# هوشهای چند گانه: آرایی از یک کلاس نگارش

**فهیمه معرفت**
استادیار دانشگاه علامه طباطبایی

طبق تئوری هوشهای چند گانه که اولین بار توسط هاوارد گاردنر(۱۹۸۳) مطرح شد، افراد دارای حداقل نه نوع هوش مختلف می باشند: هوش کلامی/ زبانی، ریاضی/ منطقی، تجسمی/ فضایی، بدنی/حرکتی، موسیقیی، درون فردی، بین فردی، طبیعتی و وجودی. محققین بر این باورند که آگاهی فرد از هوشهای چند گانه خود فراگیری و عملکرد وی را بالا می برد. بنابراین هر نوع تلاشی در راستای آشنا نمودن افراد با منظری از هوشهای چند گانه شان می تواند با ارزش باشد. پژوهش حاضر با استفاده از پرسشنامه مکنزی (۱۹۹۹) بدنبال کشف هر نوع رابطه ای بین منظری از هوش چندگانه فراگیران با توانایی نگارششان می باشد. هفتاد و دو دانشجوی دختر و پسر رشته زبان انگلیسی در مقطع کارشناسی در این تحقیق شرکت کردند. تحلیل رگراسیون نشان داد که بالاترین سهم در پیش بینی نمرات نگارش افراد را میتوان به هوشهای حرکتی، وجودی و بین فردی فراگیران نسبت داد.

**واژه‌های کلیدی:** تئوری هوشهای چندگانه، منظر فردی هوش، نگارش انگلیسی، پرسشنامه مکنزی، تحلیل رگراسیون.

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# Multiple Intelligences: Voices from an EFL Writing Class

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**Abstract**

Multiple intelligences (MI) theory, as proposed by Gardner (1983, 1999), claims that there are at least nine different human intelligences. Knowing our multiple intelligences is meant to empower each one of us to learn and to act (Christison, 1998; Larsen-Freeman, 2000; Mckenzie, 1999). Any attempt thus to characterize learner's personal MI profile is worth making. This piece of research, accordingly, aims at discovering whether there is any relationship between students' MI Profile and their writing product. Seventy-two EFL students taking their writing course with the researcher participated in the study. The instrument used was Mckenzie (1999)'s MI Inventory. The participants' average scores on three essays were used as an index of writing product. Regression analysis made it clear that kinesthetic, existential, and interpersonal intelligences are making the greatest contribution toward predicting writing score.

**Key Words:** Multiple Intelligences Theory, Individual Intelligence Profile, Writing, McKenzie MI Inventory, Regression Analysis.

"It is not how smart you are but how you are smart." Rene Diaz

## 1. Introduction

Publishing *Frames of Mind*, Gardner (1983) introduced the theory of multiple intelligences. He postulated there are many different capabilities that result in many different ways of knowing, understanding, and learning about our world. Accordingly, teachers must be well informed of the fact that in every classroom there are students who are different from each other in many different ways (Christison, 1998; Gardner, 1983; Larsen-Freeman, 2000). Each student comes from a different social, economic, and family background; each one has different areas of interest, different ways of expressing themselves, different strengths and weaknesses. And now the teacher is being asked to be aware of the fact that students have their own individual intelligence profile. Still more, this intelligence profile is not fixed, allowing for compensating for weaknesses and capitalizing on strengths. The researcher accordingly aimed at discovering the relationship, if any, between learner intelligence profile and writing ability and the likely implications in the classroom.

### 1.1. Intelligence Defined

In the past, it was believed that there is a unitary general intelligence, called "g" factor or "general intelligence" (Spearman, 1904, cited in Williams et al, 2003), which is a fixed, static entity at birth. The scale included measures of language skills, memory, reasoning, digit span, and psychophysical judgments. Various and many attempts were made to revise the scale and many postwar performance scales were pursued (for a detailed account see Gardner, 1983). This general intelligence was defined operationally as the ability to answer items on an I.Q. Test. However, Gardner (1983), in his seminal work, attacked the preceding models on the

ground that they overemphasized logic and language and disregarded other intelligence types. He defined intelligence as "the ability to find and solve problems, the ability to respond successfully to new situations and the capacity to learn from one's past experiences" (p.21). Intelligence is, in fact, a way of processing, which our mind/brain has.

