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## چند بعدی بودن زبان، چند کاناله بودن یادگیری و استفاده از

روشهای التقاطی\* (علمی - پژوهشی)

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### چکیده

سخن بخش نخست مقاله این است که التقاط گرایی باید ویژگی همه تلاشهایی باشد که برای آموزش زبان صورت می گیرد؛ زیرا عوامل اصلی روش تدریس، یعنی زبان، ذهن و مغز چند بعدی است. زبان کارکردهای متعدد دارد و در کاربرد با حواس مختلف پیوند می خورد و در سازوکار یادگیری توسط ذهن و مغز نیز کانالهای ادراکی متعدد درگیر است. حال که هم موضوع و هم روش یادگیری چند بعدی است، معقول نیست که مواد آموزشی فقط یا عمدتاً به صورت کلامی ارائه شود؛ اما از آنجا که هنوز روش چند بعدی جامعی برای آموزش زبان عرضه نشده، راه میانه این است که جنبه های برجسته روشهای رایج آموزش زبان چنان با هم ترکیب شود که با ماهیت ذهن و زبان تناسب بیشتری یابد. بخش دوم مقاله، گزارش تحلیلی است که در چهارچوب نظریه هوش چند بعدی در مورد هشت روش معروف آموزش زبان صورت گرفته است. هدف این است که معلوم شود هر روش به چه مقدار چند بعدی است و چه کانالهای ادراکی را درگیر یادگیری می کند. بحث در مورد نتایج این تحلیل، پایان بخش این مقاله است.

واژگان کلیدی: آموزش زبان چند بعدی، چند رسانگی، هوش چند گونه، یادگیری چند بعدی.

### *Introduction*

In recent decades, there has been an unsaid but deeply noticed paradox in the forefront of language teachers' minds. On the one hand, they cannot deny that learning basically takes place according to the same principles and rules for all people and there must be common features and elements in their approaches, procedures, activities, or whatsoever, that take care of those principles and rules; on the other hand, we have heard frequent voices of dissatisfaction with almost all methods which, made strong claims regarding their potential for success. In fact, we have numerous reports of failure for different methods besides frequent reports of success. To forestall possible failure or to increase the possibility of success and probably to respond to the deep call for going by principles of language and learning, designers of language teaching have tried different alternatives and have come to degrees of success. They have tried to take care of such learners' factors as cognitive styles, attitude, aptitude, age, level, and background. They have taken different needs of students into account and considered the differences in the initial affective and cognitive states from which language learners start their journeys.

The practical solution reached by many discussions round these matters has been taking an informed eclectic approach enlightened by research findings. This has resulted in a great diversity in the field. So much so that methods as a unified coherent, finite set of features is now given only minor attention (Brown 2001) and few practitioners now look to any one of them for a final answer on how to teach a foreign language (Kumaravadivelu 1994, 1995).

While diversity has its value and serves as a sign of coming of age and maturity of the field and probably better serves the demands of present multivariate worldwide context, the old inquisitiveness of human being is still alive and thriving. We want to find about those features of teaching which are indispensable to language teaching and should form the core of

the design of any language teaching endeavor no matter how they are realized in practice.

To reach such description of the universal design features of the architecture of language teaching practice one has to consider both facts of learning and the brain as the central means and facts of language and communication as the end. One striking feature of natural learning is its multimodality, i. e., different senses and modes of perception come to play and some aspects of reality are learned better through some modes. Language as a semiotic system for communication is virtually always multimodal and engages different modes of perception and processing either expressly or otherwise. The logical conclusion is that any effort to teach language as a working means of communication should reflect this multiplicity of modes.

The rest of this article is given to some elaboration on multimodality of the brain and learning mechanisms and the multiplicity of language. When it is established that multiplicity and multimodality are indispensable to any language teaching effort, the article elaborates on one of the recent psychological theories which take the multiple nature of language learning into account and reports on a small-scale analysis of eight language teaching methods to establish their degree of multiplicity-multimodality. A discussion of the results of the analysis follows.

