

Classroom based report on language acquisition

Abstract

Learning any second language can be challenging. Lower level students, who are new to learning, are those students that need all the support and understanding for their acquisition of a new language. For this paper I had to come up with a research plan for a new class of lower level students. This made me think about how they were learning their second language. I wondered how I could facilitate their learning to help make the English language easier for them to comprehend. My initial thoughts were on using as many different ways to reinforce a language point. My thinking was that if the students get to look at a specific grammar/language point, whilst using it and thinking about it, in different ways, the language will stay in their memory that much easier. I felt that if you used the language in various ways such as activities, methods of teaching and games, their possession of the language could be helped.

I looked at my ideas for lesson plans and checked how I planned to use the time in class to vary my methods. I also looked on the Internet for any information that would correspond with my area of interest. I tried reading as much material that interested me. This was the material that was related to different methods and activities. It was while I was acquiring my new knowledge that I got to read about an interesting theory where different activities were used regarding multiple intelligences. This I found on a web site called www.developingteachers.com. This article was called 'Starting with multiple intelligences – activities for foreign language teachers' by Rolf Palmberg. I immediately realized this article was very much linked in with my ideas, that I had proposed. I did a lot of preliminary reading on the subject until I felt that I should put my old and new ideas about how to get the students speaking, into effect. This paper is helped by what I found from the initial article by Rolf Palmberg and increasingly by reading about American psychologist Howard Gardner who developed 'The Theory of Multiple Intelligences'.

Moreover Howard Gardner proposed that at least seven basic intelligences exist and that individuals possess all seven intelligences at different levels. I was interested in finding more ways to enhance the students aquisitional powers of language. I realized that Gardner's ideas suggested that all individuals have personal intelligence profiles that consist of combinations of seven different intelligence types. It had a notable resemblance to my original idea of different methods to help the students. In such a way that some students are just not suited to logical learning while some prefer to be taught more kinesically . Gardner actually speaks of eight intelligences. These include verbal-linguistic, mathematical-logical, visual-spatial, bodily-kinaesthetic, musical-rhythmic, interpersonal, and intrapersonal (Gardner 1983, 1993).

This leads me onto different methods I wanted to utilize in the classroom. This involved pictures, actions, writing, listening, talking, and group work to name a few. I wanted to see if this theory actually produced more results. This theory could also see if more results were still needed in my teaching studies. At least from this overall plan I could figure out how it helped my teaching. I thought this idea would be suitable with a lower level group. When you have a lower level group at least you can judge their English level because in all respects you are starting from afresh.

Rationale

So, from my initial inquiry into Gardner's theory and how different formats for the students would help their language acquisition, I increasingly become encouraged by cognitive-contextual theories. This theory deals with the way that cognitive processes operate in various environmental contexts. There are two of the major theories of this type. They are that of the American psychologists Howard Gardner and Robert J. Sternberg. To explain Gardner's theories a little more in detail, if we presume that each student has different learning abilities and each can acquire language but in different ways, we can say that intelligence comprises multiple abilities. Each individual has his or her way of studying. We can break down these abilities/intelligences, into categories that as a teacher can be manipulated into lesson plans as helping to achieve more from the individual students. Gardner's ideas are far reaching but from the perspective of the classroom for my classes, I was trying to nurture the talents that each student holds thus these talents helping to produce better language acquisition. It is and was my focus to exploit these talents that will and would come to the surface. This of course means using differing structures in the teacher's class that will in time show the teacher how his students are developing as a group and individuals.

A 'multiple intelligence (MI)' example is bodily / kinesthetic. This is the theory that can be used to encourage students to prepare role-plays or dramatic plays. It gets them off their seats mixing with other students. Some students will excel with this format. These kinesthetic types of people are strong in acting, using tools, athletics. They like to move around, touch and talk. This, when used in class, gives the students the social interaction. This is especially good for Thai students who love getting up and doing. It gives them a chance to present language material to their peers while appreciating the use of this language. The students can take any conversation and use the essence of it to translate the ideas into movement.

It is hoped with this theory as a teacher I can use the knowledge gained about intelligences to spark some students into getting an understanding of language, which he or she might not get from other mundane methods. This will in turn help develop student's language proficiency. It is a true that some students can go through a lesson not realizing that they are learning somewhere. If the point is reminded to them in certain processes that encourage their talents to come to the surface, during the class they will hopefully come to realize and figure the lesson out. Hopefully, the additional stages of the lesson will be clearer to the student. It is up to the teacher to be capable of making these methods available for the students and recognizing when they comprehend the language. The teacher is trying to get the students to process all the information he has given, as for the students to formulate it and understand in his or her own way. The goal is to get the students to acquire language with the theory of multiple intelligences as a powerful support. It is a classic model by which to understand many aspects of human intelligence.

Furthermore to give an example of a student's intelligence, a student does poorly on the type of correlation question in a test. You could find that a possible conclusion is that the student does not reason well. Some teachers might think that the student is not capable. An equally plausible interpretation, however, is that the student does not understand the

words or is unable to read them in the first place. A student seeing the analogy, **valiant**, **faint-hearted**, **mollify**, might be unable to solve it because of a lack of reasoning ability, but a more likely possibility is that the student does not know the meanings of the words. A cognitive analysis enables the interpreter of the test score to determine both the degree to which the poor score is due to low reasoning ability and the degree to which it is a result of not understanding the words. It is important to distinguish between the two interpretations of the low score, because they have different implications for understanding the intelligence of the student. A student might be an excellent at reasoning but have only a modest vocabulary, or vice versa. This is how I propose to base my research on finding how the students react to certain classroom techniques. I want to see how they raise their understanding through certain tasks. Then you can see that every student does have a talent and is capable of learning their second language.

The school systems for these students often focus on a narrow range of intelligence that involves primarily verbal/linguistic and logical/mathematical skills. 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. It is the idea that there is single intelligence.¹ For example, people in the West are called "intelligent" people if they were quick or eloquent or scientifically astute or wise. It is this narrow mindedness that teacher should come realize. Multiple Intelligence theory should expand lessons to new places with experimenting. This experimenting with your student's inner intelligences, which from this perspective can be multiple. This can include at a minimum, linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, and intrapersonal intelligence. For example, the idea of a musical intelligence is relatively new, as is the idea of a bodily-kinesthetic intelligence, which encompasses the particular faculties of athletes and dancers. The teacher will come to realize that each individual has their own talents that can shine in the classroom and other students will come to respect.

