Improving Spelling Skills in Kindergarteners through Jclic Activities

Magaly Cadena and Yolanda Leguizamón

Universidad de la Sabana

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Directed by: Carolina Cruz

Master in TESOL

Department of Foreign Languages and Cultures

Universidad de la Sabana

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This research report is the result of our own work and includes nothing that was done in collaboration with others.

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Abstract

This paper reports on an action research project carried out at Liceo Patria. The main objective of the research was to analyze how the implementation of activities designed in the educational software Jclic would help to improve the spelling skills in a group of kindergarteners along twelve sessions. Instruments used to collect the data were: surveys, teachers' journal, logs, and tests. For analyzing the data, Sagor's trend analysis method was followed. The findings of this study show that accuracy to spell is pursued through a systematic learning process. Furthermore, it is evidenced how the educational software Jclic contributed to the development of spelling skills and designing of motivational activities for the students.

Key words**:** Spelling, Computer Assisted Language Learning, educational software Jclic.

Resumen

Este documento reporta un proyecto de acción-investigación llevado a cabo en el liceo Patria. El objetivo principal de la investigación era analizar como la implementación de actividades diseñadas en el programa educativo Jclic ayudaría a mejorar la ortografía en un grupo de transición a lo largo de doce sesiones. Los instrumentos usados para colectar los datos fueron: encuestas, diario del docente, registros y pruebas. Para analizar los datos, se siguió el método de análisis de tendencias de Sagor. Los resultados del estudio muestran que la precisión en la ortografía es alcanzada a través de un proceso de aprendizaje sistemático. Además, se evidencia como el programa educativo Jclic contribuyo al desarrollo de la ortografía y diseño de actividades motivantes para los estudiantes.

***Palabras claves*:** ortografía, aprendizaje de idiomas asistido por computadores, programas educativos, Jclic

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CHAPTER 1: Introduction

Statement of the Problem

Teaching English to very young learners in an English Foreign Language EFL context requires the application of different strategies in order to help students increase their cognitive skills through hearing and experiencing with the language. According to Ausubel (1968) new items are acquired with meaningful learning, this is by including new experiences to knowledge that already exist into the learner's cognitive framework.

Bearing in mind that one of the emphasis in school according to the Institutional Educational Project is to achieve progressively the management of the four communicative skills in English as a foreign language: speaking, listening, reading and writing, from kindergarten to eleventh grade, we have found in this issue an opportunity to find an effective method for helping a group of kindergarteners approach this goal since the beginning of the process.

A reality we have to face is the difference between the Spanish written system and the English written system regarding the phonological sound or sound forms of written words, which is a kind of dilemma for English teachers and a reason to develop the ability to acquire the language skills consciously rather than spontaneously, so that learners have the possibility to increase their literacy skill, which is often judged in terms of the individual's ability to spell words correctly (Westwood, 2005).

Therefore, considering that poor spelling can impede a student's academic performance in a variety of ways and that teachers at Liceo Patria, included ourselves, did not allocate time to follow an organized procedure to teach spelling, we attempted to find whether a systematically

process of implementing various types of meaningful learning activities would contribute to enhance the spelling skills in a group of children.

In this sense and given that children feel a special comfort and confidence when using technology and the significant impact that it might have in aspects such as students' academic achievement, the development of long-term memory and verbal skills among other benefits, we decided to use a technological software called Jclic to design the activities and to involve participants in the spelling training with the objective of increasing their early literacy skill and motivation towards English learning.

The project was developed with kindergarteners at Liceo Patria School. This is an elementary institution with levels from pre-school to fifth grade. The school is in the process of becoming a bilingual institution since 2007. The process started teaching to kindergarten students the areas of science, reading plan, and virtual learning in English, plus an intensive program of English classes every week.

Under these circumstances, the English class is used at school as a framework for understanding; its purpose is to direct learners thorough the study of the basic grammar structures, vocabulary about different topics, commands and instructions with the objective of improving students' speaking, reading and writing skills, so that learners can understand the content of the rest of the areas and ask and answer questions about the different topics they study within the curriculum.

Research Question

Based on the participant's needs previously exposed, this action research project is focused on the designing and implementation of educational and meaningful activities in an

software called Jclic; the purpose is to improve students' spelling skills taking advantage of the inner motivation they have towards technology. The research question that will be addressed in this project is:

Will the use of Jclic activities improve spelling skills in kindergarteners?

Research Objectives

Main objective

- To improve kindergarteners' spelling skills through the implementation of effective teaching practices and meaningful activities designed in educational software called Jclic.

