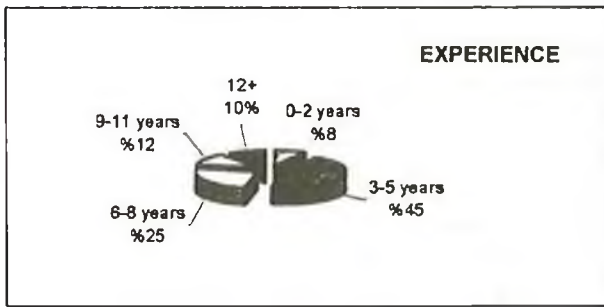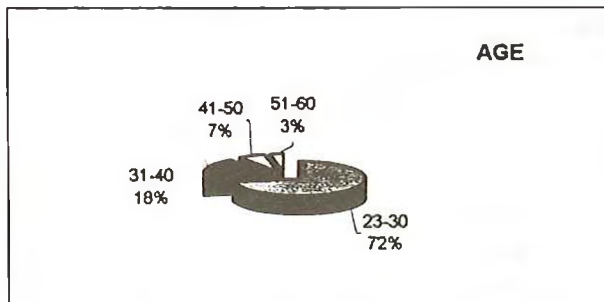

Figure 1

Figure 2

Figure 3

The findings in Figures 2 and 3 showed that the teachers' teaching experience ranged from 1 to 12+ years and age from 23 to 51+ in Preparatory Programme.

Procedure

An MI inventory (see appendix) consisting of two sections was applied to 60 teachers in order to find out their dominant and weaker intelligence types. The first section is about background information. The second section that consists of 120 statements related to 8 types of intelligences in a jumbled order aims to reveal the intelligence profile of the teachers. Teachers are expected to tick YES or NO to the personal statements that they think describe themselves. In addition to this, the inventory responses are used to find out whether the age of the teacher and the teacher's professional experience have an influence on MI profile.

Data Analysis Procedures

First of all, the data gathered through the inventory were analysed by using statistically. The analysis was performed to a significance level of _ = 0.05 using the Statistical Package for Social Sciences (SPSS).The teachers were categorised according to their intelligence types as poor 0-4, average 5-10, good 11-13, and excellent 14-15 out of 15 under the names of eight intelligence types in frequency tables. Then, the general situation graph was displayed.

The inventory was also analysed in terms of the relationships between different variables such as age and professional teaching experience. First, the teachers were put into two age categories; thirty and above, and below thirty. According to their experience in teaching they were grouped into five categories; 0-2, 3-5, 6-8, 9-11, 12+.

Results

The following tables illustrate the frequency distribution of scores received from the inventory applied to teachers out of 60 (100%).If all the teachers who have not scored poor are considered to possess the intelligence type in question, we can interpret the cumulative percent as the indicator of dominance of a particular intelligence type among teachers.

As seen in Table 1, out of 60 teachers (100 %), only 1 (1.7 %) teacher is poor, 36 (60 %) are average, 15 (25 %) are good and 8 (13.3 %) are excellent in the verbal/linguistic intelligence. It can be clearly seen that

verbal/linguistic intelligence is the most dominant intelligence type (98.3 %) when the cumulative percent is taken into consideration. Therefore, it can be argued that since all the teachers come from verbal backgrounds and now they are dealing with all skills of language in preparatory class, the verbal/linguistic intelligence seems to be the dominate.

As Table 2 demonstrates, the logical/mathematical level of the teachers is categorised into 3 groups; since no teachers scored excellent. Among 60 teachers, 19 (31.7 %) are poor, 37 (61.7 %) are average and 4 (6.7 %) are good in logical/mathematical intelligence. When the cumulative percentage is examined, it is seen that the logical/mathematical intelligence seems to have one of the lowest percents (68.3 %) among the eight intelligence types. Thus, we can say that since English Language Teaching is a social study, it is not surprising that teachers are weaker in Logical/Mathematical intelligence compared to others.