Hypothesis

My initial thoughts were on expressing, in this paper, the lessons I had taught over a six-week period. This would show how through my lesson plans that the lesson flowed with various techniques used in many activities to help the student's second language progress further. My ideas, as mentioned, changed more to expressing the potential in each student in the many activities and especially how the activities were managed in what format. The question was; how does each students react to the different methods of teaching? Also I wanted to know; what cognitive capabilities do the students show during different formats of teaching? The premise was that all the students in the class have certain intelligences; it is the teacher's job to find that potential intelligence. It was recognized that not two students in the class are the same and study the same; they all have strength and weaknesses. These strengths and weaknesses were what I had to be aware of when trying to relate Howard Gardner's MI theory to their language acquisition in class. I realized that my paper would move onto looking at the multiple intelligences of students during studying and my logical conclusions from my observations of them.

¹Howard Gardner Ph.D

I hope to show in this paper that by expressing each activity and noting its use related to MI, I can show that Howard Gardner's theory about intelligence can relate to teaching and education in a positive way. The methods learnt from studying Gardener's theories will heighten any teacher's teaching skills. I think that for varying activities in the class call on the students to use different intelligences. My only worry was the students coming from the school system might not fully appreciate my methods and the research may take longer.

The time I had for the research showed me that I must look at my knowledge I had of the class to be taught. I had taught this level of class before so the norms of teaching came from what I had already known from my teaching of this level beforehand. The idea for this level was that I was going to teach and research. The criterion for this level of students can be judged by methodically going through their English student's book making sure you have at least done the best to get the students to speak and covered certain topics. This may overlook the potential in some students. It could be true to say that a teacher can get caught in a trap of teaching the same material as before while not expanding and changing his teaching skills to suit each student in the class. This is not to say that the lessons before were nondescript, the potential of this new idea, is that through the methods related to MI, you can see the student's language development advancement clearer. The underlying question is: how well does using Gardner's theory help to make the teacher see his lesson planning, and his students, productivity expand. This proposition will challenge and expand the teacher's knowledge and give him a broader outlook on teaching and the students he teaches. The problem is; will the students actually show their hidden talents that these activities will hope to bring out? I am pursuing a meaningful understanding of each student and their talents. This is to see that a student who, for example, is shy. He or she will show the teacher or his or her peers that he or she is trying and succeeding. The student is also proving to the teacher that he or she is worth worrying about and there is a talent waiting to come to fruition. So my objective was that I wanted to use the MI theory as a tool to help my students speak their chosen second language and not to be used as the overall goal.

Parameters of study

My inquiry was over a period of 6 weeks. This included six units of study material that I wanted to cover to give the students a comparatively introductory look of the workings of the English language. This would be done with the imperative notion that they would acquire basic language knowledge. My goal was to see how the student's language proficiency improved over the term period, due to the theory associated with multiple intelligences. One of my main concerns was actually getting the students in the class to try to express their newly acquired language. I wanted to use a system where they were not bombarded with facts. I felt that they should only learn so much, which would be used in different ways in the class. This would stick in the memory more than being over loaded with material that would hamper their acquisition of their second language.

I have noticed sometimes that basic level students can be a bit reserved to show their language to its fullest. This is how the parameters of study were involved in the research project. I had to make use of my knowledge of multiple intelligences in the classroom in which the students' intellectual leanings had an opportunity to be utilized and practiced. Only then could some kind of meaningful assessment become possible. I not only wanted

to observe each individual student, but also the group as a whole. I wanted to monitor how the students used their new language with the different methods of teaching referring to the eight intelligences. Remembering that it is not only one bright student that will help the class but also different students in the class who exceed the norm in different areas of their knowledge. I wanted to see how students worked on their own, in pairs, and group work while expressing their language. An objective was to get whole group to work together as one, this would help make the class proceed and generally help others reach the same language goals. This certainly involved their Intrapersonal, Interpersonal skills. My idea for the class was that all these objectives would aid me in easily creating more personalized and diversified instructional experiences. The use of multiple intelligences idea in this class was used for a more effective pedagogy. I feel that the educational power of multiple intelligences will be exhibited when intelligences are used to master disciplinary material.

The students in this research class were, as said, of a lower level of English language. This of course does not mean that they entered the classroom completely new to English, They already had learnt some English and were familiar with some grammar. The only thing that hampered the research project was that they had to get used to the way that they were taught by a foreign teacher. Usually the case is that they were taught English at high school and are not used to speaking their second language. This could be a completely new environment for them. For this inquiry their studies involved getting the basics of the study of English.

Normally at our school we start them off with the verb 'to be' using questions and statements. We then go onto the present simple verb that is also used with the questions with do or does. Various structures are used around the present simple tense. The focus over the six weeks was to have them become as familiar to this grammar as could be done. This also considered the fact that they must become relaxed with using this new material, which means becoming relaxed with the teacher as well as their peers. There were 12 students in the class. The ages ranged from 16 to about 35.

Furthermore in the class, there were mostly students from 16 to 20 years old. The class had the usual groups of friends that come together. My ideas were that I wanted them all to work together and to bring them together instead of these little groups sticking together. This would hopefully let the students become more relaxed that would help them show their talents. There were of course different characters in the class. There was a group of 4 boys about 16-17 who came together; their names were Jack, Donut, Pal, and Te. There were 3 rather quiet girls who came together their names were Nam, Gem, and Dream. There were 3 older people, a man and two women, who came alone; their names were Sommai, Peuan, and Sai. There were also 2 girls who were about 22 – 25 years old, their names were June and Jeab. They came alone but grouped up.

The initial thoughts were of getting the students doing certain tasks that would get them to know each other better. This was straight away coupled with the need to get them to concentrate with the teacher's instructions. It can be a good idea to get the students to do group bonding activities at first but you can forget that you are dealing with a group of students that are maybe not conversant with the way your school or you do your teaching. I immediately noticed the group of four boys who sat together. They were innocent enough but had that bit of street attitude. Nam, Gem, and Dream were the group of three quiet girls

who I found out came from school that I also taught at. This school was a bit out in the country so their exposure to native speakers and other learning groups may have been hampered. Anyway they were kind of shy. There were some others that showed signs that they were capable and looked ready to learn. Peuan certainly showed signs that she was ready to learn. She sat upright and smile as she said 'hello' with vigor. Sai was one lady who was a bit older but showed signs of being a little puzzled. Sommai I found at first a little reserved. Jeab and June gave that look like they were ready to learn. Mostly all the students were not used to the native speaker and lacked talking regularly with one. I appreciated the fact that this could have been their first time with a native speaker. This was no discredit to their language.

