

# Learning Centers Based on Multiple Intelligences: Enhancing English Language Learning in Primary Bilingual Education

## *Centros de aprendizaje basados en inteligencias múltiples: Una herramienta de mejora del aprendizaje de la lengua extranjera en contextos educativos bilingües*

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### Abstract

A new school year starts and once again teachers are caught up in a never-ending wheel of contents, objectives, external evaluations... which can make the teaching practice overwhelming, diverting attention from what really matters, our students. Having all this on the table, teachers might feel as they are not able to reach their learners demands and individual needs in terms of learning, while developing the elements of the foreign language curriculum. Besides, there is a widespread feeling of being innovatively competent within the teaching community. The current study was born in light of all this, conducted in Spain with second grade bilingual elementary students; it combines Gardner's theory of Multiple Intelligences with an active methodology based on learning stations. By dedicating spaces in the classroom where students can perform activities related to the different intelligences, individual and group dynamics are developed throughout a common project. This study shows significant student gains not only in language acquisition, but also across a diverse range of skills, specifically in regards to interpersonal and working memory skills. Although at a small scale and with limited student sample, it provides an inspiring and powerful outlook to multiple-intelligence centers based methodology leading to increased student achievement.

**Key words:** learning centers, multiple intelligences, English language learning, cooperative learning.

### Resumen

Comienza un nuevo curso escolar y una vez más los profesores nos vemos envueltos en una rueda interminable de contenidos, objetivos, evaluaciones externas... que pueden hacer abrumadora la práctica docente desviando la atención de lo realmente importante, nuestros alumnos. Con todo esto sobre la mesa, satisfacer las demandas y necesidades individuales educativas de los alumnos, mientras desarrollan los elementos del currículo de lengua extranjera puede parecer una tarea casi imposible. Además existe un sentimiento generalizado de ser innovadoramente competente dentro de la comunidad docente. A la luz de todo ello nació el presente estudio, realizado en España con alumnos bilingües de segundo de primaria. El estudio combina la teoría de las Inteligencias Múltiples de Gardner con una metodología activa basada en estaciones de aprendizaje. El desarrollo de dinámicas tanto individuales como grupales en el aula es posible dedicando espacios en el aula donde los alumnos pueden realizar actividades relacionadas con las diferentes inteligencias a lo largo de un proyecto común. Este estudio muestra avances significativos no solo en la adquisición de la lengua inglesa, sino también en una amplia gama de habilidades, específicamente en lo que respecta a las habilidades interpersonales y de memoria de trabajo. Aunque a pequeña escala y con una muestra limitada, proporciona una perspectiva inspiradora y poderosa para la metodología basada en centros de inteligencia múltiple que conduce a un mayor rendimiento de los estudiantes.

**Palabras clave:** centros de aprendizaje, inteligencias múltiples, aprendizaje de la lengua inglesa, aprendizaje cooperativo.

## **1. INTRODUCTION**

In a world conformed by a wide range of countries and cultures the necessity of communication amongst people is a reality that cannot be denied. Due to an increasingly complex society and a rapidly changing technology-based economy, schools are being asked to teach diverse students to higher academic standards than ever before (Rose & Mayer, 2002; Gregory & Chapman, 2006). Under this perspective, the knowledge of a second language, more precisely English, seems to be essential for students. That is the reason why nowadays, knowing a foreign language has become a necessity for both social and educative reasons. Concerning our country, bilingual education faces enormous challenges. According to a survey carried out by *Cambridge Monitor* (Cambridge University Press, 2017), 44% of Spaniards consider their English proficiency as being low or very low. This rate places Spain as one of the countries with the lowest level of English within the European Union.

Being aware of the importance of second language learning, the regional ministry of Madrid initiated a bilingual school program in 2004 (Orden 5958/2010 de 7 de diciembre de 2011). Among other things, the project aimed to use English as a means of communication in content areas such as science, arts, physical education or music. This new bilingual movement forced teachers to move outside of their comfort zone and explore new methodologies and approaches for foreign language teaching/learning (Pena et al., 2005). As a result, not only students but also teachers have modified and adapted their lessons to the new educational context (Halbach et al., 2009).

Although English proficiency seems to be the centerfold of this issue, we shall not leave pedagogy aside. In other words, it is not only teaching English, but how we actually teach that foreign language. In this sense, pedagogy plays an essential role within the educative experience. It is teachers' responsibility to create instructional practices which make the acquisition of knowledge and skills more efficient, effective and appealing for students (Ausubel, 1963). Moreover, we should bear in mind that students come to school with different backgrounds and a whole diversity of learning styles (Tomlinson, 2004). As effective teachers we should use a range of teaching strategies because there is no single, universal approach

that suits all situations. As O'Malley and Chamot (1990) suggest, some teaching strategies are better suited to teaching certain skills and subjects than others; whereas some strategies are better suited to certain student backgrounds, learning styles and abilities.