Table 3 shows that 2 (3.3 %) teachers are poor, 50 (83.3 %) are average, 8 (13.3 %) are good and there is no one excellent in the visual/spatial intelligence. Therefore, we can say that if visual/spatial intelligence has the highest average rate among the eight, this means that factors such as using visual aids, creating contexts or other visual/spatial related ways are used by majority of the teachers in language teaching. 96.7 % cumulative percent also proves that the visual/spatial intelligence is the second most dominant intelligence among teachers.

Table 1

Verbal/Linguistic Intelligence

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Average	36	60.0	60.0	60.0
Excellent	8	13.3	13.3	73.3
Good	15	25.0	25.0	98.3
Poor	1	1.7	1.7	100.0
Total	60	100.0	100.0	

Table 2

Logical/Mathematical Intelligence

		Frequency	Percent	Valid	Cumulative Percent
Valid	Average	37	61.7	61.7	61.7
	Good	4	6.7	6.7	68.3
	Poor	19	31.7	31.7	100.0
	Total	60	100.0	100.0	

Table 3

Visual/Spatial Intelligence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Average	50	83.3	83.3	83.3
	Good	8	13.3	13.3	96.7
	Poor	2	3.3	3.3	100.0
	Total	60	100.0	100.0	

Table 4 illustrates that 8 (13.3 %) are poor, 36 (60 %) are average, 14 (23.3 %) are good and 2 (3.3 %) are excellent in bodily/kinesthetic intelligence. When we look at the cumulative percent 86.7 %, it should be admitted that the bodily/kinesthetic intelligence is the third weakest and less preferred intelligence among the eight in ELT classes as most teachers do not do activities that require the students to move in the class.

As it is clearly seen in Table 5, 4 (6.7 %) teachers are poor, 25 (41.7 %) are average, 24 (40 %) are good and 7 (11.7 %) are excellent in the musical/rhythmical intelligence. The cumulative percentage reveals that 93.3 % of the teachers can be considered as sensitive to music and rhythm, since it is the third strongest intelligence type among the eight.

The figures given in Table 6 shows that 6 (10 %) teachers are poor, 37 (61.7 %) are average, 15 (25 %) are

Table 4

Bodily/Kinesthetic Intelligence

		Frenquency	Percent	Valid Percent	Cumulative Percent
	Average	36	60.0	60.0	60.0
Valid	Excellent	2	3.3	3.3	63.3
	Good	14	23.3	23.3	86.7
	Poor	8	13.3	13.3	100.0
	Total	60	100.0	100.0	

Table 5

Musical/Rhythmical Intelligence

		Frenquency	Percent	Valid Percent	Cumulative Percent
	Average	25	41.7	41.7	41.7
Valid	Excellent	7	11.7	11.7	53.3
	Good	24	40.0	40.0	93.3
	Poor	4	6.7	6.7	100.0
	Total	60	100.0	100.0	

Table 6
Interpersonal Intelligence

		Frenquency	Percent	Valid Percent	Cumulative Percent
	Average	37	61.7	61.7	61.7
Valid	Excellent	2	3.3	3.3	65.0
	Good	15	25.0	25.0	90.0
	Poor	6	10.0	10.0	100.0
	Total	60	100.0	100.0	

Table 7
Intrapersonal Intelligence

		Frenquency	Percent	Valid Percent	Cumulative Percent
	Average	33	55.0	55.0	55.0
Valid	Excellent	3	5.0	5.0	60.0
	Good	19	31.7	31.7	91.7
	Poor	5	8.3	8.3	100.0
	Total	60	100.0	100.0	

good and 2 (3.3 %) of them are excellent in interpersonal intelligence. Since it is one of the most important intelligence types in ELT, the frequency distribution of scores received from Interpersonal intelligence and 90 % cumulative percentage reveal that interpersonal intelligence deserves more attention among the others.

Table 7 indicates that out of 60 teachers 5 (8.3 %) teachers are poor, 33 (55 %) are average, 19 (31.7 %) are good and 3 (5 %) of them are excellent in the intrapersonal intelligence. When the cumulative percentage is examined, with 91.7 %, it is the fourth one among the eight intelligence types, which reveals that most teachers have intrapersonal characteristics.