At first they all acknowledged me with a grin and a hello. There were the ones who showed they knew something and were not scared to prove it. Jeab and June started speaking their second language, trying to show they already knew something. So my job was to bring these characters and personalities all together

The target language to be used during the six weeks was the Present Simple tense, which included third person singular. Students were expected by the end of the six weeks to have the basic knowledge of English through the present tense.

Research plan

To begin the research plan, I first beforehand drew up a checklist that showed the eight intelligences I was working with, on it. This was a guide for helping me with each lesson plan. I added the meaning of the intelligence just to help me make sure I was heading in the right direction. It was not as if every intelligence has to be used in each class. It was important that I used them all over the six-week period. It highlighted for me a major point regarding which certain multiple intelligence I was trying to adhere to, during the class. I also kept a diary that I had with me most of the six weeks. I found that ideas would pop into my head at irregular times and I needed to write them down.

MULTIPLE INTELLIGENCE	MEANING OF INTELLIGENCE	ACTIVITY (Plan – do what?)
Logical Mathematical	<u>Problem solving</u> logical thinking , detecting patterns analyze problems, understands relationship between cause and effect towards a actual outcome or result	
Visual Spatial	<u>Visual aids, pictures, flashcards</u> visual and spatial perception ; interpretation and creation of visual images; pictorial imagination and expression; understands relationship between images and meanings	

Musical	<u>Songs, rhythmic patterns, poetry</u> musical ability , awareness, appreciation and use of sound; recognition of tonal and rhythmic patterns, understands relationship between sound and feeling	
Verbal Linguistic	<u>Reading, writing, speaking, and Conversing</u> words and language , written and spoken; retention, interpretation and explanation of ideas and information via language, understands relationship between communication and meaning	

Bodily Kinesthetic	<u>Physical coordination</u> body movement control , manual dexterity, physical agility and balance; eye and body coordination	
Naturalistic	<u>Understanding the natural world</u> Observing the natural environment, interpretation of the world	
Interpersonal	<u>Pair work, group work, peer sharing, discussions</u> perception of other people's feelings ; ability to relate to others; interpretation of behaviour and communications; understands the relationships between people and their situations, including other people	
Intrapersonal	self-awareness , personal cognisance, personal objectivity, the capability to understand oneself, one's relationship to others and the world, and one's own need for, and reaction to change	

I also made up feedback list for each activity I did in class. I wrote in this when I had a chance. This was either during break, after class, or making little notes during class.

Lesson:	Subject:	Specific Students names
Multiple Intelligence	How did they react?	

Logical Mathematical		
Visual Spatial		
Musical		
Verbal Linguistic		
Bodily Kinesthetic		
Naturalistic		
Interpersonal		
Intrapersonal		

These two checklists above were referred to during every lesson preparation. The goal was to highlight the areas I was working in. This was to find out how the students reacted to the techniques I was using in relation to Gardner's theory. I kept a diary of each lesson and tried jotting down notes as I went through each class. I set up my lesson plans where student would be able to express him or herself in the each activity.

To begin I knew that the students were of a lower level so I wanted to have an initial test for the students at the start of the class. This could give me an idea of their interests. This involved using pictures to gain some insight into their preferences. I numbered each picture from 1 to 35 and spread them over the table. I got the students to pick the photos they liked. I had a sheet of paper for each student with the numbers 1 to 35 on it and I got them to tick the box number that corresponded with the picture they liked. I got them to add up the items within each intelligence and record it as a total for each intelligence. This below was my way of scoring.

5 items per intelligence.

1-5 Logic

6-10 Linguistic

11-15 Musical

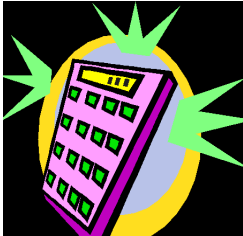
16-20 Kinesthetic

21-25 Interpersonal/Intrapersonal

26-30 Naturalistic
31-35 Spatial

Logic

Picture #1



Picture # 2



Picture # 3



Picture # 4



Picture # 5



Linguistic

Picture #6



Picture # 7



Picture # 8



Picture # 9



Picture # 10

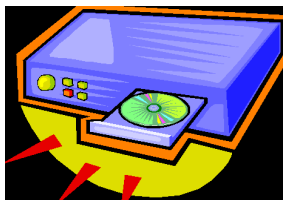


Musical

Picture #11



Picture #12



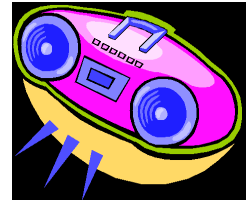
Picture #13



Picture #14



Picture #15



Bodily Kinesthetic

Picture #16



Picture # 17



Picture #18



Picture #19



Picture #20



Interpersonal/Intrapersonal

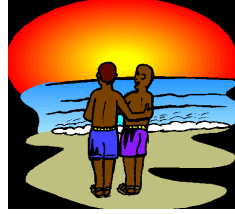
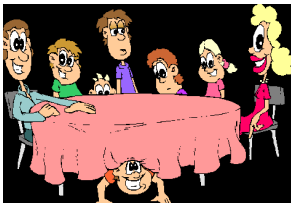
Picture #21

Picture #22

Picture # 23

Picture # 24

Picture #25



Naturalistic

Picture #26



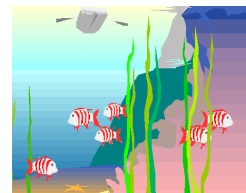
Picture #27



Picture #28



Picture #29

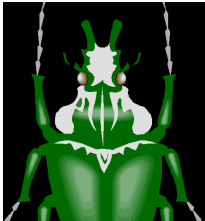


Picture #30



Spatial

Picture #31



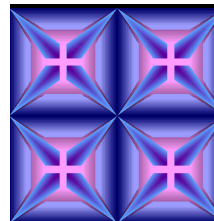
Picture # 32



Picture #33



Picture #34



Picture #35



Week 1

This lesson focused mostly using their second language to introduce themselves and ask general questions when first meeting someone.

We started with a name call (**Verbal Linguistic**) and each student went along the row saying their name and another student's name and the following students having to remember more names as we went further along the row. The grammar that was used entailed: His name is John, Her name is Jane, my name is James, etc. We also went back along the line with their name plus an action such as: my name is John + (action) scratch my head. Again the students had to remember name and action as we went along the row (**Logical Mathematical**). It was a fun start to the term

Of course the first weekend, where no one really knew each other, was a good way to take an initial look at the student's intrapersonal and interpersonal skills. The students can be a little reticent, with this lesson being their first day, although with an interpersonal theme to start the term, the students do have it in them to join in with the group.