This way, the current research will focus on how a mixed methodology based on the combination of learning centers, multiple intelligences and cooperative learning can enhance language learning in terms of grammar and vocabulary. According to the articles that deal with this issue, a pedagogy based on learning centers (Laguía & Vidal, 2006) provides students with exciting and interesting experiences to practice, enrich, reteach, and enhance their learning (Mayer, 2002). These types of centers are filled with manipulatives, art materials, books, and other instructional tools. Students visit the centers to complete an assignment or learn through a variety of activities (Gardner, 1983). Working both independently and in small groups through cooperative learning (Johnson & Johnson, 1994), students are provided with time and space to complete a project which eventually will facilitate them to better acquire both vocabulary and grammar structures.

All this leads to the following hypothesis: A methodology based on learning centers throughout multiple intelligences will enhance language learning, since it offers students multiple ways of developing skills related to language acquisition. In order to establish a starting point, the first objective will be to know students' previous knowledge in order to do so a questionnaire will be passed. The second objective is for students to be able to develop a project by working cooperatively in the different learning centers (each of them dedicated to a specific intelligence). This leads to the third objective, to collect data that will enable us to define to what extent the methodology proposed has been able to enhance language learning. For this, the groups will present their projects and they will fill up a rubric to assess methodology. Finally, the last objective will be to compare and contrast all data collected in order to draw conclusions. For this, the same questionnaire used at the beginning of the project will be passed.

In what follows I will analyze the theoretical background that supports the current study. Then, the methodology as well as the analysis of all data collected will be put forward. This article will end with an overall

conclusion defining the expand of the study and suggesting a plan of action in light of the results obtained.

## **2. MULTIPLE INTELLIGENCES, LEARNING CENTERS AND COOPERATIVE LEARNING**

Diversity is an umbrella term that can have different meanings depending to each individual, and how a person defines diversity will affect the way it is approached (Chung & Miller, 2011). In other words, how a teacher enacts diversity in the classroom may depend on how that teacher understands and conceptualizes diversity. Individual differences when learning are a condition of human beings (Piaget, 1964). As Banks et al. (2005) argue, traditionally school has tackled some of these differences, mainly those related to learning processes. But less attention has been paid to learning styles, diversity in the class and the links established among these three factors. Hence, an ongoing challenge for schools is how to meet the educational needs of every student. In this sense, attention should be drawn to the dissimilarities in personal development as well as students' preferences when learning (Levy, 2008).

Talking about learning styles and preferences, we should now draw attention to the theory of multiple intelligences (Gardner, 1983). Gardner's work has influenced the way many teachers approach their classroom instruction. There are many ways to demonstrate understanding and it is important to incorporate these intelligences when planning to ensure inclusion for all students, and for students to receive the best possible learning experience (Borek, 2003). With an understanding of Gardner's theory of multiple intelligences, teachers can promote new possibilities for learning, with greater emphasis on lifelong learning, which support the development of students' skills in creativity and innovation (Hoerr, 2004).

Rather than seeing intelligence as dominated by a single, Howard Gardner differentiated it into specific 'modalities'. Eight abilities were chosen that he held to meet these criteria: musical–rhythmic, logical–mathematical, bodily–kinesthetic, interpersonal, intrapersonal, and naturalistic. According to Gardner's view intelligences such as spatial, musical, kinesthetic, interpersonal and intrapersonal have generally been overlooked in

education. However, if we can develop ways to teach and learn by engaging all eight intelligences, we will increase the possibilities for students to be engaged and make the most of the learning experience.

Bearing this in mind, an effective way to foster diversity in the classroom would be by offering students opportunities in which they can have access to activities that comprise all intelligences. A suitable way of doing so is by developing learning stations in our classroom. According to the definition given by Kuntz (2014), a learning center is a space in the classroom that allows easy access to a variety of learning materials in an interesting and productive manner. Learning centers are usually designed to offer a variety of materials, designs, and media through which students can work by themselves or with others to operationalize the information learned in the classroom (Shaver et. al, 1968; Laguía & Vidal, 2006).