### **Multiplicity-Multimodality of Language and communication**

There are several research lines, which emphasize multiplicity, multilayeredness and multimodality of language and communication. Probably, the best known to language teaching community is research and scholarly study of communicative competence. The main tenet of this notion is that language system which the language users have at their disposal and language learners want to develop should be responsive to the

realities of context of situation—participants, setting, scene, keys, channels, etc. (see Wolfson 1989). Obviously, language users make use of various forms of non-verbal communication, which are essential in daily language use. Capper (2000) lists eight such forms: (1) gestures, (2) head movement, (3) facial expression, (4) eye contact and gaze, (5) kinesthetics—body language, (6) proxemics, (7) haptics—uses of touch, and (8) backchannelling, silence and breathing.

Brown (2001) along with many other language teaching experts reemphasizes again and again the essentiality of all the components of communicative competence and the need to give due attention to language use not just usage. But, very important implications of linguistic discussions of communicative competence are left unelaborated and pristine. It is common sense truth that while engaging in language work whether it is daily face-to-face conversation, reading a passage from a scientific book, watching a romantic movie, or even writing a business letter, the language user calls forth different senses and functions of his brain. Sometimes, the involvement of multiple senses may not be apparent with plain texts, but any linguistic material, however plain, involves and stimulates several senses and functions of the human information processing system. Kress (2000) argues that it is impossible to make sense of texts, even of their linguistic parts alone, without having a clear idea of what features other than verbal ones may be contributing to their meaning. This notion gets dramatic importance as modern technologies provide greater opportunities for multimodal communication through newer media.

If we accept that language performance is a reflection of a deep internalized system in the mind, we must posit a similarly rich and multiple-multimodal system, which determines the complex and intricate communicative behavior of people. Royce (2002) analyzed the semiotic systems in high school science textbooks presented in modes other than verbal ones. He assumes that

although the other semiotic systems utilize meaning-making resources in ways specific to their particular modes they collaborate to realize complementary intersemiotic meanings. He considers this characteristic of texts necessary for their coherence to the users and calls it “intersemiotic complementarity.” So, when we talk of communicative competence, we inherently mean *multimodal communicative competence*, although this multimodality may be fluctuant and differ from culture to culture and from one period to another.

### **Multiplicity-Multimodality of Language Learning**

Small wonder that such a multifarious affair as language should touch many cognitive functions. Many experiments reported by Solso (1995) supports the hypothesis that linguistic processing is modality specific, that is, there are specialized areas involved in language processing, but they confirm that language involves so many different subsystems that it is likely that many regions of the brain are simultaneously engaged even in seemingly purely verbal communication. In fact, Solso (1995: 336) believes that “the search for one neurological center for language or even multiple centers might be as fruitless as the freckless lover who is looking in all the wrong places.” He suggests that we regard the neurology of language as consisting of a family of capabilities which have centers but whose full operation is dependent upon their simultaneous interaction.

Arnold (1999:264) asserts that although language learning deals with words, words are not encoded in isolation. “They are present with many, many associations and images—visual, auditory, kinesthetic, pleasant, unpleasant... – which play an important role in the language learning process.”

A comprehensive proposal, which try to include all parts of learning machinery is Howard Gardner’s theory of multiple intelligences (MI). Gardner (1991: 12) presents the basis of his theory as follows:

I have posited that all human beings are capable of at least seven different ways of knowing the world –ways that I have elsewhere labeled *seven human intelligences*. According to this analysis, we are all able to know the world through language, logical-mathematical analysis, spatial presentation, musical thinking, the use of the body to solve problems or to make things, an understanding of other individuals, and an understanding of ourselves. Where individuals differ is in the strength of these intelligences—the so called profile of intelligences—and in the ways in which such intelligences are invoked and combined to carry out different tasks, solve diverse problems, and progress in various domains.