The theme of the first unit was introductions so this was a great way to start with new learners. I had a task where students could have questions and answers to do with introductions.

My first idea was to give them each a picture of a famous person (**Visual/Spatial**). These were pictures of famous Thai as well as international stars. I wrote on the board, age, job, name, and country and elicited the questions from them and wrote them on the whiteboard (**Visual/Spatial**). Of course these were practiced and pronunciation checked. I tried to set up the class where their intelligence was being used. I made them use notebooks I wanted them all to have something to refer to. The whiteboard had all the grammar/vocabulary needed so far, for the task. I had first given them the pictures of famous people to create curiosity. I questioned the students using a picture example of my own. I initially used a picture that was obvious to the students, one that they would know the answers.

The teacher's job now was to try and elicit the grammar/answers from the students and not present it to them. There is the logic (**logical**) that if you make it a little difficult for them and let them try to find the answers you can gauge some of their knowledge. So I asked the question and they tried to answer. This of course did not get everybody joining in but once the grammar was established and written on the whiteboard; it was chorally identified and repeated by the students. I was methodical in my process checking every student was at least saying something. I remembered that we were at the initial stage of the term. I then got the whole group to ask me about my picture and I answered them. We had now set up pattern. I then got the students to write their answers to their famous face pictures in their notebooks. I went round checking their answers. This took a few minutes and I checked for any mistakes. Once this was finished I set up a pair work exercise where they used the questions and answers highlighted before to ask and answer each other. This gave them practice with their new vocabulary and a new process to try their language. Once again I watched the students in action and helped with any problems.

My plan was that I would try and develop their language by using a different process. So, I got the students off their seat and into two rows. The process involved the students asking the same questions from the whiteboard but having different answers from the different people (**Verbal/Linguistic**) in the rows. I was still trying to give them practice with the initial grammar I wrote on the board. This certainly got them off their seats and having to use the grammar I taught them so far. You will find that some are not sure but others will help them as they go along the rows. Every student got to talk with the every student. They then returned to their seats. I then got them to change the photos and said to them we would have a little party and got them to be the person in their photo. I modeled the conversation using an introduction and goodbye. I then got them to say their information (**Verbal/Linguistic**) about the famous person while they also asked me about the famous person I was being for this role -play

A logical continuation was added to this lesson that would show the students the use of statements that could turn into yes/no question. "He is from Thailand" – "Is he from Thailand?" I wanted to use the grammar already learnt from the exercise before and expand on it. I was trying for the students to get the meaning on their own at first. I set an example on the board and asked them to think about it in pairs. I looked to see if they could get it in their pairs. This new grammar point I got them to write in their notebook. There are

always a few brighter students that for a lower level still seem quicker than the rest. But I let them have their say while checking that the weaker ones at least tried. There are of course students that get your meaning and the flow of your class but also there were weaker ones this was realized and noted down with their names.

I used the initial pictures of famous people and the new material to establish the new yes/no question clearer. This of course showed me how well certain students had acquired the language so far. This process was repeated. I now put all the picture into an envelope and got one student out to the front of the class to secretly pick a photograph out. I actually took the each student outside to check he or she knew the answers. I now wanted the others to ask yes/no questions (using 'is he/she?') to find out who the famous person was. If the teacher has methodically checked the processes so far this question answer should not be a problem. I got them to work in groups of three (**Interpersonal**) to ask the one person a question about the photograph they had. This made them start using this new language and allowed them to recognize the switch of subject and verb that can make a yes/no question with the verb to be.

This process can go on until the teacher see fit that the students have recognized the grammar and vocabulary. Of course it could have been a little easy but all the same their were a lot of faces to remember (**Logical**), This stage is bettered by the work they put into the initial stages where they get information from their peers pictures. This is of course the idea that all these stages will be interwoven and able to help them acquire the language quicker and easier. And such they had to use the grammar (**Verbal/Linguistic**).

To conclude this lesson I made the students write about themselves using the same initial questions name, nickname, age, country, job. Once again I got them to ask their partner then the whole group. I had a feedback session at the end to see if the students had remembered their new classmates' names.

Week 2 Describing People

This lesson I wanted the students to work in groups. I was looking for their skills of working together to reach an objective.

My first thoughts are always to get the students thinking about English to see how much vocabulary I can get from them. It is an initial way to get them thinking instead of giving them the answers straight away.

For this lesson I got the students to try and describe myself, the teacher. I used hand movements to help describe tall, thin, handsome, and strong. This helped the students. I made a spider's web on the board and elicited as many characters or personalities adjectives as I could. I wrote some more adjectives on the whiteboard to describe people for the students to think about. I then arranged the class into four groups (**Interpersonal**). I handed out a work sheet that I had made, to each student with different pictures of people (**Visual/Spatial**). This worksheet showed six people: a friendly person, a tall person, a handsome man, a fat man, serious man, and a shy girl. I got each group to work together (**Interpersonal**) using the words that were already on the whiteboard. I then had them choose which adjective best described each picture. After that they had to write an adjective under each person on the worksheet. They had to work as a group to come up

with the adjectives for the pictures of the people. I gave them a certain amount of time and then we went through the answers using the question: What is he/she like? This gave each students practice with their new words (**Verbal/Linguistic**).

The grammar and vocabulary used was:

What is he/she like? He is nice, friendly, handsome, etc.

To add weight to the acquisition of the adjectives for describing people I told the four groups to write about three people in their class, using the personality and characteristics adjectives (**Interpersonal**). I first used one student to highlight what I wanted them to write. This gave it a personal feel; it gave the students a chance to interpret moods of other people, their facial expressions. It gave them a chance to demonstrate feelings. It also affected the feelings of others in a planned way when they read out their descriptions. I played a game with them that when the description was read out by one of the groups the other groups had to listen and think who the person was. This gave them some listening practice. Of course when they read out the descriptions there was certain understanding (**Verbal Linguistic**) of what is being said.

Further more to their clarification of adjectives to describe people, a recreative approach was used. Playing charades was this lighter side to the learning of these adjectives and a generally less formal way to emphasize the character and personality words. I organized the students into two teams and brought one student at a time out to act (**Bodily/Kinesthetic**) the adjectives in front of their chosen group. I allowed the each student 1 minute to act/demonstrate as many adjectives as they could without speaking. The group had to understand the acting and work together (**Interpersonal**) to get the correct answers. Once they knew the answer they shouted out. This was a fun way to learn and the game got the students off their seat. The process was repeated and used, as some students did not possess the ability to act that well, a fact that was noted. This is not a problem as the students enjoy the other students trying. All the same the group still shouts out what they think what the adjective might be. This process was repeated as it took a bit of time for them to comprehend the acting but the further the activity moved on they learnt the body movements and facial expressions for each adjective much better. This gave them the power as they moved on to shout the correct answer (**Verbal Linguistic**) quicker and this was the game. I calculated the scores for each team at the end and had a winner.

