Multiple Intelligence Theory and the ESL Classroom -- Preliminary Considerations

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An attempt to identify diversity in the ESL classroom using a Multiple Intelligence Theory questionnaire.

Introduction

Many teachers know something about the Multiple Intelligence Theory(MI) proposed by Howard Gardner in his book "Frames of Mind", published in 1983, and subsequently developed by his team at Harvard University through Project Zero. But it is not always clear as to how this theory could be used in the classroom in order to improve the learning of English as a second language.

In one of his more recent books, The Unschooled Mind (1991), Gardner 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 the **seven human intelligences**. According to this analysis, we are all able to know the world through language, logical-mathematical analysis, spatial representation, 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." (p12)

Teachers are well aware of the fact that every classroom is full of students who are different from each other in many different ways. Each student comes from a different social, economic and cultural 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 each student also has their own individual intelligence profile. Obviously all of these factors can affect the student's learning process but how should the teacher face such diversity in the classroom?

The 'traditional' classroom tends to treat students as a homogeneous group, with the teacher presenting the same exercises to all students at the same time, and expecting the same answers to be produced within similar time limits. Students are expected to absorb the knowledge presented by the teacher with a strong emphasis on the use of language and logical-mathematical analysis. Most academic knowledge is presented for learning by means of an extremely limited (or limiting) methodology and the acquisition of that knowledge is evaluated by means of rote tests, whereby the best grades are assigned to students who demonstrate the greatest ability for memorization. As Gardner says on the same page of the book quoted above:

> "... some acknowledgement that people do learn, represent and utilize knowledge in many different ways is important to my argument (...) these differences challenge an educational system that assumes that everyone can learn the same materials in the same way and that a uniform, universal measure suffices to test student learning. (...) I argue that a contrasting set of assumptions is more likely to be educationally effective. Students learn in ways that are identifiably distinctive. The broad spectrum of students -- and perhaps the society as a whole -- would be better served if diciplines could be presented in a number of ways and learning could be assessed through a variety of means." (Ibid, p12-13)

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, but it is not always clear what kind of knowledge would be most relevant and in what way this knowledge can be acquired. In this paper, I would like to propose that Gardner's MI Theory could be used as an initial step in order to investigate the diversity which exists in every classroom, to find out more about students' strengths and weaknesses as related to the learning process.

Collecting MI Data in the Classroom

In order to investigate this possibility, I gave a very simple MI questionnaire to a group of students who had enrolled for a first semester Reading class in English at the Federal University of Espírito Santo in Brazil. This questionnaire can be found on Internet at the following address http://www.ascd.org/pdi/inven.html . It presents 10 statements related to each of the 7 Intelligences proposed by Gardner (Linguistic; Mathematical-Logical; Visual-Spatial; Bodily-Kinaesthetic; Musical; Interpersonal, and Intrapersonal). Each student was required to tick the statements with which they strongly agreed. For example, some of the statements related to spatial intelligence are:

- I often see clear visual images when I close my eyes.
- I'm sensitive to colour.
- I enjoy doing jigsaw puzzles, mazes and other visual puzzles.

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. However, it should be emphasized that this kind of questionnaire should only serve as a starting point for the process of getting to know the students in any classroom. Constant observation and evaluation should be regarded as two of the most important factors in the teaching-learning process, factors which should be essential to the teacher's attitude in the classroom at all times. In his book The Whole Story: Natural Learning and the Acquisition of Literacy in the Classroom (1988), Brian Cambourne compares the literacy teacher to a classical anthropologist, saying the following:

> "... the teacher becomes like a classical anthropologist. Like an anthropologist, she alternates between participant observer, detached observer and collector of artifacts. At times she observes the 'members of the tribe' from a distance, recording her observations for later analysis. At other times she asks questions of various informants about what they know and think and about the ways they produce their artefacts, all the time recording their responses. Her records become her store of knowledge. From this store of knowledge she tries to construct what reality is for the tribe or culture she's observing. In the case of the teacher building a store of knowledge about literacy development, the reality she is trying to construct is how each one of her pupils' knowledge and skill in literacy and all that it entails is changing and developing over time.." (p122)

Analysis of the Data

An analysis of the data obtained from the questionnaire is presented in Table 1, where the highest scores obtained by each student have been marked in green and the lowest in red. From this data it is possible to identify not only individual strengths and weaknesses but also group tendencies. First of all, it is interesting to note that individual students marked a different number of statements overall. For example, student number 23 only marked a total of 16 statements, scoring a maximum of 5 points for Bodily-Kinaesthetic and a minimum of 1 for Mathematical-Logical Intelligence. Whereas student number 5 marked a total of 43 statements altogether, scoring a maximum of 9 points for Musical and a minimum of 2 points for Bodily-Kinaesthetic Intelligence, demonstrating a much wider range of scores than student 23.

Despite the different range of scores for each student, it is nevertheless possible to identify the highest and the lowest scores for each student, then compare the groupings for maximum and minimum scores within the class. The two Intelligences which seem to be most highly developed by the class as a whole are Linguistic Intelligence and Musical Intelligence. Both areas have 8 students registering their maximum scores in this area. Linguistic Intelligence totalling 123 points for the class and Musical Intelligence totalling 127 points __ the maximum score obtained by the class. This result might be considered surprising since the students are studying language, not music. But if we analyse both disciplines we discover that they have a lot in common. The study of language does involve the study of rhythm, stress, accent and melody, which are also fundamental concepts in the study of music. So perhaps language teachers should be more aware of the importance of music and the study of music as it relates to the acquisition of language.