Table 8 which illustrates the scores received from naturalistic intelligence shows that with 68.3 % cumulative, the naturalistic intelligence is another weak intelligence just like the logical/mathematical intelligence compared to the others. As it is seen 19 (31.7 %) teachers

Table 8
Naturalistic Intelligence

		Frenquency	Percent	Valid Percent	Cumulative Percent
	Average	34	56.7	56.7	56.7
Valid	Excellent	1	1.7	1.7	58.3
	Good	6	10.0	10.0	68.3
	Poor	19	31.7	31.7	100.0
	Total	60	100.0	100.0	

are poor, 34 (56.7 %) are average, 6 (10 %) are good and only 1 (1.7 %) of them is excellent in naturalistic intelligence. Since they do not necessarily need nature in ELT, teachers do not need to be good at it under these circumstances.

The findings set out as percentages in Table 9 reveal the overall distribution of 8 intelligence types categorised as poor, average, good and excellent for teachers.
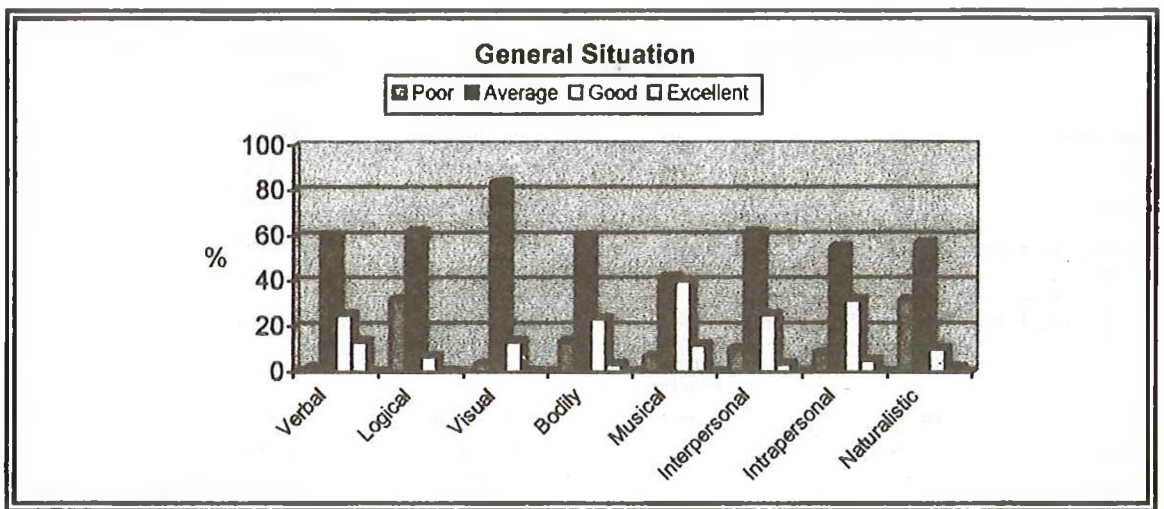

Figure 4

Table 9
Percentage Terms

	Verbal	Logical	Visual	Bodily	Musical	Interpersonal	Intrapersonal	Naturalistic
Poor	1.7	31.7	3.3	13.3	6.7	10	8.3	31.7
Average	60	61.7	83.3	60	41.7	61.7	55	56.7
Good	25	6.7	13.3	23.3	40	25	31.7	10
Excellent	13.3	0	0	3.3	11.7	3.3	5	1.7

Cross Tables

Age - Intelligence Type

Table 10 illustrates that 60 teachers who participated in the study were put into two age categories; thirty and above, and below thirty. As it is seen 43 out of 60 (71.7 %) of the teachers are thirty and above, and 17 (28.3 %) of them are below thirty.

An analysis was performed with a significance level of $\alpha = 0.05$. (N: Number of the subjects, df: A degree of freedom).

For Age-Categories versus Verbal/Linguistic intelligence the results were X^2 (3, $N = 60$)=2,394, p= .495>.05.