Week 3 Nouns

This lesson focused on the students using their skills to recognize objects and be able to refer to them by name. There were three stages to this lesson. First I wanted them to recognize pictures of objects, and then I had them up off their seat working in a team. To finish I had them drawing and presenting their ideas.

The theme of this class was to teach the students about nouns (singular and plural). I got the lesson underway by writing on the board 'what is this?' I had a picture of object in my hand and I asked the class 'what is this?' I made it easy at first so as I try to elicit the initial vocabulary to write on the board. I then showed them a picture of something I knew they would not comprehend, this of course had a few of them saying in their own language 'I don't know'. So I wrote, in English, on the board 'I don't know' to help. I then handed out to

each student a picture of an object (**visual spatial**). Then I instructed the students to ask their partner the questions from the whiteboard and get the answers to what object they were holding (**Verbal Linguistic**). I went round the pairs of students checking they were using the correct grammar. I then got them to stand up and ask and answer all the people in the class (**verbal linguistics**). A few students did not know the answers and I showed them the grammar on the board and got them to say 'I don't know'. This is a good exercise which got them mixing with their peers and the teacher (**interpersonal**). There were going to be some pictures that the students did not discern, this gave the students a chance to ask me, the teacher which was useful for getting familiar with their second language speaking while getting accustomed to the teacher as a helper. I went through the words and checked pronunciation and spelling. I then got them to swap their picture with another student. I then had them up again asking and answering their peer about their pictures. I gave them 1 minute then they swapped again. This process went on for 5 minutes that included five changes of pictures.

I wanted them to remember the nouns we were studying so I made up three sets of the letters, which had all the letters of the alphabet on them including some blank cards that were used for words with more than one of the same letter (**book**). I then got 4 groups on the floor (**Bodily/Kinesthetic**). And then I proceeded to show them the nouns we had already distinguished in the exercise beforehand. The object of the game was for the group to spell out the noun with the letters they had. They worked together and the quickest group got the points.

The final stage for expressing the nouns they had learnt, involved a role-play (**Bodily/Kinesthetic**). I had a conversation from a book that had two people giving presents to someone on his birthday. I went through the picture they had, eliciting names of objects and what was happening, to help the students grasp the topic. Then, we had a listening task where I gave them a copy of the conversation with some words missing. They had to listen and fill in the words. We went through the answers and practiced the conversation.

I then found out whose birthday it was next in the class and then said we would have a birthday party. I said to them that they would be giving present. I gave them a sheet of paper and got them to draw (**Visual Spatial**) their present, which related to the nouns already studied. I went round the class checking their drawings. I then had the students up in front of the class, giving their present (picture) to the one whose birthday it was. I had them using their new language learnt from the conversation (**verbal linguistics**) that included nouns.

To finish the lesson off I had all the class singing 'happy birthday' to the girl.

Week 4 How much

This weekend we were doing materials, colors, and sizes to do with shopping. The theme of the unit was using 'how much?' to do with shopping. This mixed in with nouns we had used the weekend before. This time I wanted them to go outside and look at the world around them (**naturalistic approach**).

Referring to my checklist I thought a good idea for them to find some materials would be best observed in the natural environment. I proposed a treasure hunt kind of game. The idea of the game was that the students had to find 15 items. I gave them a list of words for materials, colors, shapes and quality. I told them to get the items outside the classroom (**naturalistic approach**). This again was not taxing for them and an element of fun. The students broke into 4 groups then I sent them outside to work together to find the 15 items (**Interpersonal**). We had started on objects (nouns) the week before.

This outdoor method of teaching is a good exercise for the teacher to be a facilitator with the students. The teacher can circulate and use the specific grammar (and more) for the this lesson while the students do not feel as though they are being rigidly taught their second language rather they feel less restricted. The exercise was relaxed and the students did not feel discouraged from using their language in fact they enjoyed being outside the classroom and spoke more .

The grammar and vocabulary used during was:

What (shape/quality/color)/size) is this? It is.....
What (shape/quality/color)/size) are these? They are.....

What is this made of? It is made of
What are these made of? They are made of

Including: Shapes, sizes, materials, and colors.

Once the students finished collecting the objects. I got each group to present their objects to the class. This first involved writing about each object in their notebook. When they were ready two students from the group presented to the class. One student was speaking the other holding the objects for the class to see and understand. Example sentences (**verbal linguistics**) were: This is a leaf, It is green, This is a bottle, it is made of plastic.

The progression from objects was onto using nouns involved with shopping. I also felt for this subject the students should get used to prices. I found some newspapers, magazines, and door-to-door fliers that were filled with adverts for shops. So I proposed that the students go through the newspapers, magazines, and door-to-door fliers and cut out 8 objects and stick them on a large sheet of paper but the pictures had the prices missing (**Bodily/Kinesthetic**). The object the exercise was for each group to get the other groups to guess the answer to the price of the object. The students had to work in their group to guess the price this meant they had to work in their group to come up with answers.

The grammar and vocabulary used was:

How much is the(noun)? The(noun) is(baht)
How much are the(noun+s)? They are(baht)

Including: Nouns

Week 5 Adjectives

So, this week it was adjectives to be studied. The class at this level can be a bit hard to get started and also not used to getting down and learning. So, I proposed a good way to start the lesson off and also a good way to get them off their seats. It was interesting to see who were the quick starters in this game. This was a 'find the adjective' game (**Bodily Kinesthetic**). I gave a text with the adjectives missing from it. They had to find the adjectives that were posted around the room and fit them into the correct place in the text. This was a warmer to help them get the feeling of adjectives. This is a great lead in to describing the subject of the day.

Once they had finished I wrote a number on their text. This was to say if they had finished first, second, third etc. Once they had all finished, I got some student each to read a line of the text (**verbal linguistics**). After this, It is good to get all the facts established regarding the text. I showed them that the adjectives describe the nouns. In the text the adjectives describe one thing (the old grandfather) but I was leading onto comparatives. In the text it said 'the boy is young but his grandfather is old'. This led on to me showing the boy and the grandfather being compared. This got the students asking questions. They were thinking about the subject. The use of concept checking questions is always good here. What is the noun, adjective, verb and how many object/things are we talking about? I showed them the comparative and showed the relation with adjective to comparative. So, we had 'the boy is younger than his grandfather'. I then used some famous things in their country to compare. I got them to ask each other 'what do you prefer?' For example 'KFC is more delicious than Som Tam (Thai national dish)'.