Although this could sound groundbreaking, there is a long tradition in the use of learning centers in education. Pestalozzi (1827), known as the father of modern education, believed that rather than dealing with words, children should learn by experimenting and they should be free to pursue their own interests and draw their own conclusions. Years later, Decroly (1921) introduced the idea of centers of interest in the classroom; its basic feature was the workshop-classroom, in which children freely went about their own occupations. Behind the complex of individual activities was a carefully organized scheme of work based on an analysis of the fundamental needs of the child (Sofroniou, 2016).

Along the same line, Dewey (1938) criticized the traditional methods since they were «beyond the experience the young learner possess», and underlined the importance of new approaches based on learning by doing. Under the influence of Dewey, Kilpatrick (1918) advocated for a project methodology in the classroom. For Kilpatrick, project method's greatest strength was the potential for building moral character, with students acting in pursuit of a rich variety of purposes, individually or collectively, under the supervision of a skilled teacher to help guide students to make increasingly finer discriminations of right and proper ideas and judgments. Ideally, the democratic teacher will gradually remove him/herself from the educative process (Kilpatrick, 1918). Moreover, after analyzing the psychological and social needs of the French children during the 50's, Celestin Freinet

(1956) developed a methodology based on eight different workshops. Such methodology was adapted to both children's needs as well as their developmental stage. Freinet determined eight specialized workshops: four of which he called basic manual work and four more of evolved, socialized and intellectualized activity.

All in all, learning centers constitute a form of organization in delimited and concrete spaces in the classroom that allow students the development of basic habits of work. It is a creative and flexible model in which children learn through observation, exploration, manipulation, experimentation, creation and social interaction (Mayer, 1992). This methodology facilitates the establishment and enforcement of norms and the development of children's own autonomy, while responding to the differences, interests and learning paces of each child. Nevertheless, if we take a closer look to the work carried out by the authors mentioned above, we can appreciate they also make strong references to teamwork and cooperation (Bain, 2006; Fraile, 2008). In the light of this, a mixed methodology that combines the use of centers of interest with cooperative learning seems to be a perfect match for foreign language learning.

Cooperative learning is defined by Slavin (1983) as a teaching strategy that encourages students to work in «small, heterogeneous learning groups» (p. 431) in order to promote individual learning. The fact that learning groups should be mixed or diverse is significant to ensure that learners can learn from each other and provide encouragement and support to each other in different aspects and at different levels of the curriculum. In the words of the Johnson & Brothers (1994), cooperative learning is a carefully designed system of interactions that organizes and induces reciprocal influence among team members. The accepted idea proposed in these different definitions is that cooperative learning should be taken as an approach in which students help each other in the scope of a common goal while actively participating in the teaching-learning process.

In general terms, the cooperative classroom is formed on the postulates of at least, the following theories: Piaget's genetic epistemology (1970), Vygotsky's sociocultural theory (1978), Ausubel's principles on meaningful learning (1963), Roger's humanistic approach to learning (1995) and the philosophy of positive interdependence by the Johnson & Brothers

(1969). Although Piaget (1970) did not explicitly relate his theory to education, he introduced the idea of children constructing their own learning by doing and actively exploring. From a Vygotskian perspective, students can benefit from more skillful peers within the zone of proximal development, this is «the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers» (Vygotsky, 1978, p. 86). Because cooperative learning involves active and engaged learning, it inspires students to obtain a deeper knowledge. Students are more likely to retain the knowledge gained through this approach far more readily than through traditional textbook-centered learning (Ausubel, 1983). According to Johnson and Johnson (1969), carefully structured cooperative learning involves people working in teams to accomplish a common goal, under conditions that involve both positive interdependence and individual and group accountability (Johnson & Johnson, 1974). In addition, students develop confidence and self-direction as they move through both team-based and independent work. Although other approaches can rely only on the bottom layers of the pyramid (Blooms taxonomy, 1956), cooperative learning explores the ones on top: applying, analyzing, evaluating and creating.

Among the advantages cooperative learning has in foreign language learning, McGoarty (1989) identifies linguistic, curricular, and social benefits. To his view, cooperative learning increases frequency and variety of second language practice through different types of interaction. It also offers possibilities for development or use of the first language in ways that support cognitive development and increased second language skills. Besides that, it also enables opportunities for students to act as resources for each other and, thus, assume a more active role in learning. In addition to this study, Holt et al. (1991) recognize the possible benefits of cooperative learning in linguistically and culturally diverse classrooms. They suggest that English Language Learners (ELL) need «the maximum amount of time possible for comprehending and using the English language in a low-risk environment in order to approach the language proficiency of their peers» (p. 4). Likewise, cooperative learning has generally avowed to be the best option for all students since it emphasizes

active interaction between students of diverse abilities and backgrounds (Nelson et al., 1993; Tsai, 1998; Wei, 1997; Yu, 1995).