Table 10
Age Categories

		Frenquency	Percent	Valid Percent	Cumulative Percent
	<=30	43	71.7	71.7	71.7
Valid	>30	17	28.3	28.3	100.0
	Total	60	100.0	100.0	

a. Age Category * Verbal/Linguistic Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.394(a)	3	.495
Likelihood Ratio	2.615	3	.455
N of Valid Cases	60		

a 4 cells (50,0 %) have expected count less than 5. The minimum expected count is ,28.

b. Age Category * Logical/Mathematical Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.096(a)	2	.953
Likelihood Ratio	.096	2	.953
N of Valid Cases	60		

a 2 cells (33,3 %) have expected count less than 5. The minimum expected count is 1.13.

For Age-Categories versus Logical/Mathematical intelligence the results were X^2 (2, $N = 60$)=0.096, p= .953>.05.

For Age-Categories versus Visual/Spatial intelligence the results were X^2 (2, $N = 60$)=5.852, p= .054>.05.

For Age-Categories versus Bodily/Kinesthetic intelligence the results were X^2 (3, $N = 60$)=. 512 p= .916>.05.

For Age-Categories versus Musical intelligence the results were X^2 (3, $N = 60$) = 4.596, p= .204>.05.

For Age-Categories versus Interpersonal intelligence the results were X^2 (3, $N = 60$) =3.871, p= .276>.05.

For Age-Categories versus Intrapersonal intelligence the results were X^2 (3, $N = 60$)=4.858, p= .182>.05.

For Age-Categories versus Naturalistic intelligence the results were X^2 (3, $N = 60$)=4.471, p= .215>.05.

As indicated in the cross tables, belonging to any of the age categories does not affect possessing more of any of the intelligences, that is, teachers in different age categories can have similar intelligence profiles. However, the intelligence profiles tend to be slightly different for visual intelligence since the p value is close to the alpha level p= .054>.05, therefore we might think of a slight relation.

c. Age Category * Visual/Spatial Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.852(a)	2	.054
Likelihood Ratio	5.836	2	.054
N of Valid Cases	60		

a 3 cells (50.0 %) have expected count less than 5. The minimum expected count is .57.

d. Age Category * Bodily/Kinesthetic Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.512(a)	3	.916
Likelihood Ratio	.467	3	.926
N of Valid Cases	60		

a 4 cells (50,0 %) have expected count less than 5. The minimum expected count is .57.

e. Age Category * Musical Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.596(a)	3	.204
Likelihood Ratio	6.388	3	.094
N of Valid Cases	60		

a 3 cells (37,5 %) have expected count less than 5. The minimum expected count is 1.13.

f. Age Category * Interpersonal Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.871(a)	3	.276
Likelihood Ratio	5.385	3	.146
N of Valid Cases	60		

a 5 cells (62,5 %) have expected count less than 5. The minimum expected count is ,57.

g. Age Category * Intrapersonal Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.858(a)	3	.182
Likelihood Ratio	4.678	3	.197
N of Valid Cases	60		

a 4 cells (50,0 %) have expected count less than 5. The minimum expected count is .85.

h. Age Category * Naturalistic Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.471(a)	3	.215
Likelihood Ratio	4.356	3	.226
N of Valid Cases	60		

a 4 cells (50,0 %) have expected count less than 5. The minimum expected count is .28.

Teaching Experience - Intelligence Type

Table 11
Teaching Experience Categories

		Frenquency	Percent	Valid Percent	Cumulative Percent
	0-2	5	8.3	8.3	8.3
	12+	6	10.0	10.0	18.3
Valid	3-5	27	45.0	45.0	63.3
	6-8	15	25.0	25.0	88.3
	9-11	7	11.7	11.7	100.0
	Total	60	100.0	100.0	

Table 11 illustrates that 60 teachers who participated in the study were grouped into 5 categories; 0-2, 3-5, 6-8, 9-11, 12+. As is seen, most of the teachers (45 %) have 3 to 5 year teaching experience, on the other hand, only a minority (8.3 %) belongs to the first 0-2 year teaching experience category. (The analysis was performed with the significance level of $\alpha = 0,05$. (N: Number of the subjects, df: A degree of freedom).