### 1.2. Theory of Multiple Intelligences

Multiple intelligences is a psychological theory about the mind. It's a critique of the notion that there's a single intelligence that we're born with, that can't be changed, and that psychologists can measure. Gardner (1999) made two claims regarding his theory of Multiple Intelligences. His first claim was that everybody has all intelligence types, irrespective of age, sex, place of birth, etc. As concerns the second claim, he noted that no two people have identical intelligence profiles. As human beings, we have various and many experiences, which would consequently affect our behaviors. According to the MI theory, we possess each intelligence to varying degrees, with at least one intelligence being dominant. Gardner believes that one may be highly gifted in one domain and less so in others. So getting to know about different domains can have its own rewards.

### 1.3. Gardner's Intelligences Defined

According to the Theory of MI, there are at least nine different human intelligences. The first two are verbal-linguistic and mathematical-logical Intelligences. The other five are musical, spatial, bodily-kinesthetic, intrapersonal, and interpersonal. In 1999, Gardner added an eighth intelligence type to the list, naturalist intelligence, followed by a ninth type, existentialist intelligence (He humorously mentions that he prefers to call existential intelligence the 8.5th intelligence, p.66) . The multiple intelligences, as adapted from two articles by Christison (1996, 1998), are

briefly introduced below.

### 1.3.1. Verbal-Linguistic Intelligence

People who mostly think in words and are especially good at auditory skills use this type of intelligence more frequently, like poets, lawyers, and translators. Such people are also highly sensitive to word meaning, order, function, and sound.

### 1.3.2. Mathematical-Logical Intelligence

People using this intelligence are skilled in inductive/deductive reasoning and logic, and exhibit great strength to solve problems. Their ability to make connections between pieces of information is outstanding. Think of a statistician, a computer programmer, or a mechanical engineer as examples.

### 1.3.3. Visual-Spatial Intelligence

People thinking in images and pictures use primarily this type of intelligence. These individuals, as designers, photographers, or sculptors, are sensitive to shape, space, and the relationship that exists between the elements.

### 2.3.4. Bodily-Kinesthetic Intelligence

Simply this is the ability to use the body skillfully to solve problems, and to handle objects adroitly. In terms of value, this intelligence is equal to the other types. Surgeons, trainers, and athletes offer a perfect example here.

### 1.3.5. Musical Intelligence

Making or composing music, singing well, and appreciating music are the main characteristics of this type of intelligence. This intelligence is said

to emerge earlier than other intelligences(Haji Hossein nejad and Baleghi zadeh, 2002). People with strong musical intelligence, like composers and song writers especially like the rhythm and sounds of language, poems, and jingles.

### 1.3.6. Intrapersonal Intelligence

People with this intelligence know their strengths and weaknesses, and intelligences. They have the capacity to be self-aware and in tune with their inner feelings, and thinking processes. One may think of leaders and writers coming under this camp.

### 1.3.7. Interpersonal Intelligence

If you use this intelligence very frequently, then you understand people, their behaviors, and motivations. You certainly work best with others through interaction. Group activities are indeed a source of energy to you. You can make a good teacher, counselor, or salesperson.

### 1.3.8. Naturalist Intelligence

Those who are talented at observing, understanding, and organizing patterns found in nature best display this intelligence. Spending a great deal of time outdoors is quite enjoyable for this camp. A biologist or a veterinarian seems a good candidate possessing this intelligence.