The current MI model outlines nine intelligences (Gardner, 1999) and continues to add more. Seven of the more widely discussed ones are glossed below:

**Visual/Spatial.** Visual/Spatial intelligence includes being able to visualize an object and to create mental images.

**Verbal/Linguistic.** Verbal/Linguistic intelligence relates to words and language.

**Musical/Rhythmic.** Musical/Rhythmic intelligence includes the ability to recognize tonal patterns, rhythm and beat.

**Logical/Mathematical.** Logical/mathematical intelligence deals with inductive and deductive reasoning, numbers and relationships.

**Bodily/Kinesthetic.** Bodily/kinesthetic intelligence is related to physical movement and the knowledge of the body and how it functions.

**Interpersonal.** Interpersonal intelligence is used in person-to-person relationships.

**Intrapersonal** Intrapersonal intelligence is based on knowledge of the “self”.

According to this “pluralized way of understanding intellect”, various areas of the brain are responsible for different functions and we have intelligence in all areas. Experimental studies have revealed that animals with a wider variety of “toys” in their environments develop more complex neural connections than those with fewer stimuli (Edwards, 2000). This is also expected in human beings because, as Berman (2000a) says, “multi-path ... learning with mental work of engaged problem-solving enriches the brain”. The biological mechanism of this enrichment has to do with the activation of the areas in the brain associated with functions other than language. For example, the areas in the brain that activates movement (cerebellum, frontal lobes, etc.) are also well connected to the pleasure centers of the brain (Goleman, 1995). As motion activates emotion, catering for the bodily kinesthetic intelligence in class engages positive feeling in learners and facilitates better retrieval (Berman 2000b).

### **Language Teaching and Multiplicity-Multimodality**

In spite of strong evidence supporting the varied and multifaceted nature of intelligence and language, current educational practices are vastly focused on left-brain functions and are preoccupied with verbal learning (Sonnier and Sonnier 1992). Stevick (1986:162) draws our attention to non-left brain dimensions and stresses that the spectrum of non-verbal memory items that are relevant to language teaching is very broad. The criticism of the verbal-logical emphasis has been voiced in other areas of education, too. C. Rogers (1983:20) writes

Education has traditionally thought of learning as an orderly type of cognitive, left-brain activity. The left hemisphere of the brain tends to function in ways that are logical and linear. It goes step-by-step, in a straight line, emphasizing the parts, the details that make up the whole. It accepts only what is sure and clear. It deals in ideas and concepts.... It is the only kind of functioning that is acceptable to our school and colleges.

It is a pity that great intellectual mental resources are left untapped or are not used as means of learning. How can language-teaching profession take advantage of research findings in the area of multimodal learning and theories such as MI in the classroom in order to help language learners develop multimodal communicative competence? The obvious answer seems to be “by developing multimodal methods, activities, and procedures of language teaching.”

Surely, many such activities are already being used by some intuiting teachers or can be developed by exerting a little amount of imagination and creativity when awareness of their underlying principles and rationales comes by. However, there are close at hand sources of procedures and activities which can prevent unnecessarily reinventing wheels and additionally provide nostalgic gratification to language teachers because they have been with them for so long.

What is suggested here is using MI-informed multimodal eclecticism and blending the appropriate features of methods so that the design features of a multiple-intelligence, multimodal method is obtained. Because natural language is multimodally processed and the brains of all human beings are multimodal processors, this kind of eclecticism can be universally applicable. It is undeniable that there are individual, cultural, and pragmatic differences among language learners and context-inspired,



situation-specific eclecticism is quite justified in the light of these differences. But, the universality of the features of this eclecticism, as a synchronous decision comes from the fact that its criteria for choice are derived from the synchronous realities of language and the brain whose structure have come to be matched, even isomorphic, in a long evolutionary process.

As a step toward such an enlightened universal eclecticism and as a small piece of contribution to language teaching community, a small analysis has been done on eight best-known language-teaching methods. Even if there is no intention of adopting from established methods, information secured by such an analysis can contribute to unified underpinnings for a “post-method” era of language teaching practice (see Rogers 2000).