For Teaching experience - Categories versus Verbal/ Linguistic intelligence the results were X^2 (12, $\underline{N}$ = 60)=18.982, p= .089>.05.

a. Teaching Experience Category * Verbal/Linguistic Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.982(a)	12	.089
Likelihood Ratio	14.022	12	.299
N of Valid Cases	60		

a 17 cells (85,0 %) have expected count less than 5. The minimum expected count is .08.

b. Teaching Experience Category * Logical/Mathematical Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.992(a)	8	.537
Likelihood Ratio	9.749	8	.283
N of Valid Cases	60		

a 12 cells (80,0 %) have expected count less than 5. The minimum expected count is .33.

c. Teaching Experience Category * Visual/Spatial Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.662(a)	8	.372
Likelihood Ratio	8.241	8	.410
N of Valid Cases	60		

a 11 cells (73,3 %) have expected count less than 5. The minimum expected count is .17.

d. Teaching Experience Category * Bodily/Kinesthetic Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.940(a)	12	.621
Likelihood Ratio	10.560	12	.567
N of Valid Cases	60		

a 17 cells (85,0 %) have expected count less than 5. The minimum expected count is .17.

For Teaching experience - Categories versus Logical/ Mathematical intelligence the results were X^2 (8, $\underline{N}$ = 60) =6.992, p= .537>.05.

For Teaching experience - Categories versus Visual/ Spatial intelligence the results were X^2 (8, $\underline{N}$ = 60)=8.662, p= .372>.05.

For Teaching experience - Categories versus Bodily/ Kinesthetic intelligence the results were X^2 (12, $\underline{N}$ = 60) = 9.940, p= .621>.05.

For Teaching experience - Categories versus Musical intelligence the results were X^2 (12, $\underline{N}$ = 60)=7.032, p= .855>.05.

For Teaching experience - Categories versus Interpersonal intelligence the results were X^2 (12, $\underline{N}$ = 60)=15.005, p= .241>.05.

For Teaching experience - Categories versus Intrapersonal intelligence the results were X^2 (12, $\underline{N}$ = 60)=8.594, p= .737>.05.

e. Teaching Experience Category * Musical Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.032(a)	12	.855
Likelihood Ratio	8.877	12	.713
N of Valid Cases	60		

a 16 cells (80,0 %) have expected count less than 5. The minimum expected count is .33.

f. Teaching Experience Category * Interpersonal Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.005(a)	12	.241
Likelihood Ratio	14.697	12	.258
N of Valid Cases	60		

a 17 cells (85,0 %) have expected count less than 5. The minimum expected count is .17.

g. Teaching Experience Category * Intrapersonal Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.594(a)	12	.737
Likelihood Ratio	9.921	12	.623
N of Valid Cases	60		

a 17 cells (85,0 %) have expected count less than 5. The minimum expected count is .25.

h. Teaching Experience Category * Naturalistic Intelligence

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.933(a)	12	.038
Likelihood Ratio	20.605	12	.056
N of Valid Cases	60		

a 17 cells (85,0 %) have expected count less than 5. The minimum expected count is .08.

For Teaching experience - Categories versus Naturalistic intelligence the results were X^2 (12, $\underline{N}$ = 60)=21.933, p= .038<.05.

As can be seen in cross tables, there is no significant relationship found between teaching experience categories and the intelligence types except

the Naturalistic Intelligence, (p= .038<.05.) That is to say, not regarding Naturalistic Intelligence the teachers in different teaching experience categories have similar intelligence profiles.

Conclusion and Suggestions

The results of this study revealed that we, as teachers, have stronger and weaker intelligences which inevitably affect the way we teach. The inventory results indicate that the majority of the teachers seem to be dominant in Verbal /Linguistic Intelligence and Visual/Spatial Intelligence. These findings clearly show that teachers should be informed not only about their students' MI profiles but also need to be aware of their own intelligence profiles. In addition to this, the data reveal that in general there is no significant relationship between the age categories and the intelligence types except visual /spatial intelligence. Likewise, the relationship between the teaching experience and the intelligence types seems not to be significant in general except naturalistic intelligence.