Teaching Implications

Another extremely important point which teachers should be aware of when trying to relate MI theory to their practise in the classroom is that students should be encouraged to use their strengths in order to make the learning process more accessible. Thus,

students who have one area of intelligence which is more fully developed than the others should be encouraged to approach their learning using that particular inteligence as an entry point. For example, student number 7 demonstrates strength in Musical intelligence, scoring 10 points for that area, whereas his next highest score is 7 points in Interpersonal Intelligence. This student should be encouraged to use his knowledge and interest in music to develop his knowledge of the English language. Whereas student number 19 scored 10 points for Interpersonal Intelligence, with his next highest score registered as 6 points for both Linguistic and Bodily-Kinaesthetic Intelligence. This student should therefore have opportunities to develop his knowledge of English using his Interpersonal strength.

Gardner believes that the learning process will function more effectively if several points of entry are used in order to explore specific content. Therefore, teachers must learn to be flexible in the presentation of the material which is being studied in order to create opportunities for all of the students in the class to use their different strengths. It is obviously not the case that the teacher should try to involve all of the intelligences at all times in every lesson. This would be an extremely difficult thing to do. But if the teacher is aware of the intelligence profile of the class, strategies can be developed in order to use the students' intelligence strengths to acquire knowledge more effectively. Thus, according to the preliminary data obtained from this initial questionnaire, the class teacher should be aware of the fact that the group as a whole is strong in linguistic and musical intelligence.

However, it is also extremely important to bear in mind that there is a small group of students who do not demonstrate specific strengths in linguistic or musical intelligence, and these students must be given the chance to use their individual strengths at some point during the course.

Teachers should not only observe the highest scores registered by each of their students in order to discover appropriate entry points for effective learning, 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. As Gardner staes in his book The Unschooled Mind (1991):

> "Not only are chances of acquiring understanding enhanced if multiple entry points are recognized and utilized, but in addition, the way in which we conceptualize understanding is broadened. Genuine understanding is most likely to emerge, and be apparent to others, if people possess a number of ways of representing knowledge of a concept or skill and can move readily back and forth among these forms of knowing." (p13)

The lowest scores obtained by the majority of the students are registered in the area of mathematical-logical intelligence, with 11 students registering their minimum scores for this intelligence. However several areas present scores below five for many students. More than 16 students scored less than 5 points in mathematical-logical intelligence, visual-spatial, bodily-kinaesthetic, intrapersonal intelligence and interpersonal intelligence.

What are the implications of these low scores for the teaching-learning process in this particular classroom? Well the most important implication is that there seems to be plenty of room for development. All of the students have registered at least 2 low scores, with 17 out of 25 registering less than 5 points in at least 4 different areas of intelligence. This information can play an extremely important role in the development of the students' attitude towards the learning process. It is often the case that students will identify a small number of 'elite' students in the classroom who are considered the 'best' students. But if the data elicited by the multiple intelligence questionnaire is discussed by the whole group, it should be obvious to all of the students that each and every one of them has areas of strength and areas of weakness. Some of these strengths and weaknesses might not normally be obvious in a traditional language learning classroom, but if the teacher tries to flexibilise her approach to the learning process and uses as many different entry points as possible, then the students soon begin to appreciate that the best students have weaknesses and the apparently weak students have strengths. It should therefore be possible to build a much more cooperative approach to the learning process.

References

- CAMBOURNE, Brian. The Whole Story: Natural Learning and the Acquisition of Literacy in the Classroom, Ashton Scholastic, Aukland, New Zealand, 1988.
- GARDNER, Howard. Frames of Mind, Paladin Books, London, 1985.
- _____ The Unschooled Mind, Basic Books, New York, 1991.

TABLE 1 - Student Profile

(Well-developed, Average and Under-developed Intelligences)

Student Number	Linguistic	Mathematical / Logical	Visual / Spatial	Bodily-Kinaesthetic	Musical	Inter-personal	Intra-personal	Grand Total
01	05	01	03	03	03	03	03	21
02	01	03	02	03	02	01	03	15
03	08	01	06	01	10	04	02	32
04	04	04	03	01	08	04	02	26
05	06	08	08	02	09	07	03	43
06	05	04	04	04	05	05	04	31
07	06	02	04	04	10	07	04	37
08	04	02	04	03	08	03	04	28
09	04	02	05	05	07	07	05	35
10	02	03	01	04	02	-	04	16
11	02	03	03	02	03	03	03	19
12	03	05	05	05	07	04	09	38
13	08	04	02	02	04	04	03	27
14	05	05	02	07	05	04	05	33
15	08	05	02	04	03	06	06	34
16	05	06	02	03	07	03	04	30
17	05	01	04	04	03	04	03	24
18	04	02	03	01	04	06	07	27
19	06	03	03	06	05	10	03	36
20	05	06	02	05	03	02	-	23
21	06	04	06	04	05	06	06	37
22	07	03	05	03	03	04	05	30
23	02	01	02	05	02	02	02	16
24	07	04	07	04	07	06	04	39
25	05	02	01	03	02	03	04	20
Total number of points	123	84	89	88	127	108	98	717
Final Summary	12 8 5	4 8 13	5 10 10	7 8 10	10 10 5	9 10 6	8 9 8	

	Highest personal score + well-developed areas		Average scores within each student's range		Less-developed areas