Specific objectives

- To integrate Computer Assisted Language Learning (CALL) inside the teaching practice for improving spelling skills.
- To generate a motivational environment with the intention of facilitating the students' English learning process.

Rationale

One of the things we noticed during the time we had the opportunity to work as tutors of these learners was the ability they have to understand vocabulary; in this case we could realize that they identified isolated words and took notes if they were reading a source text, but they could not write words by themselves. It was also easy for them to name objects or follow

activities like singing, acting out, drawing or working and any other practice trending to reinforce a topic.

Nevertheless, regarding the objective of implementing English as a foreign language at Liceo Patria School, which is a process that started three years ago according to the Ten-year education plan (2006 – 2015) of the Ministry of National Education[1], the necessity has changed. For instance, since learners are now also studying areas that require a higher level of understanding such as science as a content area, storytelling and multimedia in English, they need to move just from identifying vocabulary, to read and write.

Taking into account that the bilingualism process at school starts in Kindergarten, we began by analyzing the institution system to develop the spelling ability in students, which according to the information we gathered through a survey to teachers (Appendix C) did not include any particular program to increase writing skills since early grades. Now, in their schedule, students have a multimedia class to work with the software *Tell me more kids*, but during neither these classes they are reinforcing the vocabulary immersed in the textbook nor practicing spelling to enhance their writing skills.

The other situation is that according to the English text book followed at school[2], students are able to read and write certain number of words, construct and understand short sentences by using some grammatical structures at the end of the year.

In order to design a strategy that cope with this situation and to facilitate the analysis of students' improvement in their spelling skills, special software called Jclic was implemented for

[1] The bilingualism program is a project whose purpose is to implement in the education system methodologies and environments for learning and practicing the English language. This project was implemented by the Ministry of National Education in Colombia under the name "Bogotá bilingual in ten years" and its aim is to develop learners' communication skills in English as a Foreign Language.

[2] In kindergarten students follow the book *Welcome to America Starter b.*

this project. During the implementation there were designed activities like puzzles, associations, crosswords, scramble letters, memory games and exploratory activities, etc with five of the 50 words selected for the project. Besides the activities themselves each session also included spelling of the vocabulary, pronunciation of the words and listening activities plus a tutorial with the teacher in charged.

Our purpose with this program is to help children learn to spell by memorizing and mastering the words they need to know during their first level and according to the results suggest the implementation of the software as a tool to enhance students spelling skills in the other groups.

CHAPTER 2: Theoretical Framework

Considering that our topic of study is *Improving spelling skills in kindergarteners through Jclic activities,* the main constructs we need to have a theoretical support along the research project are: *Meaningful learning to enhance spelling skills, motivation to succeed in learning and Computer-assisted language learning*.

Meaningful Learning to Enhance Spelling Skills

Bearing in mind that a child's rate of progress is influenced by the instruction he or she has received (Tangel & Blachman, 1995) and that spelling is the first step to start the writing process, our purpose with this group of students with ages between 5 and 6 was to help them to broaden this skill through daily activities, constructive feedback and the development of meaningful tasks.

Before starting the development of the project, we had the opportunity to share classrooms experiences with the target group as their English and science teachers, and we noticed that children imitated writing by copying down or by inventing new words where the letters did not have relationships. According to experts (Bissex, 1980, Bryant, 2002; Gentry & Gillet, 1993; Helman, 2004 and Moats, 1995) learners have a typical period of development according to their age in the process of acquiring the spelling skills. These stages are: Pre-phonemic (3 to 5 years); early phonetic (4 to 6 years); phonetic (5 to 7 years); transitional (6 to 11 years) and Independence (from 11 years) (Graham, 2000).

Since our research project is focused on a group of participants who are in stage 2, according to the stages previously mentioned; our objective is to help them to progress through this phase by influencing the instructions they receive (Tangel & Blachman, 1995). It is

important to mention that during this process the child begins to use incidentally acquired knowledge of letter names and sounds in an attempt to write words, (for example *cucis= cookies; chiquen= chicken; tri= three; chis=cheese*). This creation of invented spelling is an indication that children have started to develop awareness of the internal sound structure of spoken words and how these units can be represented in print (Ehri, 1989)

Ausubel`s subsumption theory states that meaningful learning may be described as a process of relating and anchoring new material to relevant established entities in cognitive structure. In other words, students' learning can take place through a meaningful process of relating new events to already existing cognitive concepts or propositions (Brown, 2007, p. 91).