#### Procedures of Analysis

A language teaching methodology textbook, *Techniques and Principles in Language Teaching* (Larsen-Freeman, 1986), was used as a source adequately describing features of the methods more commonly used and/or better known to Iranian language teachers. The method included in the analysis were Grammar Translation Method (GTM), Direct Method (DM), Audiolingual Method (ALM), Silent Way (SW), Suggestopedia (SUG), Community Language Learning (CLL), Total Physical Response (TPR), and Communicative Language Teaching (CLT).

The declared activities and characteristics for each method was closely studied and listed. As a result, a pool of features was available for each method. Each feature or variety of activity was ascribed to one or more of the seven intelligences in which this study was interested, i. e., Visual/Spatial, Bodily/Kinesthetic, Logical/Mathematical, Verbal/Linguistic, Musical/Rhythmic, Interpersonal, and Intrapersonal. Sometimes, decisions were made after discussion with other language teachers. This resulted in a tally table for method features within the framework of the seven intelligences. The percentile quantity of each intelligence-activity type in each method was also calculated. Because some

features involved more than one intelligence type, the total percentage of the features for each method exceeded 100 per cent.

### Results

The findings of the analysis are displayed in Tables 1 and 2 in the form of frequencies and percentiles. The Total row refers to the total number of activities counted based on the profile provided by Larsen-Freeman (1986).

Table 1. \_ The frequency counts of seven activity types in eight English teaching methods

ACTIVITY TYPES	METHODS							
	GT M	D M	A LM	S W	S UG	C LL	T PR	C LT
Visual/spatial	0	6	4	1 3	2	0	0	1
Bodily/kinesthetic	0	0	1	1 4	4	0	12	2
Logical/mathematic al	6	1	2	0	1	0	0	1
Verbal/linguistic	12	1 3	17	1 7	13	15	12	1 4
Musical/rhythmic	0	0	0	2	5	0	0	0
Interpersonal	1	3	4	5	5	4	1	6
Intrapersonal	0	0	0	1	4	4	0	1
Total	12	1 3	17	2 5	19	16	12	1 4

GTM: Grammar Translation Method; DM: Direct Method; ALM: Auodiolingual Method; SW: Silent Way; SUG: Suggestopedia; CLL: Community Language Learning; TPR: Total Physical Response; CLT: Communicative Language Teaching

Table 2. \_ The percentiles of seven activity types in eight English teaching methods

ACTIVITY TYPES	METHODS							
	GT M	D M	AL M	S W	S UG	C LL	T PR	C LT

Visual/spatial	0	4 6	23	5 3	11	0	0	7
Bodily/kinesthetic	0	0	6	5 6	21	0	10 0	14
Logical/mathematical	50	8	12	0	5	0	0	7
Verbal/linguistic	10 0	1 00	100	6 8	70	94	10 0	10 0
Musical/rhythmic	0	0	0	8	26	0	0	0
Interpersonal	8	2 3	23	2 0	26	25	8	42
Intrapersonal	0	0	0	4	21	25	0	7

In most cases, all the activities included verbal elements. This is the reason why the frequencies for verbal activities are in most cases the same or almost the same as in the respective cells in the Total row. For example, fifteen out of sixteen activities counted for CLL included verbal/linguistic elements. In four of these sixteen activities, care was taken of the intrapersonal intelligence of the learners. However, Tables 1 and 2 do not specify the areas of intelligence overlap between or among the activities. In other words, it is not possible to understand from these tables whether, say, interpersonal and intrapersonal intelligences share one or more of the other activities or they are taken care of by separate activities. This is beside the point of this analysis, as the principal purpose of the analysis was only to find out the degree to which each method is multiple and which intelligences figure in each method and how prominently.