It is widely accepted that teaching is an art and also a science, that is, teaching can be improved and more effective when various teaching techniques are adopted. That is why if institutions provide in-service trainings for teachers, they will not only help teachers develop awareness of their own intelligence profiles and control over their teaching behaviour, but also guide them in the analysis of the weaker intelligences in their classrooms.

It can also be thought that since MI Theory is not an educational programme, it allows teachers a wide mental model from which to create activities and improve themselves as educators. Thus, teachers may apply the theory in the way they consider most appropriate for their class and institution.

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APPENDIX

Dear Colleagues,

The findings of this inventory will be used in a scientific study. Your answers will be appreciated. Before completing the questionnaire, fill in the information sheet completely.

Thank you for your participation and precious support in advance.

Background Questions:

Name : ....

Sex : ( ) Female ( ) Male

Age : ....

What department did you graduate from? ....

What is your total teaching experience? .... years .... months

Do you have master's degree? ( ) Yes ( ) No

If you have master's degree or if you are currently doing your master's indicate the department: ....

Do you have Ph.D? ( ) Yes ( ) No

If you have Ph.D or if you are currently doing your Ph.D, indicate the department: ...

....

Multiple Intelligence Inventory

Tick the statements that you think describe you.

YES / NO

1. I love reading books.
2. I feel more comfortable when something has been measured, categorised, analysed, or quantified in some way.
3. I always pay attention to the colours I wear.
4. I enjoy spending time in a park doing a physical activity.
5. I find myself tapping rhythms on the table while waiting.
6. I prefer going out with friends rather than staying home alone.
7. Processing my thoughts alone is very important to me.
8. I am good at recognising different types of birds and plants.
9. Words and languages fascinate me.
10. I have plants in my home and office.
11. I would love to design an advertisement board to showcase ideas.
12. Choosing the best metaphor in a poem is a joy for me or my conversation includes frequent references to things that I've read.

13.   I am interested in documentaries.
14.   I lose track of time when I am in a library or a bookstore.
15.   I like recording events with a camera or camcorder.
16.   When I have my meal, I enjoy listening to background music.
17.   I practice a new skill rather than simply reading about it.
18.   When I read a novel, I often compare personal choices I would make.
19.   Solving number problems is easy for me.
20.   I am more productive when I work with a team.
21.   I have attended personal growth sessions to learn about myself.
22.   People often ask me to explain the meaning of words I use.
23.   I can comfortably imagine how something might appear if it were looked down upon from directly above, in a bird's eye view.
24.   I have a pleasant singing voice.
25.   I often spend time chatting with friends.
26.   I am good at dancing, sewing or woodworking.
27.   My life would be dull without music.
28.   I often look at the sky and tell different types of clouds and weather they bring.
29.   I love spending time outdoors.
30.   After I've been to a concert, I hear melodies in my mind for days.
31.   When I cook, I measure things exactly.
32.   I frequently use slides and pictures in my lessons.
33.   I am partial to textbooks with illustrations, graphs and charts.
34.   I often see cause-effect relationship in things.
35.   When I write, I tend to base stories on personal experience.
36.   I was interested in Biology lessons at school
37.   I would much rather learn new material with a group of people.
38.   When I have a problem, I seek out another person for help.
39.   I use chants and music in my lessons.
40.   Spending time with lots of people makes me nervous.
41.   I like telling stories and jokes.
42.   I find it difficult to sit still for long.
43.   My favourite activity is keeping a personal diary or journal.
44.   I willingly take an active part in school sports day.
45.   I like to be involved in many forms of outdoor activities.
46.   I have special hobbies or interests that I keep pretty much to myself.
47.   I use the blackboard, the overhead projector or charts and posters when I teach.
48.   It's easy for me to tell the weeds from the plants.
49.   I consider myself independent.
50.   My students help me to decide on the content and learning process in my classes.
51.   I am involved in social activities and clubs.
52.   I frequently listen to music in the car, at work, or at home.
53.   I enjoy spending time by myself.
54.   I enjoy visiting art galleries.
55.   I like working with my hands.
56.   I can tell when music sounds are off-key.
57.   I enjoyed math classes in school.