Bearing all these theories in mind, I have chosen to implement a mixed method for foreign language learning in the classroom. Therefore, the current study will be based on the idea of arranging centers of interest related to each of the eight intelligences proposed by Gardner. This way, students will rotate along the centers to perform different activities, all related to the same topic. Moreover, cooperative learning will be a key factor. In order to carry out the proposed task, students will have to work cooperatively to accomplish a common goal.

### **3. METHODOLOGY**

#### **3.1 Context**

The current study has been developed with students aged 7 – 8 in a charter school included within the CAM's bilingual project. Focusing on the groups, they all have some common features when it comes to English. They have been learning English since they were three years old so they have a good command of English considering their age and context. In terms of defining their performance and skills, the most remarkable one is listening. As they have had a great deal of contact with the language, they are able to understand, interpret and infer most of the language they hear. Regarding speaking, their production in the foreign language is still quite limited; nevertheless, they can build up chunks of language if they are provided with the right input. Concerning writing, the structures they are able to produce are very limited as well. Although it is still hard for most of them to differentiate between the correspondence sound – letter, they tend to memorize the words in order to get the right spelling. However, they still have the habit of spelling the words the way they sound out in Spanish. The same happens in relation to reading; while they are able to read the words that are familiar to them properly, they have not internalized patterns and pronunciation rules yet. In broad terms, these would be the common features in the four groups. Of course, each of them has its unique and differential characteristics. Of the four



second grade groups, B and D have been selected to be experimental groups while A and C remained as control groups.

The main reasons that led me to choose which would be the experimental and the control groups were mainly their motivation towards the language and their learning preferences. Since groups B and D seem to be less motivated, I believed this methodology would encourage them to show a more positive attitude towards the language. Moreover, these students are slightly more creative and active than the ones in the other groups.

The school's identity hallmark is based on cooperative learning principles, so students are used to the methodology, techniques and grouping required.

### **3.2 Work plan**

Students will work towards a group project related to places in the city. At the end of the project, they not only will have created their own model of a city by using recycled materials, but also will have to present their projects. Therefore, the work in each center will be a unique piece that forms the whole puzzle. Hence the methodology developed is based on three main steps: structuring learning stations, relating each of them to a different intelligence and finally, using cooperative techniques to accomplish the goals established in the centers. As a result, the classroom will be divided into different spaces.

- **Visual-spatial intelligence center:** Here, students create a blueprint of their cities. They will first discuss the buildings they want to include as well as their location. Once they have this clear, they individually create a draft. Having all drafts finished, they use a technique named cooperative drawing which consists of choosing and putting together the parts of the drawing they like best to create a blueprint that has something of each draft.
- **Naturalistic intelligence center:** Since the aim of this center is for students to collect things from nature so they can create natural spaces in the city it will be developed in two different spaces; these are the classroom and the playground. By using 1-2-4 technique an agreement on which items will be gathered and why will be set. After that, the group goes to the playground to collect whatever material they agreed on.

- **Verbal-linguistic intelligence center:** Students are asked to create a short description of their cities by working thorough cooperative writing partners. Hence, each pair agrees on what parts of the city they want to describe, after that they create a short description. Once both descriptions are on the table, they put them together to make the final work.
- **Musical intelligence center:** Students are asked to choose between two and four shops from their cities and create a simple song according to a given structure. Besides, they have access to the music room in case they want to use different instruments to help them create the melody. To do this, they will use a cooperative strategy called «thinking teams».
- **Logic-mathematical and body-kinesthetic intelligence centers:** Regarding the logic – mathematical ability, students make a list of materials they need to create their cities. In such list, they are asked to specify the number and the measurement/quantity needed. This is done by using the «placemat consensus» technique (Kagan, 1995) where students create a list of materials individually to finally compare and contrast their answers to make a common list. After this, by working fine motor skills students will be developing the body – kinesthetic intelligence since they have to physically use those items on their lists to transform the recycled materials into buildings/shops and goods that can be bought in them.
- **Emotional intelligence center:** Being group work one of the main pillars of this project, interpersonal intelligence is worked all through it. By working in small groups, students have to share diverse perspectives, pool knowledge and skills, establish a shared identity with group members and develop their own voice and perspective in relation to peers. Group work is evaluated among team members by filling out a rubric at the end of the project. Likewise, they will reflect on intrapersonal intelligence by individually completing a different rubric that comprises their strengths, weaknesses individual contributions to the group.