### 1.3.9. Existential Intelligence:

Individuals who take particular interest in questioning the existence and meaning of life come under this intelligence type, referred to as the ninth or spiritual intelligence. These people see the big picture. Realizations are philosophers or psychologists.

### 1.4. M.I. Theory in the Classroom

The theory of multiple intelligences is so intriguing because it expands our horizon of available teaching/learning tools beyond the conventional methods used in most schools (e.g. lecture, textbooks, writing assignments, formulas, etc.). The theory, indeed, proposes a major transformation in the way our schools are run. In Armstrong's (1994) words, the recipe is quite simple:

You don't have to teach or learn something in all eight ways; just see what the possibilities are, and then decide which particular pathways interest you the most, or seem to be the most effective teaching or learning tools (p.62).

Gardner (1983) repeatedly urges us to remember some points: 1) Everyone has ALL the intelligences. 2) These intelligences are present in virtually every realm of human activity. 3) Multiple Intelligences Theory was not developed to exclude certain individuals, rather to allow all people to contribute to society through their own strengths.

### 1.5. Writing and MI Theory

More than many other issues in the field of composition studies, the shift from product to process has evoked strong passions. Process-oriented studies are characterized by focusing on the exploration of the ways students write, the behaviors and strategies they employ, and the multiplicity of constraints that they must observe to construct meaning (Ferris, 1995; Montague, 1995). Practitioners have also emphasized that the processes of writing and learning are fundamentally linked (Bailey, 1990; Porter, , Goldstein, Leatherman, & Conrad 1990). et al, 1990). Writing is indeed basic to thinking about and learning knowledge in all fields and as a means of communicating that knowledge. Writing, viewed as a discovery process, provides opportunities for ongoing learning. It becomes clear, then, that the act of writing itself is a

way of structuring, formulating, and reacting to the inner and outside worlds.

The question that comes to mind at this point is whether and how the study of intelligences could be of any help to students or teachers. "Know thyself," as Socrates put it. As mentioned previously, Gardner (1999) believes that our intelligences profile is not fixed, which means that we can develop our stronger and weaker areas both. McKenzie (1999), too, contends that knowing our multiple intelligences helps us realize our strengths and weaknesses. It is then the teacher's job to develop strategies to compensate for the weaknesses and maneuver on the strengths. Knowing our multiple intelligences profile allows us to identify the kinds of activities that can help us learn well and more effectively. Put another way, familiarity with student profile informs the teacher that learners have different approaches and attitudes toward learning (Currie, 2003). She further noted: "Teachers are aware of the diversity in their classrooms. They know it is important to learn something about their students in order to invest more efficiently in the teaching-learning process..." (Currie, 2003, p. 2). Such a familiarity is also emphasized by Altan (2001), maintaining that the teacher would then look differently at her teaching and assessing procedures. Interestingly enough, Richards and Rodgers (2001) contend that accounting for multiple intelligences is in line with learner-based theories in education and language teaching and learning.

Gardner's theory can have implications as far as teaching and assessment in general, and writing in particular, are concerned. On the one hand, we may discard all differences and use the same method of teaching and assessment irrespective of all the differences. On the other hand, we can use different methods to tap different intelligences. The theory suggests that teachers be trained to present their lessons in a wide variety of ways using music, cooperative learning, art activities, role play, multimedia, field trips, inner reflection, and much more. To that end, the teacher can ask herself a

number of questions (modified from Nicholson-Nelson 1998; cited in Williams et al, 2003) to make sure she is implementing the theory into her class.

1. How often do I give the learners the chance to speak, listen, read , and write?

2. How often do I include numbers and calculations and activities for critical thinking?

3. Do I ever take resort to pictures, colors, and arts?

4. Are the students ever asked to do activities that involve movement?

5. Do music, rhythm, and melody have any place in my class?

6. Are the learners provided with private learning time, thinking to themselves?

7. Are they ever assigned to do pair or group work and exchange ideas?

8. Have I included categorization tasks and/or arranging exercises?

9. How many times have I asked them to relate the lesson to their life experiences?

Gardner's theory has not yet made an impact on the teaching of writing, though it has influenced some innovative research like that of Grow (1990), which offered some activities in the classroom that tap into the different intelligences. Inspired by the MI Theory that underscore investigation into learner characteristics, the present study examines the relationship between writing performance and intelligence profiles as designated by a relevant questionnaire.