As evident from these tables, the most frequent type of activity in all eight methods is the type which is of a verbal/linguistic nature. This is expected because, after all, these are language-teaching methods and the main goal is language learning. What is interesting is the fact that the frequency of verbal activities for most methods is as high as the total number of activities in that method. The only methods deviating from this pattern are Silent Way, Suggestopedia and Communicative Language Learning, which include some non-verbal activities. Silent way uses the greatest percentage of visual spatial activities

(53%). In using visual/spatial activities it is followed by DM, where 46 per cent of the activities include visual/spatial elements. Other methods which substantially make use of visual/spatial intelligence are ALM and Suggestopedia. The lead in using bodily /kinesthetic intelligence for language learning is held by TPR, which has a kinesthetic element in all activities. Logical/mathematical intelligence is most outstanding in the activities of GTM. Only Suggestopedia and Silent Way try to make use of musical intelligence of the learners in order to achieve language learning goals. Interpersonal intelligence is present in all the eight methods, to a very low degree. As expected, interpersonal activities are most frequent in Communicative Language Teaching (42 %). Suggestopedia, Community Language Learning, ALM, and DM also make some use of interpersonal activities. Intrapersonal intelligence is virtually absent from many methods. Only Suggestopedia and Community Language Learning make perceptible use of this intelligence in learners.

The method enjoying the least variety is GTM. Its nonverbal activities comprise only 58 per cent of its total activities with 50 per cent being logical/mathematical activities. Apparently, the most diversified method is Suggestopedia, where all the seven types of intelligences figure in. However, one may claim that Silent Way enjoys the most diversity because, although it does not explicitly use logical/mathematical activities, its non-verbal activities amount to 141 per cent of its total activities.

#### Discussion

The criteria for multi-dimensionality are the inclusion of activities in the instructional procedures other than verbal ones and the number of these non-verbal activities. GTM seems to be the least multidimensional method of all. True, fifty-eight percent of the activities include non-verbal elements; but of these fifty percent are logical problem-solving activities, which mainly involve left brain functions. Rarely are the right brain resources drawn on in this method.

DM, like GTM, has a verbal component in all the activities it uses. However, it enjoys a slightly higher amount of diversity, i. e., it includes more interpersonal activities and quite a few visual/spatial activities. Although the number of logical/mathematical activities used in this method is not considerable, this fact highlights the involvement of some right brain functions through using visual activities herein.

ALM enjoys a distribution of multi-dimensionality across intelligences similar to that of DM. The only difference, apart from the qualitative differences of the realization of activities, is that there are fewer visual/spatial activities.

Silent Way seems to be the most multi-dimensional and is enjoying a diverse range of activities. Most outstandingly among other methods, at least 109 percent of its activities involve right brain functions. The only intelligence that it does not explicitly touch is logical/mathematical intelligence. Moreover, Silent Way, along with Suggestopedia, is one of the few methods which includes nonverbal activities without being verbal at the same time.

Suggestopedia is also a fairly diverse and multi-dimensional method. In fact, if we forget about Silent Way enjoying the greatest amount of non-verbal activities it is the most multi-dimensional method as it includes all the seven intelligences in its activities and the activities are pretty evenly distributed across intelligence types.

Community Language Learning does not figure in as a multi-dimensional method. Its state of multi-dimensionality is only slightly better than GTM, in that 50 percent of activities therein include intra- or inter-personal elements\_ twenty-five per cent each. This method neglects many alternative activities specially those which involve right brain intelligence, e.g., visual/spatial activities. In fact, the impression one gets from a review of this method is that it is dominated by verbal activities.

TPR is interesting considering the fact that all its activities are both verbal and physical. Therefore, one may maintain that it uses different intelligence resources in its activities at the same time. However, TPR virtually neglects all the other intelligences. So, one can say that TPR is not a very multi-dimensional method. This does not mean that using bodily and physical activities in language learning is less efficient than using other types of activities. After all this is an empirical question and can be settled only by appropriate research. What is relevant to this discussion is the fact that there seems to be still room for more diversity and inclusion of a wider range of intelligence/activity types in TPR.

Communicative Language Teaching looks like a meager multi-dimensional candidate, too. There are some non-verbal activities; but, four of the intelligences are either totally neglected or are underrepresented. Unlike TPR, which quite closely keeps faithful to its name, only six per cent of CLT activities include an interpersonal element.