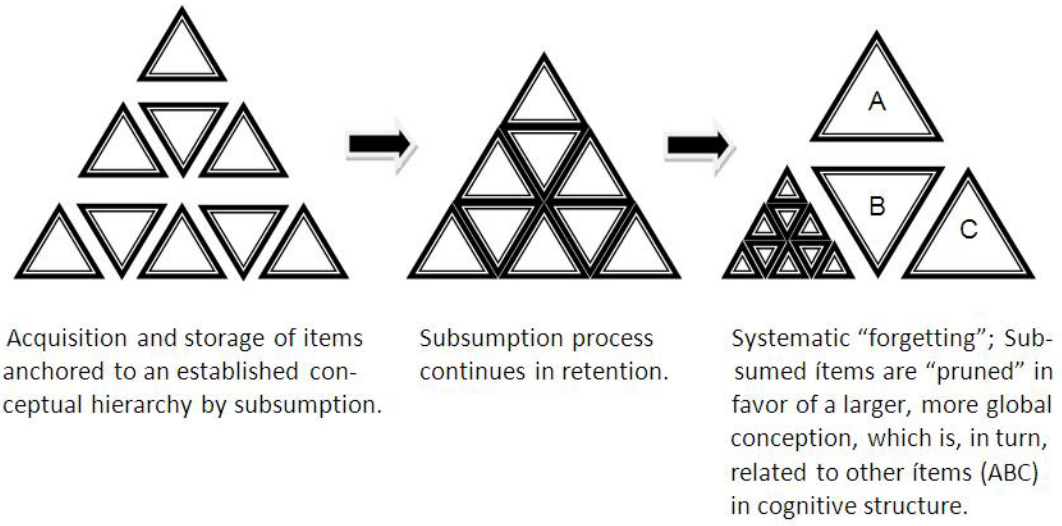

Figure 1. Schematic representation of meaningful learning and retention. Brown (2007)

This means that including appropriately new material in a previously established cognitive field will help the learner to relate it in a meaningful way to his previous knowledge. For that reason, in order to assure the success of the project and to help learners to acquire the second language through listening and experiencing lots of English, we decided to design the

activities based on fifty words included in the English text book. The first step we followed in this process was a general pre-test (Appendix F) in order to determine the overall stage of development that children have reached (Westwood, 2003).

Based on our previous experience with this group, students were taught to learn following the analytical phonic approach[3], which is a way to make effective use of visual information when writing words and a modality on the path of becoming a proficient speller (Westwood, 1994). This means that learners develop the ability to recognize orthographic units by storing a mental "word bank". According to Moseley (1997), good spellers eventually come to rely on visual as much phonological skills in spelling.

Now, taking into account that one of the routes to become a good speller involves internalizing the visual characteristics of words through extensive experience, and that any subject matter can be taught effectively by designing a program of step-by-step reinforcement so that facts can be properly associated with the ones in mind. We determine to design a set of activities that cope with this situation in order to facilitate the student's improvement in their spelling skills through the implementation of special a software and the application of an appropriate theory of learning. To this regard, Bernard, Higley, and Bernice (1936), in their study report called "An effective method of learning to spell" expressed the importance that training in a visual perception have to develop the ability to spell. In their study, after a visual training with learners from fifth and sixth grade during two years, they could realize participants improved not only their spelling skills but reading as well.

[3] In this approach children start to read words by sight, often in the context of meaningful texts.

Furthermore, as stated by Smith (1975) there is another way of establishing meaningfulness called “manufacturing meaningfulness”, in which we can make things significant if necessary and if we are strongly motivated to do so; for instance, establishing a mnemonic device for remembering a list of items, or enhancing retention to associate items with some external stimuli.

After having the concepts clear, the theory and the needs of our students, the next step was to identify our participants’ ability to spell, which according to Westwood (2003) is divided into three categories according to the learner’s ability to spell: Good spellers, who appear to have developed strategies for recognizing sound sequences in words, visual and morphemic information to write, good knowledge of word meanings and a range of mnemonic strategies; Average spellers, who most of the times produce accurate spelling due to the significant bank of words they have learned by rote; and Poor spellers, who have an evident weaknesses in their spelling, most of the times due to an inadequate or insufficient instruction. According to the observations these learners have steadily progressed through the stages of spelling acquisition and their ability to spell is related to the process they have been exposed within their English classes.

Although in a few cases the spelling problem may be due to a difficulty with the student’s cognitive process, the purpose of this initial step was to identify our participant’s learning difficulties in relation to the vocabulary they have learned during the English classes and to establish a limit in the number of words we were going to use to design the activities. We also wanted to establish:

- The amount of sessions we required to pilot the program,

- The kind of activities to motivate learners and to help their assimilation (for instance puzzles, associations, crosswords, scramble letters, memory games and exploratory activities).
- The way to develop positive attitude and interest toward spelling

Finally, since our purpose was to link the previous knowledge learners already had, regarding the way words are written in order to enhance their spelling skills and to implement a meaningful learning situation so that they felt motivated, we decided to work with computer software called Jclic[4]. The objective was to help students gain confidence in spelling and writing following the suggestions provided by the cited authors about the development of meaningful tasks.