**Empirical studies:**

Some projects in the realm of the MI Theory are reviewed by Haji Hossein Nejad and Baleghi zadeh (2002). This part is a brief account of two studies of utmost relevance to the present study:

Hosseini (2003) made an attempt to discover the relationship, if any,

between 90 Iranian EFL university students multiple intelligences and their proficiency in general and their use of learning strategies, in particular. The researcher reported a meaningful relationship between the two variables, "the more intelligent language learners use the language learning strategies more efficiently" (p.82). Regression analyses revealed that natural, linguistic and interpersonal intelligences were positive and the kinesthetic intelligence was the negative predictors of language learning strategy use. It was also observed that verbal and linguistic intelligences served as positive predictors of language proficiency.

In a study (Yeganehfar, 2005) investigating the relationship between language proficiency and multiple intelligences in a foreign language context, 30 English major students were asked to take part in an IELTS test and fill out the Multiple Intelligences Developmental Assessment Scale (MIDAS). The findings suggest that the overall language proficiency correlated significantly with interpersonal intelligence. As for separate language skills, it was reported that highly positive correlation existed between intrapersonal and listening comprehension and speaking, both. Reading skill showed an acceptable correlation with musical and intrapersonal intelligences. Interestingly, writing skill correlated significantly with linguistic and spatial intelligences.

## 2. This Study:

### 2.1. Research Question

Is there any relationship between under graduate English major students' MI profiles and their writing ability?

### 2.2. Participants

The participants were 72 male and female Iranian undergraduate students

of ages between 19- 27 studying English literature and translation at Allameh Tabatabii University. These students were taking their writing course with the researcher.

**2.3. Instrumentation:** .

**2.3.1. Writing Index**

Writing ability of the students was determined by taking the average of 3 writing scores: mid-term writing, one in-class writing, and one out-of-class writing. Scoring was based upon the profile developed by Jacobs, Zinkgraf, wormuth, Hartfield, and Hughey (1981). It is worth mentioning that this profile is widely used in the literature. The guidelines provided by Jacobs et al (1981, Pp. 28-53) clearly indicate that a holistic evaluation mainly based upon the communicativeness of the written pieces is encouraged. The researcher is well aware that including even one more rater would yield in more dependable results, yet this is one of the delimitations of the present study. Maybe averaging three samples could to some extent neutralize this effect; one may add researcher experience as still another justification.

**2.3.2. Questionnaire**

To identify the intelligence profile of the participants, McKenzie's (1999) questionnaire was used. This questionnaire can be found on the Internet at http://surfaquarium.com/MI/MIInvent.htm. It presents 90 statements related to each of the nine Intelligences proposed by Gardner. Each student was required to complete the questionnaire by placing a number from 1 to 5 next to each statement as they felt accurately described them. They selected from a scale of "completely disagreed, disagreed, no idea, agreed, and completely agreed" corresponding to the numbers 1 to 5, respectively. To give the reader the feeling of the questionnaire, a sample of

nine statements corresponding to the nine intelligences appear below:

_____I enjoy playing with words like puns, anagrams and spoonerisms.
_____ Solving problems comes easily to me.
_____ I enjoy making things with my hands.
_____ I can imagine ideas in my mind.
_____ The cadence of poetry intrigues me.
_____ Working alone can be just as productive as working in a group.
_____ I learn best interacting with others.
_____ I believe preserving our National Parks is important.
_____ I enjoy discussing questions about life.