### **3.3 Data collection**

The current research has been developed by using both quantitative and qualitative instruments for data collection. Sources such as test, rubrics,

interviews and direct observation have been of paramount importance in this mixed method. Firstly, a test that was designed to be passed to students at the beginning of the study (identifying children's previous knowledge), and at the end of it (comparing the differences between the control and experimental groups). Such test contained an open question on vocabulary and a multiple-choice one about the grammatical structure «there is/there are» (affirmative, negative and interrogative form). Secondly, rubrics were used as part of qualitative research for the project. These rubrics focused on gather information on vocabulary, grammar acquisition, the dynamics carried out during the project and the work developed in the learning centers. Finally, systematic interviews focused on grammar and vocabulary acquisition were carried out to allowed children to use the knowledge gained through the project. Moreover, questions regarding their difficulties and strengths in the different stages of the project were also asked.

## **4. ANALYSIS**

### **4.1 Data analysis**

In order to analyze all data, information was divided into two categories: questionnaires (only measured vocabulary and grammar) and rubrics (also evaluated aspects related to motivation and participation). Nevertheless, all data received was transferred and analyzed on a scale of 1 to 5, 1 being the lowest possible punctuation and 5 being the highest. As mentioned above, the questionnaires consisted of two different questions. This first question being very open («write as many words as you can remember»), the best option seemed to be recounting the number of words each student noted down in order to calculate an average of words per student. Having this done would allow me to create and include them within a set of parameters (1 – 6 words.; 7 – 12 words.; 13 – 18 words.; 19 – 24 words.; 25 – 30 words) that eventually would match the 1 to 5 scale previously mentioned. In spite of the fact that the two questions were not very similar, the same method was also used to analyze the multiple-choice question.

Regarding rubrics, the information gathered was analyzed on a question by question basis looking for similarities and differences among students' responses within the control and the experimental groups. Likewise, the infor-

mation contained was reduced to a 1 to 5 scale in order to facilitate data comparisons and contrast for drawing significant conclusions. Although rubrics were also used to measure grammar and vocabulary, they were used as an attempt to analyze motivation and participation as well. Thus, this last part became more relevant within the analysis.

Moreover, at the end of the project students were encouraged to write down on a piece of paper which of the centers had been their favorite and least favorite. This information was thought to be compared with the rubrics results in order to draw more reliable conclusions. Along with this, the information recorded during the interviews with the groups, as well as the notes taken during the observation of the project were taken into account to cross-reference the results obtained from test and rubrics.

## **4.2 Findings**

After analyzing all the information gathered, results show some promising outcomes. In terms of vocabulary and grammar, we can appreciate from table 1 that, at the beginning of the project, both rates were very similar. This fact was quite significant, since starting from the same point would allow the final results to be much more revealing. Motivation and participation were only measured at the end of the project; hence, table 1 does not show any evidence in relation to those features. The main aim of passing this questionnaire was to have a starting point in order to measure students' progress by learning through different methodologies; therefore, the results obtained by passing the first questionnaire show students' previous knowledge in terms of grammar and vocabulary on a scale of 1 to 5.

**Table 1**

*Beginning of the project analysis comparing average value answers from experimental and control groups on a scale of 1 to 5*

	<b>Control Group Average Scores</b>	<b>Experimental Group Average Scores</b>
<b>Grammar structures</b>	2.03	2.12
<b>Vocabulary</b>	1.97	1.98

At the end of the project, questionnaires and rubrics show some revealing information that needs to be highlighted. In terms of grammar structures, the control group shows a higher average score than the experimental group. This could be due to a more persistent grammar-based methodology within the control group. Here, the activities developed were mainly based on drilling and repetition of grammatical structures. Although drilling does not allow students to be creative and/or active learners it may help with memorizing language and provide a focus on accuracy. Unlike the experimental group, these participants followed principally the activities proposed by the textbook, which are mainly grammar-oriented. Regarding motivation and group work, we can appreciate from table 2 that there is not much difference between both averages. Still, some conclusions can be drawn from these rates; first of all, group work high scores reveal that students actually enjoy and make the most of working cooperatively, this is an indicator of the effectiveness of the pedagogy carried out by the school, for the reason that students incline toward group or pair work rather than individual work. Moreover, motivation seems to be linked to factors other than the methodology used in the classroom. As their English teacher, I feel gratified about the rates since they show that I am able to keep students highly motivated regardless of the methodology I use with them. I believe of the factors that influence students' motivation at this age, the teacher's attitude is probably the most important. Conversely, and although not reflected on the table, direct observation of both groups along the project allowed me to perceive that the experimental group was much more motivated during the lessons.