To cement the idea of comparing I gave them a sheet with animal facts on it (**Visual/Spatial**) which could be compared with each animal. For example there was a cheetah, which could run at 80kmh, and a Gazelle, which could run at 50kmh. The answer was a cheetah is faster than a gazelle. I got them to write out their comparative facts. This was good and the process ratified the use of two objects (animals) with the use of verb and comparative adjective between it. The sheet had enough animals so it allows the teacher to go round checking. It is great because I the teacher can notice mistakes and see which students really are showing some initiative to learn and understand. I actually got them to each read one out one sentence at the end and we all checked.

I then wrote on the board some example sentences like: Manchester United are better than Arsenal, Brittany is more beautiful than Tatayung and I am more handsome than Brad Pitt. I wrote on the whiteboard 'what do you think?' I then got them into groups and had them write 3 sentences about anything they wanted using comparatives. They then had to read them out to the other group. After they were read I asked 'what do you think?' I had already written on the board 'I agree', 'I don't agree'. This gets them airing their views.

Week 6 Telling time and routines

This week I wanted the students to look at English in another way this involved watching a video.

The theme of the unit was telling time and daily routines. I thought I would have them watch a video (**Visual Spatial**). It was a Mr. Bean video of him going to the dentist. I said to the students you are going to the dentist, what do you do in the morning? I demonstrated with example of cleaning my teeth. I had the students try and guess the acting I was doing (**Verbal Linguistic**). I then put all this vocabulary on the whiteboard making sure they also had the vocabulary needed for the video. I got them in groups and got them to put the 'things you do in the morning' in the correct order using the words from the whiteboard. For example the students said, #1 alarm goes off, #2 wake up. I then gave them sentence strips with all the actions Mr. Bean does in the morning. These sentence strips I made the students put into the order they thought was correct. During this whole process so far the students were using the language and becoming familiar with using it.

The exercise was a challenge for them because Mr. Bean does everything in the wrong order. They watched the video and checked what he does and what order he does it in. I got them to work together in their group to put the order of sentence strips in the order that Mr. Bean does it (**Interpersonal**). In the video, Mr. Bean also does actions at a certain time that I also got from the students. This set up the grammar and vocabulary for the class, for example 'Mr. Bean gets up at 8.00am'. To finish off the video I collected everything and then asked each group about Mr. Bean and what he does in the morning. This was just for checking.

To relate to telling the time I got them to draw a clock on the board and then two groups played a game where one student from each group had to run up to the whiteboard and write the time after I had said it. I continued the game with the 12 students and two groups (6 in each group). I cleaned the whiteboard and I got them all to go up to the whiteboard and write something they do in a day. I gave them each a time of from 1pm to 6pm. I then said a sentence like 'I get up at 6 o'clock' and the people who are '6 o'clock' have to run (**Bodily Kinesthetic**) and ring 'get up' with a pen.

Evaluation of results

The introductory task was to choose the pictures the students most liked. The results were recorded like this;

Name/Intelligence	Logic	Linguistic	Musical	Kinesthetic	Interpersonal	Naturalistic	Spatial
Sommaï	4	1	0	3	2	1	0
Peuan	3	3	2	0	0	0	2
Sai	0	0	2	2	4	3	2
Nam	2	2	3	2	2	3	0
Gem	1	1	1	3	3	3	1
Dream	0	0	1	3	2	3	3
Jack	4	2	1	5	2	0	0

Donut	2	1	3	4	1	0	0
Pal	2	2	3	4	3	1	0
Te	4	2	3	4	3	2	2
June	3	3	0	3	3	0	2
Jeab	4	4	2	0	3	4	3

According to the number of pictures chosen in each category, it was 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 method was only used as a starting point for the process of getting to know the students in the classroom. I found that constant observation and evaluation were regarded as two of the most important factors for my teaching-learning process. These factors were essential to my attitude in the classroom at all times.

To commence the evaluation of my research I must say after some observing of the class I changed my initial thoughts that I had had for the lessons. I had planned to find out about my students learning traits during the class. I must say now that there can be too much information to take in. I was observing the students and trying to take in their distinct attitudes to do with studying. I realized that during the lesson and every lesson following that it would be better to try and concentrate on one intelligence so I could get information easier. This is different to my initial thoughts that were in a way observing most intelligences during the class. There are a lot of features in the classroom and also from the students during the lesson. This can overload a teacher and result in the teacher not following the research path to its accurate conclusion.

The first weekend with the class was a good way to get to know the students to see how my research plan would work. Even at the start I got an idea of how the students were, not only the reserved ones but also the confident ones. Their interpersonal skills were already showing because I generally just say 'hello' and 'nice to meet you' and some students did not want to say anything but others happily spoke to me in their limited English. I noted that they already had shown me some strengths in their character. I noted the reserved students' names to check for a change during the duration of the term. The lesson already made me well aware of the fact that the classroom was full of students who were different from each other in many ways. I soon come to realize that constant observation and evaluation was going to be the most important factors in the teaching-learning process. These factors were essential to my attitude in the classroom at all times.

At the beginning of the class the students grouped together, either they already knew each other already or the age groups was the same and they generally stuck together for the duration of the course. The age range of the individual groups was the same. I realized that each student had different areas of interest, different ways of expressing themselves, different strengths and weaknesses. I found that during the research I had to look at each lesson from many perspectives (teacher, observer, facilitator, researcher). I become aware that I was very much trying to perceive how each of the pupils' knowledge of and skill in

literacy and speaking became salient. Peuan, certainly showed me a change in her language that was brought on by her strong character. She was a polite lady and showed she could concentrate on the facts being shown to her. She was very logical in her ways. Her interpersonal skills were highlighted when she imparted her knowledge to others during the group work.

I tried over the weeks to get the class working together to help those not so confident individuals as well as other student to feel less inhibited to speak. I wanted each student to share his or her knowledge. Jeab certainly used her language when a student misunderstood a grammar point. She was one girl who enjoyed showing her knowledge. She was very verbal in the class. When we did the famous faces games some students did not hear the answers properly, Jeab assisted them with the correct answer. I did use her from time to time as a reference. Jeab was not alone, over the weeks I got a general feeling that the students were working together using their **interpersonal** and **intrapersonal** skills while using their new language. They were mixing with each other and generally seeing certain characteristics of each other that I observed. Jack, Donut, Pal, and Te showed their interpersonal skills. I was pleased that they did because it made the others feel relaxed and not intimidated. One time we talked about music and Jack did a hip-hop dance in front of the class that made everyone laugh. Jack was certainly physical and liked to be up doing activities. I could feel that the four boys were having fun with their English. A few times when I did a game that encouraged students to use their voice in front of the class they were vocal. June and Jeab took over at times they had strong character. Jeab helped June but June still showed some well-presented language. They both worked out the objective of each task very quickly. I also noticed their verbal skills were excellent for this the lower level. I put them into different groups after this to make the stronger ones help the others in their group.