Two points need to be made here. Firstly, the researcher was surprised at student interest in answering the questionnaire. When the researcher was elaborating on the procedure, the participants eagerly followed the instructions. Moreover, when I reported their intelligence profile, they first asked me to explain a little bit about each entry, though I had described each of them before distributing the questionnaire. It seems that all students unanimously tended to learn about their profiles. Once they had the report, some came to me expressing surprise at how accurately the profile described them. Some mentioned they did not really know about their profiles. A few, however, did not find the profile indicative of their intelligences.

## 3. Data Analysis

According to the number of statements ticked in each category, it is possible to produce an initial intelligence profile for each student and of course an overall view of the differences between the students. The maximum score in each section amount to 50 and the minimum is 0. Table 1 summarizes the descriptive statistics for the writing score as well as the

different intelligences for the students.

**Table 1. Descriptive Statistics for Writing Score and Different Intelligences**

| | Mean | Std. Deviation |
|---|---|---|
| **WRITING** | 17.76 | 3.34 |
| **VERBAL-LINGUISTIC** | 34.20 | 4.40 |
| **LOGICAL-MATHEMATICAL** | 35.76 | 5.10 |
| **VISUAL-SPATIAL** | 36.49 | 5.26 |
| **BODILY-KINESTHETIC** | **37.15** | 5.78 |
| **MUSIC** | 35.49 | 5.20 |
| **INTRAPERSONAL** | **41.56** | 3.90 |
| **INTERPERSONAL** | 31.94 | 6.77 |
| **NATURAL** | 35.64 | 4.30 |
| **EXISTENTIAL** | **39.39** | 4.91 |

Surprisingly enough, the group as a whole is strong in intrapersonal intelligence (M= 41.56). And, contrary to expectations, the lowest scores obtained by the majority of the students are registered in the area of interpersonal intelligence (M= 31.94). However, in a reading class in university, Currie (2003) reports a higher mean for interpersonal than intrapersonal intelligence. The two other intelligences which seem to be most highly developed by the class as a whole are existential (39.39) and kinesthetic (37.15) intelligences.

Table 2 summarizes the writing scores as well as the minimum and maximum intelligence profiles for three students (Indeed, listing the scores for all students was not feasible, given the large number of subjects).

**Table 2. Maximum and Minimum Intelligence Profiles and Writing Score for Three Students**

| Student No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Writing Score |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | | | | 48 | | | 28 | | | 23 |
| 16 | | 50 | | | 24 | | | | | 13 |
| 21 | | | 50 | | | | 31 | | | 19 |

1. Verbal-Linguistic, 2. Logical-Mathematical, 3. Visual-Spatial, 4. Bodily-Kinesthetic, 5. Music, 6. Intrapersonal, 7. Intrapersonal, 8. Natural, 9. Existential Intelligences.

From this data, it is possible to identify not only individual strengths and weaknesses but also group tendencies. Not only should teachers observe the highest scores registered by each of their students in order to discover appropriate entry points for effective learning, but they should also examine the lowest scores obtained by their students in order to discover which areas of intelligence need to be developed during the course. Of course, each student scored differently in various intelligences. For example, student number 16 with a writing score of 13 had the highest logical-mathematical intelligence, namely, 50. Yet her minimum score was 24 for musical intelligence. Student number 21, on the other hand, had the highest possible index for visual-spatial intelligence. He scored his lowest in interpersonal intelligence, that is, 31. This is totally different from the findings of the study conducted by Yeganehfar (2005), who reported significantly high correlation between overall language proficiency and interpersonal intelligence. Student number 2, as another instance, with a writing mark of 23, had an interpersonal index of 28 and a bodily-kinesthetic index of 48.

To answer the question posed in this research concerning the relationship between learner MI profile and writing ability, or more specifically, what intelligences can be accurate predictors of writing performance, a "standard

multiple regression analysis" was conducted (Pallant, 2001, p.135). The independent variables in the analysis were: verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical, , intrapersonal, interpersonal, natural and existential intelligences. The summary result for this regression analysis is available in table 3.