### Conclusion

So what? It is too strong to claim that teachers should forget about language teaching methodology; but, it seems wise to take Brown's (2000) advice to the effect that methodology should comprise putting into practice certain general principles of good language teaching derived from research or observation. On the grounds of the present situation of societies and recent research it seems quite obvious that application of a single methodology is questionable. Now, more than ever, CALL and other types of teaching using multimedia have multiple chances to stream into communicative pedagogy (Hanson-Smith 2001). The need for a multi-methodological or multi-dimensional approach is also in tandem with the findings of research done on the neurological basis of language learning, which claim superior outcomes for blended methods (e.g., Caine and Caine, 1991, 1994). These

studies particularly emphasize a revisit of those areas in the brain which are usually neglected by the traditionally left-brain-oriented methodologies and can be stimulated by appropriate activities.

The analysis reported above shows that many of the methods considered in the light of MI criteria are minimally multiple. And in most of them, most of the intelligences as learning resources of the brain are underrepresented. It also indicates that even those methods which show some measure of multiplicity or multi-dimensionality have room for, probably even still need to be enriched by, more multiplicity of activities.

However, these widely discussed and elaborated methods can still serve as great resources for language teachers to obtain insights and adopt appropriate activities. Although all methods have limitations, the coincidence of the implications of brain research and those of new definitions of intelligence for language learning tells us that learners may get more benefit from an eclecticism which includes more of the viable and effective and psycholinguistically valid features of the current methods. Such "conglomerism" or combinatorial approach can set a great research agenda for ESL/EFL professionals.

The eclecticism proposed here is not as pessimistic as those which contend that there are no "catch all" formulae because the individual human being is a unique and complicated mechanism with specific set of needs, standards, aspirations, and fashions and we cannot presume to know what is "best" for him. This eclecticism is more profound. It is an archetypal educational ideology paying heed to the fact that even a *single learner* also need multiplicity— multiple procedures and multimodal activities. Lists of activities and tasks associated with each of the seven intelligences can be visited at the appendix to this article.

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### ***Appendix: A Sample of Multiple Intelligences Activities***

Visual/Spatial Activities. In these activities, learners work with (process/produce) 2-D and 3-D shapes and images. Examples are such activities as creating 3-D models, taking notes using visual organizers such as flow charts and matrices, reproducing a story in pictorial forms, labeling pictures, or providing pictures for labels, making a gallery of all the picturable concepts in a text, and illustrating plain texts.

Verbal/Linguistic Activities. In these activities, learners process and use words effectively either orally or in writing. Examples are such activities as finding synonyms or antonyms, doing reading comprehension questions, matching items, translating, listening and reporting main points.

**Musical/Rhythmic Activities.** In these activities, students perceive or produce musical forms (rhythm, pitch, harmony, etc.). Example are such activities as (listening to) concert reading, (listening to) exaggerated musical reading of a passage, saying words in a manner akin to their meanings, evaluating the appropriateness of rhythm with which a text is read, categorizing words according to their sounds.

**Logical Mathematical Activities.** In these activities, learners process logical problems. Examples of such activities include justifying grammar rules (e.g., conditionals, tense sequence, back-shift), finding organization in texts, providing alternative organizations with justifications.

**Bodily/Kinesthetic Activities.** In these activities, students use their bodies to express ideas and feelings or manipulate physical objects. Examples include acting out or gesturing ideas or messages expressed in texts, practicing vocabulary and grammar in TPR-type exercises, back-writing (one person writing on the back of another person to write on, say, the board), pantomime, miming the plot of the passage or the new vocabulary.

**Intrapersonal Activities.** In these activities, students access, explore, and express their own feelings, knowledge, desires and capabilities. Examples include reacting to texts, filling in frames prepared for expression of personal ideas, e.g., The world would be a better place if ....., Money is too ... for those who....., Happiness is ....., If I were a scientist,....., finding false and questionable ideas in texts, evaluating their ability/knowledge in relation to the different aspects of the learning tasks at hand.

**Interpersonal Activities.** In these activities, learners try to understand feelings, messages, desires, and capabilities of other learners. Examples include panel discussions of particular parts of the lesson, group problem solving, doing opinion polls, doing interviews, information-gap activities such as working in pairs

with, say, two similar texts which are differently gapped or doing oral cloze exercise.