Some of the students liked the games due to the fact that there was some **logic**. Sommai had a go at answering questions in front of the class. He was a little weak but he got the answers in the end. He was pleased he succeeded. He also lacked a bit of interpersonal skill so I had him sit next to Peuan, they together got the questions right in some of the games. I felt the need to be patient with him because he knew in the end. I observed some students enjoying realizing that they had the right answer after working it out from the facts said. For example they had to work out who the famous person was by asking yes/no questions. Peuan, one of the older ladies impressed me because I had written the grammar on the board and done all the vocabulary, and she asked perfect questions. She systematically went through all I said and gave the correct answer. I was inspired to help her and realize that she would be good for the class in such activities as demonstration of conversations. I noticed her awareness of all that was said. She was logically minded and methodically followed all my teaching. On the other hand, Sommai got a little confused at one point. He did not know all famous people. Even people like Tom Cruise who you would think everybody knew Sommai did not. This was why it was good to have the pictures of the people because Sommai noticed a few faces with the help of the picture. This is definitely worth thinking about that not everybody in your class is as worldly as you may think. All the same it is good for him to learn new things.

The overriding teaching approach I saw was the **bodily/kinesthetic** approach. This certainly gets the students interest. I tried to make these tasks as language orientated as

possible not just a fun time. I noticed with Nam, the quieter girl liked the games and getting off her seat. She was a little weak and needed the practice. I noticed the first time she was in front of the class she made some mistakes and looked a little embarrassed but as the class moved on she became more confident. Her verbal skills also became more noticeable. I had her in front of the class a few times and she impressed me with her English. I think this was an inspiration for her friends.

One student, that my initial view of, changed, was Sommai. He was one of the older people in the class. He was a quiet guy and I felt as though he was a little unnerved that there were a lot of kids in the class and he was that bit older. He was a bit slower than the rest but would do all the work you asked of him. I worked out that he enjoyed the logical aspect of the lessons. The difficulty for me was the first few lessons I felt he did not understand and it was hard for him to follow. I persevered with my thought that there was a talent there and I came to realize after observations of him that he was enjoying the course. I found that when he was tested **logically** he was pleased that he succeeded. His enthusiasm to be tested was not only one aspect that I noticed during the term, but also his second language usage.

The four younger guys, Jack, Donut, Pal and Te certainly became more moved to learn when their friends were up doing something such as a role-play. I also noticed when I put them on the spot and asked a question they were intrigued to know if their friend knew it. Of course if their friend knew it they were happy but they weren't unhappy if it was wrong. This showed their intrapersonal skills, as they had to overcome personal objectivity. I presumed that from their attitudes the guys were in the class to have some fun. I could have become a bit annoyed at their lack of willing to study every detail but I found myself trying to find how they worked in class. For them it was an awareness of their friends doing something. It certainly made them more conscious of their learning. The activities were language orientated so it made them learn better. I think they were more moved by the **kinesthetic** stages of the class. I certainly felt at times when I was doing board work that they were not showing as much attention as I would have wanted. Pal was a little bit more attentive than the other three boys; when I gave him something to do he was better. When we did the pictures for the birthday party, Pal's drawing skills were better than the other guys. I became aware of these facts and tried highlighting them to his friends. When we were outside getting material he worked well and also when we stuck objects onto the paper he joined in. This I felt at times facilitated his friends' awareness of learning.

I noticed Nam, Gem, and Dream were moved by games even though they certainly did not let their voices be heard. I found that in the **naturalistic** part of class where we went outside they were very attentive. I did get a chance to have a longer chat with them and they certainly showed they were capable but they still grouped together. I felt they were a little pressured in class. I wondered at the time if I broke them up it would hamper or progress each one. It also makes me think that the class can be a bit intimidating for the students. They have to get used to new people and then they have to speak a foreign language, which for some scares them. I certainly had to help them a little with their interpersonal and intrapersonal skills. I noticed that with some students they were scared to make mistakes. When the students were in little groups they seemed to be able to say more.

This **interpersonal** contact was a definite plus to the class. I noticed a few students working well in groups. Peuan's attitude in a group showed her skills of relating to other people. I observed that she understood the task and worked with others to achieve the goal. I put her with Sai a few times and they worked together very well. I observed them laughing a few times when Sai finally understood after Peuan telling her. Sai certainly needed all the help she could get which very much included the visual aspect. I also noticed when I had the students in two rows talking to the person opposite; Sai, Nam, and Gem used their **verbal Linguistic** skills. This was made easier by having to talk to more people as the row moved. I noticed that they saw that the other students were not finding it easy and they realized that. I think it could be said that their perception of other student's language may have not been right. They certainly had the inclination in them to use and learn English.

I observed Sai who I noticed was having trouble keeping up at times in the class. I listened to her a lot and she was trying but the wrong words were coming out. She seemed to struggle in most methods I tried. I felt as though she needed more **verbal Linguistic** practice. She was helped by the visual aspect (picture and whiteboard work) though, and showed she needed lots of material to help her understand. In this case the research made it easier for me discover which areas of intelligence needed to be developed during the course

I think with this research I got a better appreciation of my students. I feel as though I have lot to write about with the students and how they behaved in the class. It seems as though I was interested in all the class not just the ones who showed some interest and were noticeable. I felt as if I was trying to find each individual talent to get them motivated. Even Nam, Gem, and Dream who were challenging, I had faith in. I knew they would show me somewhere along the line that they would join in and show us me they could prove themselves. Outside in the natural environment, they proved that point.

I certainly found out that all my Thai students were certainly not actors, but were willing to take part. This is something that is good to see. The energy from the students in certain activity was commendable. We played charades and they were a little shy, but they still attempted some of the adjectives. I must say to see the class work together and having fun was enjoyable to watch and of course use their new language to try and guess the answer. For instance the letters game where they had to make the word (noun) with the letters on card, certainly had them battling away with a heightened need to learn. They were shouting the letters at times with their eagerness to get the answer. To have the groups working as one was an example of an **Interpersonal** skill that helps builds character and stresses the importance of the group work. They became actively engaged in the learning experiences that were pleasurable. The main factor was that I observed them using their second language plus the grammar and vocabulary that was part each of the lessons. I come to appreciate that the exchange of knowledge not only helps the students but also the teacher. I also found that when they went outside to find the materials, shapes, and color, their approach to learning was more aware and there was less of a focus on studying hard, it seemed to come more natural. The attitude between teacher and students was actively engaged on the task in hand. They asked more questions and I felt as though I could approach them all easier when we were outside than in the confines of the classroom.