**Table 3. Results for Regression Analysis of Writing Scores and Intelligence Profiles**

| | Unstandardized coefficients | | | t | sig |
|---|---|---|---|---|---|
| Model | B | Std.Errors | Beta | | |
| VERBAL-LINGUISTIC | .0237 | .101 | -.031 | .235 | .815 |
| LOGICAL-MATHEMATICAL | .111 | .078 | .169 | 1.419 | .161 |
| VISUAL-SPATIAL | .126 | .091 | .199 | 1.385 | .171 |
| **BODILY-KINESTHETIC** | - .175 | .083 | **-.303** | -2.094 | **.040** |
| MUSIC | -.0663 | .082 | -103 | -.812 | .420 |
| INTRAPERSONAL | .0117 | .100 | .000 | .001 | .999 |
| **INTERPERSONAL** | - .125 | .058 | **-.253** | -2.136 | **.037** |
| NATURAL | -.0 292 | .103 | -.038 | -.284 | .777 |
| **EXISTENTIAL** | - .191 | .086 | **-.280** | -2.208 | **.031** |

Since we were interested in comparing the contribution of each independent variable- beta values were used. Kinesthetic, existential, and interpersonal intelligences turned out to be making statistically significant contributions to this prediction. Scanning the significance column of Table 3 shows us that .040, .031, and .037 are less than .05 and thus make a significant contribution. Kinesthetic intelligence makes the strongest contribution to the dependent variable of writing score, followed by existential and interpersonal intelligences. Beta Column of Table 3 presents

this finding. It is interesting to note here that interpersonal intelligence was also a good predictor of language learning strategy use, as suggested by previous research (Hosseini, 2003).

## 4. Multiple Intelligences and Writing

The statistical analysis revealed that bodily-kinesthetic, existential, and interpersonal intelligences, also partly supported by descriptive statistics, made the greatest contribution toward predicting writing ability. What follows is an attempt made to describe how these intelligences could be related to writing.

### 4.1. Bodily-kinesthetic

As readers, we often respond kinesthetically, that is to say, sort of movement is involved. In offering feedback, we are touched, taken, or gripped. Our hearts leap, our breaths quicken, and our stomachs turn. Any writer who wants to affect the readers must find a way to touch the kinesthetic intelligence of the reader with words. We know our emotions through the intelligence of the body.

### 4.2. Existential

The essence of writing is accessing one's feeling and expressing it. Writing is considered as an art of creative act, a process of discovering the self. Indeed, to know the world, one needs to know himself first. Only then can he ask himself questions of broader scale, questioning the meaning of life and ultimate issues, and seeing the big picture.

### 4.3. Interpersonal

Writing is a social act. The writer is involved in a dialog with his audience, having him in his mind as he is writing. Even a primary school

student would write differently if he addresses different people. To Hyland, "Any act of writing, whether personal, academic or workplace, is embedded in wider social … practices" (2002, p. 69).

**5. Implications**

Gardner (1999) notes that integrating multiple intelligences into the classroom changes our idea about teaching and learning. At least, my students are now aware of and think about their multiple intelligences. And this prompts me into thinking of ways to integrate the theory into teaching. Group works and discussions certainly trigger students' verbal/ linguistic and interpersonal intelligences. Assigned to have their journals, students would strengthen their intrapersonal intelligences. As students construct their meanings, their mathematical/ logical and visual/ spatial intelligences are tapped. One may even think of planning activities that involve movement or observing nature to sharpen their bodily/ kinesthetic, naturalist or existential intelligences in a writing classroom!

I'd like to conclude by Gardner's comment warning us that

the most important task in the new millennium is not to just hone our various intelligences and use them properly ,but figure out how intelligence and morality can work together to create a world in which a great variety of people will want to live (1999, mentioned in Altan, p.204).

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