**Table 2**

*End of the project analysis comparing average value answers from experimental and control group on a scale of 1 to 5*

	<b>Control Group Average Scores</b>	<b>Experimental Group Average Scores</b>
<b>Grammar structures</b>	3.35	3.08
<b>Vocabulary</b>	2.34	3.29
<b>Motivation</b>	4.95	5.00
<b>Participation</b>	3.24	4.49
<b>Group work (Interpersonal I.)</b>	4.39	4.50

Nonetheless, the most significant shift can be appreciated when looking at «participation» and «vocabulary» sections. Here, the differences between both groups are more substantial (around one point difference in both cases), and the experimental group performs with a higher average. Students working with learning centers based on multiple intelligences consider themselves to be more participative and engaged in the activities proposed. This is directly related to their learning styles and preferences, for the reason that activities cater to all types of learners. The activities carried out in the centers allowed students to have more freedom when learning and to follow different paces. Since activities in the experimental group were more open, and therefore less guided, participants had the opportunity to choose what best suited their demands. As a result, these children could perform the tasks more autonomously; that is to say they barely needed the teacher's help and I acted just as guidance to them. Owing to this they developed a sense of self-confidence as the project moved along.

In terms of vocabulary, it does not seem surprising that the experimental group performed with a higher average score. Whereas the control group dealt only with the vocabulary presented in the textbook, the experimental group was exposed to a greater amount of words. They were asked to make a description so as to work on the verbal-linguistic intelligence. In that description, they were encouraged to talk not only about the shops included in their cities, but also to explain the actions and/or goods that could be acquired/carried out in those shops; the same happened when creating their songs. As a result, working through learning stations allowed us to cover material we would not otherwise have had time for. Learning centers were a way to bring new material to students without taking up additional class time.

Furthermore, the last part of the project encouraged students to present their models in front of the class. This made students being in touch not only with the vocabulary they needed in order to make up their own work, but also with the words other groups included in their projects. Another important fact that is worthy mention at this point is that, after completing the rubrics, students were asked to indicate the most remarkable thing they had learnt from the project. Interestingly enough, 65 % of them highlighted «learning vocabulary» as being the most significant aspect. In that section,

they were also heartened to specify what their favorite/least favorite center was in order to draw conclusions about the dominant intelligences within the experimental group (this feature would be looked at in the following, after analyzing *table 3*, which is related to each individual learning center).

**Table 3**  
*Percentages of dominant intelligences within the experimental group*

<b>Naturalistic Intelligence</b>	74.07 %
<b>Verbal-Linguistic Intelligence</b>	22.22 %
<b>Logic-Mathematical Intelligence</b>	18.51 %
<b>Bodily-kinesthetic Intelligence</b>	81.48 %
<b>Musical Intelligence</b>	77.7 %
<b>Visual-Spatial Intelligence</b>	59.25 %

*Table 3* shows that the most dominant intelligences within the experimental group are mainly three: naturalistic, bodily-kinesthetic and musical. The group interviews, as well as the observation carried out during the project, reaffirm this fact. During the interviews, students were asked if they were enjoying the project and whether they found it useful for learning. Most of them stated that what they enjoyed the most was «actually playing the instruments», «decorating the boxes» and «going out to the playground to collect things». Surprisingly, the centers focused on these intelligences barely required teacher assistance, and allowed students to perform the tasks more freely. Furthermore, these tasks empowered students to be more creative and expressive. On the contrary, verbal-linguistic and logic-mathematical intelligences appear to be the least popular among students. These percentages seem very revealing since most of the Spanish Curriculum is focused on Spanish Language and Math's (i.e. 11 hours a week out of 26 in second grade). Conversely, those subjects that are more related to the most

popular intelligences according to this study, such as physical education, music and/or arts only occupy around 3 hours a week.