58. Movies or slides really help me to learn new information.
59. I would rather create my own materials and lessons.
60. My best thinking surfaces when I brainstorm with other people.
61. I ask many questions about how things work.
62. I always organise a time schedule to plan my week.
63. Helping others to complete a project brings me a lot of satisfaction.
64. I have a good sense of rhythm.
65. I like spending time in nature.
66. Sometimes I get up early to watch the sunrise.
67. Listening to music makes me feel better.
68. I often ask my students to do reading and writing in my classes.
69. Whenever I buy fish, I love cleaning and cooking them.
70. Spelling is easy for me
71. As I walk in the woods, I often pause quietly to observe habits within wildlife.
72. I believe that most things have a rational explanation.
73. I enjoy the challenge of teaching another person or groups of people.
74. I enjoy solving jigsaw or other visual puzzles.
75. Open-ended questions are usually difficult for me.
76. When I enter a classroom, I notice whether the positioning of the students and teacher supports the learning process.
77. I work more effectively to background music.
78. People come to me for comfort and moral support.
79. I always do activities that require the students to move about in my classes.
80. I enjoy having pets at home.
81. It is easy for me to find my way around in unfamiliar cities.
82. I play a musical instrument or sing in a choir.
83. I am considered to be someone that people come to for advice.
84. I have a good vocabulary in my native language.
85. I prefer group sports to solo sports.
86. I often get my best ideas when I am out for a walk or doing some physical activities.
87. I am good at sports.
88. I know the tunes to many songs or musical pieces.
89. I am interested in new developments in science.
90. I was always a volunteer in doing experiments in the lab. at school.
91. In all four seasons, I learn from and enjoy observing nature change.
92. I especially like to read articles and books with many pictures.
93. I consider myself a good letter writer.
94. Learning new dance steps and moving to music brings me real satisfaction.
95. English, social studies and history were easier for me at school than maths and science.
96. I frequently use hand gestures or other forms of body language when conversing.
97. I engage in at least one sport or physical activity regularly.
98. I like playing chess and brain-teaser games.
99. I enjoy learning about rocks.
100. It is easy for me to follow exactly what other people do.
101. I have some specific and realistic goals for my life.
102. I encourage quiet time and time to reflect in my classes.
103. I can easily remember people's names or the words of a song.

104. I regularly spend time alone to meditate of think about important life questions.
105. I consider myself a leader and often assume leadership roles.
106. I often draw or doodle during staff meetings.
107. I choose activities for my students to work on alone or independently.
108. I can understand and interpret graphs easily.
109. I am good at explaining how to solve problems.
110. I like gardening.
111. Geometry was easier for me than algebra at school.
112. I draw well.
113. I often remember advertisement jingles.
114. I go to the library alone to study.
115. I enjoy word games like scrabble or crossword puzzles.
116. I am good at persuading people.
117. I love to figure out how my computer works.
118. I often use problem-solving activities in my classes.
119. I write about things I read or experience.
120. I often hum or whistle a tune.

Verbal/Linguistic   : 1, 9, 12, 14, 22, 41, 47, 68, 70, 84, 93, 95, 103, 115, 119.
Logical/Mathematical   : 2, 19, 31, 34, 57, 61, 62, 72, 75, 89, 98, 108, 109, 117.
Visual/Spatial   : 3, 11, 15, 23, 32, 33, 54, 58, 74, 76, 81, 92, 106, 111, 112.
Bodily/Kinesthetic   : 4, 17, 26, 29, 42, 44, 45, 55, 79, 86, 87, 94, 96, 97, 100
Musical/Rhythmical   : 5, 16, 24, 27, 30, 39, 52, 56, 64, 67, 77, 82, 88, 113, 120
Interpersonal   : 6, 20, 25, 37, 38, 50, 51, 60, 63, 73, 78, 83, 85, 105, 116
Intrapersonal   : 7, 18, 21, 35, 40, 43, 46, 49, 53, 59, 101, 102, 104, 107, 114
Naturalistic   : 8, 10, 13, 28, 36, 48, 65, 66, 69, 71, 80, 90, 91, 99, 110