I also found that when I invited them out in front of the class the class they certainly felt excited to watch people trying. I think again it is the interpersonal aspect that is important in the class. A teacher needs the class to bond. I spotted a few students, for example Peuan and Jeab who were not shy and very ambitious with their learning. These ladies were good to focus on when demonstrating a language point.

Regarding the game I played where they had famous people to ask about. I certainly saw the students using the grammar I had taught them. The only thing was that the stronger students were trying to take over. Students like Peuan, June and Jeab were notably verbally stronger. I got them into groups and got each group to ask. There were about 20 famous faces to remember. They certainly remembered all of them. At times they found that they knew the answers a bit quickly but I was listening to their grammar and vocabulary. As soon as they knew they would ask questions that related to that person. This showed the initiative of some students. They enjoyed it when they suddenly realized who the person was. I noticed the ones who were quick to listen to the questions and figure out the famous person from the yes/no answers. You can say that there was a bit of **logic** in remembering all the correct information and placing it against one famous face. You can also say the **verbal linguistics** were helped with all the questions and answers that they said and heard.

The video certainly made them laugh which made the experience enjoyable for all the students. It also helped the group enjoy working together. One person in their group wrote the answers so all the students were joining in. I noticed Sommai was writing the answers for his group that I was encouraged by. I remember I mixed up the groups so they were with new people. This made it more satisfying because they did not have a problem with it. The use of video with the students certainly was interesting for them. They had to watch while they were **logically** working out the sequence of events. It certainly showed how some students can work. Donut enjoyed the video and read out the answers for his group. This was him at his best. I was enlightened by the group's learning capacities during this process and the language they acquired from it. It was also fascinating to watch the interpersonal contact. I noticed the groups making sure that they were doing the process right. I think the bonding of the group makes the learning experience better.

It was also the individual characteristics that I noticed in all the students that could be said to be the most fascinating. You could see how each student was acquiring their new language. For example Peuan would methodically go through everything I did, and precisely tell me what I wanted to hear. It was this strength that I tried to encourage. Then there were other students such as the group of lad who would just try without really getting the grasp. All the same they were both trying

I think it was the language proficiency goal they had. They had an objective. I think their language acquisition would not have been achieved if they did not have an objective to reach. I think that the bonding and general relaxed atmosphere during my observations certainly helped to bring out the best in the students. Once the students saw individual students trying they had more admiration for them.

Summary of results

I certainly found, through the results taken which were fundamentally to see an expression in the student's character and talent, that I became more aware of my students over the research period. The activities I used, I can say that I saw the students in a different light. For example, I found that the logical games where they had to ask questions to find out who the person was, certainly showed how much they had learnt with regard to their intelligences. It showed the teacher which students had the positive learning aspect. This in turn showed me they were learning their new language.

On the other side, I also can say that the research highlighted student's weaknesses. Of course there were some students who were good at using their voice, which is paramount in class, but these students seemed to fail on others aspects, such as acting. This of course made me more aware that I needed to blend in the strong students who showed promise in one intelligence area with the weaker ones in that intelligence. The grouping, of course, was changed when we had a different activity that was relating to another intelligence. The reason for this was that it might end up dividing the class or getting groups sticking together if we had the weaker ones together. The research helped me this way because I found that I could see the some student's weaknesses easier. For this I found time to help them with their problem while making them aware of their peers who could help. Of course some students found some activities hard but with practice there was no reason to say they would not improve.

I found the theory of intelligences allowed the students to view themselves and others differently, often from deeper, multiple perspectives. This of course resulted in the students seeing qualities of their peers that maybe a normal lesson might not have. I feel I had resulting levels of heightened understanding. My goal was to build self-esteem and self-efficacy levels that could rise as learners became more aware of their own intrinsic gifts and talent. I feel that the students have developed a deeper understandings for the complexity of their talents as well as for the talents of peers, friends. It was shown that they worked together completing a task. These were not only completed but also expanded on during the activity.

An overriding factor is that as a teacher I got to see the students with a greater enthusiasm because I knew they wanted to learn but found studying hard sometimes. The students, for me, are now potential talented people instead of another group of students. This thought, I feel will be my priority to have better confidence in the student's abilities. This can result in their latent endowment empowering them to succeed in their second language where their belief could have been dampened due to ordinary teaching techniques. It is my opinion that MI can be used in school studies and can be used for a worthy second language education.

References

http://www.developingteachers.com/articles_tchtraining/multi_intell_rolf.htm
Starting with multiple intelligences – activities for foreign language teachers
by Rolf Palmberg

<http://www.howardgardner.com>
A Multiplicity of Intelligences: In tribute to Professor Luigi Vignolo

© Howard Gardner, 1998/2004

An earlier version of this article was published in the SCIENTIFIC AMERICAN, 1998.

<http://www.pzweb.harvard.edu/>

How Education Changes: Considerations of History, Science, and Values
Howard Gardner

www.pzweb.harvard.edu

HG Interview w/SN Larsen, Version May 20, 2002 1

HG Interview w/Steen Nepper Larsen on January 30, 2002

Version June 5, 2002

www.pzweb.harvard.edu

MI After Twenty Years

Howard Gardner

www.pzweb.harvard.edu

Howard Gardner

Mind and Brain: Only the Right Connections

Review of *What Makes Us Think?*

Jean-Pierre Changeux and Paul Ricoeur

Princeton University Press, 2000

By Howard Gardner

Draft: July 2000

© Howard Gardner, 2000

<http://www.howardgardner.com>

The three faces of intelligence

By Howard Gardner

www.newhorizons.org

My Experience Using the Multiple Intelligences

by [Nelly Ribot](#)

www.pzweb.harvard.edu

The Ethical Responsibilities of Scientists

Howard Gardner

www.newhorizons.org

Multiplying Intelligence in the Classroom

*This article was previously published in New Horizons for Learning's On The Beam, Vol. IX
No. 2 Winter, 1989 p. 7 :167*

by [Bruce Campbell](#)

www.newhorizons.org

INTELLIGENCE IN SEVEN STEPS

[Howard Gardner, Ph.D.](#)