**Table 4**  
*Percentages of preferred centers among the experimental group according to the interviews*

	Favorite Center	Least Favorite Center
<b>Naturalistic Intelligence</b>	18.51 %	11.11 %
<b>Verbal-Linguistic Intelligence</b>	–	55.55 %
<b>Logic-Mathematical Intelligence</b>	–	25.92 %
<b>Bodily-kinesthetic Intelligence</b>	29.62 %	–
<b>Musical Intelligence</b>	59.25 %	7.40 %

As observed on *table 4*, both the favorite and least favorite centers specified by students, match the dominant/less dominant intelligences indicated above. Moreover, the 44.44% of participants indicate «learning new words» as the most significant thing learnt from the project. This leads us to a paradoxical conclusion: How is it possible that students still highlight the fact that they actually learnt a lot of vocabulary, being the verbal-linguistic intelligence one of the least popular? Once again, this is closely related to meaningful learning. Since students are in touch with the language by doing appealing and interesting activities, it is not only about writing or reading but also about learning the words in context by actually enjoying what they do. In my opinion, this is an excellent finding since vocabulary is central to English language learning because without sufficient vocabulary students cannot understand others or express their own ideas. Wilkins (1972) wrote that «while without grammar very little can be conveyed, without vocabulary nothing can be conveyed» (pp. 111–112).

Additionally, along the project I was able to observe another important fact within the experimental group, directly related to the ability to problem-



solving. Students working through learning centers had to face some inconveniences while making up their city models. They had to deal with materials and evaluate which ones seemed better to do the decorations, how to include the natural things (i.e. some of them decided to use glue, some others agreed playdough was a better option, etc.). Having to face real-life problems contributed very positively to their problem-solving skills and made them much more efficient and resolute. These children had also less trouble developing group work strategies, and they were able to reach agreements more easily than the participants in the control group. As a final point, 100% of the students in the experimental group indicated that they would like to work through learning centers based on multiple intelligences with other topics in the English classroom.

Although intrapersonal intelligence has not been mentioned within the rest, it can be appreciated by taking a look at table 5 that actually more time was needed during the project in order for students to reflect on the things they were doing. It is true that the lack of time added to the length of the project, did not allow us to have as much inner thinking time as I would have liked. Nevertheless, as mentioned above, students consider themselves as being quite self-critical in terms of recognizing their strengths, weaknesses and capacities. They also believe they were able to control their stress level and behavior; this is something that could be appreciated through observation of the experimental group, since they barely had significant problems along the project. Moreover, by analyzing the rubric, it can be stated that the vast majority of them prefer working in small groups rather than individually.

**Table 5**  
*Percentages of interpersonal intelligence skills*

<b>Auto-critic</b>	74.07 %
<b>Learning preferences (working individually)</b>	7.40 %
<b>Self-control</b>	96.10 %
<b>Reflection</b>	23.47 %

Finally, this project did not only have an impact on students, it also had some clear advantages on my side as teacher. Having students working in groups allowed me to have one on one time with them. When teaching in a regular class, I find it very hard to spend time with each of them individually. However, while children were working in learning centers around the room, I was able to check in with each of them, point out any correction needed, and evaluate their performance. This also offered me opportunities to pull students aside and clear up mistakes they were making on a consistent basis. Students working independently at learning stations enabled me to have necessary conversations during class without bringing attention to a student's performance, and I could make sure each one got the attention they needed from me.

### **4.3 Plan of action**

In the light of this, a plan of action seems necessary in order to establish other ways of working that enhance English language learning in a Primary Education context. When teaching students English, we should be aware of the differences in learning styles of our students so that all learning styles can be incorporated into our lessons. Being able to identify the dominant intelligences among our learners will help us ensure they make the most of the learning experience. Therefore, the most important part to start with, would be by knowing our students strengths and weaknesses. Although this may seem hard at the beginning of the school year, rubrics have been proven to be an effective tool when it comes to information gathering about multiple intelligences. Such information can help us plan the lessons in advance and also develop group cohesion dynamics during the first weeks of the course. Dynamics dealing with making multiple intelligences wall charts, creating posters in which each student categorizes their own intelligences, guide debates, observing students during recess, talking to parents, etc. would be very helpful for us. At this very point, it is important to inform students about what multiple intelligences are (they might not know) and how they can be manifested, so they become aware of the types of learners they are, in a way it could be like knowing their educational «blood type». There are some high quality children-oriented videos on the internet that explain the theory of multiple intelligences. Also, round tables where children can freely talk about the issue can be carried out in class.

Here, it is important to inform children that intelligences can be modified, and that every human being is intelligent in at least three different ways.

I believe this could be very positive for both students and educators since it will put down barriers and roles in the classroom. There will not be more of «these are the intelligent students and not the rest». Thus, it will favor to enhance an atmosphere of mutual respect. Mutual respect in the classroom encompasses more than the interaction between students and the teacher, it means that students also treat each other properly. The result is a classroom where another dimension of learning takes place as students feel safe, motivated and, of course, respected. Achieving this atmosphere takes considerable effort on the side of the teacher as well as the students. Once established, however, students will usually work to maintain the positive classroom environment.

Nevertheless, knowing students' intelligences is just the first step up the ladder, since some kind of formation would also be needed by the teachers' board. Such formation can consist of courses or conferences that eventually enable educators to know the theory in depth and to put it into practice. In Gardner's view, MI theory is used most effectively by educators who have particular goals they are seeking to achieve and who conceive of the theory as a tool for achieving this goal (Gardner, 1983). So we, as teachers, should first make our educational goals clear in order to start planning a unit (or project) based on multiple intelligences. Regular teacher meetings would also be necessary to keep track of the progress both students and teachers are making, and to evaluate the kind of activities and dynamics carried out in the classroom.

Once the strategies are set up, it will be time to start working in classroom. As put forward by the current research, a methodology based on learning centers would surely work, since it offers specific spaces that cater to the different intelligences. All the same, regardless of the methodology used a set of diverse tasks should be offered to students. It may happen that the lack of space in the classroom hinders the proper distribution of the learning centers or, on the contrary, when having a new group of students without a prior knowledge as to how centers work may me feel insecure when carrying out this methodology. In this case, one session within the unit/project can be addressed to each intelligence, and be worked in small

groups within the class group. Anyhow, students' demands of kinesthetic, musical and naturalistic activities have been revealed, and this is something that should not be overlooked when planning and designing our teaching units.

Group work is also of paramount importance here, and students need to be trained before, during and after, otherwise it can turn into a double-edged sword. As it has been proven, group work can be an effective method to motivate students, encourage active learning, and develop key critical-thinking, communication, and decision-making skills. But without careful planning and facilitation, group work can frustrate students and feel like a waste of time. Therefore, it is important that each student performs a role in the group and that each member is aware at any given time of what they are expected to be doing.

Finally, I truly believe students need to be offered more freedom when learning for this gives them autonomy and makes them the center of their own learning. There is a common misconception based on the belief that the more a teacher manages the classroom the better. Over-management has been proven to cause more misbehavior than it dissuades, since it reduces children's natural desire to make choices, solve problems and explore their world. One thing I have personally learnt from this research is to be more relaxed and trust students when driving the wheel of learning. In the light of the results obtained, we as teachers should have more time to «sit back and enjoy students' performances».

## **5. CONCLUSION**

The original purpose of this project was to discover whether a methodology focused on learning centers based on multiple intelligences could enhance English language learning. Based on the analysis of all data collected through different sources, this approach has been proven to favor not only language acquisition, but also a diverse set of skills that will help students inside and outside of school. In this sense, some conclusions can be drawn.

In terms of the language, combining multiple intelligences theory with learning centers has been demonstrated to have a powerful impact on stu-

dents. Although the grammatical aspect has barely experienced a shift between methodologies, vocabulary acquisition has been positively influenced. Therefore, more opportunities should be given to students in which they can experiment and play with the language in order to make sense of it. This will enable students not only to retain and remember vocabulary items better but also to make learning enjoyable and meaningful. Since this project required very little teacher interaction, students could freely interact with each other and reach agreements proposed, arranged and chosen by themselves within the group. Moreover, most of the observation developed along the project, as well as students' individual assessment, was feasible due to the needlessness of teacher interaction. This also enabled more one-on-one time with students in order to focus on different skills they needed practice on.

Along this line, from the analysis of students' answers about their favorite centers, it has become clear that we should create activities that comprise musical, naturalistic and kinesthetic intelligences. It is a reality that schools still tend to focus more on verbal-linguistic and logic-mathematical intelligences, and we should not overlook students' preferences. Although very little of the school schedule is dedicated to subjects that mainly focus on these abilities, we should provide students with appealing tasks that cater to all types of intelligences and learning styles.

Additionally, learning through problem-solving is an effective way of engaging pupils in learning. However, problems should contain an element of challenge; otherwise students may feel discouraged if they face triviality. Giving students open questions that do not lead them to a specific answer will make their minds work towards a solution, and eventually will be much more enriching to them. In this case, students facing some troubles when making up their city models, made them learn how to deal with space, materials and how to organize themselves. As they grow up, students will have to face a huge variety of diverse problems, therefore the development of this skill will not only help them within the school context, but all the way throughout their lives.

Finally, by giving students access to the eight intelligences we are offering opportunities for self-discovery and self-acceptance. Being aware of what our strengths, capacities and weaknesses are, will help us in a variety of

ways. Likewise, multiple intelligences theory develops skills that are of paramount importance for children, not only in an academic context but also in life. All in all, knowing ourselves helps us understand others.

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