Motivation to Succeed in Learning

Undoubtedly motivation is the essence of language teaching, especially because due to our context learners do not have the necessity or too many opportunities to practice what they have learned inside the classroom. When it refers to classroom applications, there are three general points that can be addressed regarding the topic such as: The meaning of motivating someone, the relationship between motivating teaching and good teaching, and the responsible of motivating learners (Dörnyei, 2001).

Motivating someone to do something involves among other aspects providing a good opportunity under the right conditions to work on a desired task. In classroom contexts, for instance, sometimes it is kind of difficult to find the way to "make" people want to learn, work hard and act in a responsible manner (Ford, 1992). Nevertheless, there is the belief that "all

[4] This is an open source software that allows teachers to develop activities using the program and indicates the sequence to be followed by students

students are motivated to learn under the right conditions and teachers can provide these conditions in the classroom" (McCombs & Pope, 1994).

Sometimes in the classroom motivational practices are closely related to effective teaching, plus the inclusion of clear instructions so that learners can follow the intended programme. According to Wlodkowski (1986) some important techniques that link methodological issues to motivating teaching are listed below:

1. *Explaining thing simply*
2. *Give clear explanations*
3. *Teach at a pace that is not too fast and not too slow*
4. *Stay with a topic until students understand*
5. *Try to find out when learners do not understand and then repeat thing*
6. *Teach things step-by-step*
7. *Describe the work to be done and how to do it*
8. *Make sure that students know what to do and how to do it*
9. *Repeat things when learners do not understand*
10. *Explain a topic and use examples to illustrate it*
11. *Explain a topic and then stop so that students can ask questions.*
12. *Prepare learners for what they will be doing next*
13. *Give specific details when teaching or training*
14. *Repeat things that are hard to understand*
15. *Use examples and explain them until students understand*
16. *Provide spaces for reflection after an explanation*
17. *Show learners how to do a work*
18. *Explain the assignments and the materials used in an activity*
19. *Stress difficult points*
20. *Show examples of how to do course work and assignments*
21. *Provide enough time for practice*
22. *Answer any question learners may have*
23. *Ask questions to find out students level of understanding*
24. *Go over difficult assignments until students understand how to do them*

Figure 2. Instructional clarity checklist. Wlodkowki (1986)

Finally, although it is not established into the curriculum the fact of promoting learner motivation, very few teachers have entered to the profession with the only objective of preparing students for tests, in this case the responsibility of guiding students for a long-term development

is on the teacher. In this sense, there are some motivational strategies to influence learners' behavior in the classroom, for example:

- Planning various strategies to present the material according to the topic, in this case it is also advisable to find the right way to provide feedback and set up communicative tasks so that learners can remember the language.
- Designing a trouble-shooting guide to face problematic situations in the classroom like: student's lethargy, participation or anti-learning influences of deviant children.
- Focusing on key motivational concepts such as intrinsic interest, self-confidence or student autonomy with the purpose of designing activities that provokes a decision to act.

Taking into account that much of the advices regarding the design of motivational activities are focused on finding out the learner's goals and interests (Chambers, 1999), our desire along the development of the research project was to implement a motivational and instructional tool with the purpose of increasing student's involvement in the tasks and deal with the problems they were facing with spelling.

Besides leading with the spelling problems students have, the purpose of the project is to make learning stimulating and enjoyable. To pursue this, we are not only going to include computers to help students overcome their difficulties, but we will also devote time to design activities like puzzles, associations, crosswords, memory games and exploratory activities to be developed along twelve training sessions. The aim is to make of each session a meaningful time in which learners find goal oriented and fun activities to play with the vocabulary, avoiding them to become boring and tedious chores. Additionally, we will spend the necessary time to explain

things step by step, repeat tasks in case they are difficult to understand, and to provide enough time for practice, just to mention some of the methodological techniques suggested to motivate students mentioned above.

Some of the studies done in relation to an effective way to arise students' motivation and attitude towards language learning demonstrates that if a learner lacks of sufficient stimulus s/he will not be able to start learning or to continue learning and achieve proficiency in the target language (Gardner & Lambert, 1959). For instance a study carried out by Martin GB Von Schilling (2006) at Bayreuth University in Germany, describes the way in which three groups of young adult foreign language learners were exposed to a comprehensive language teaching programme called "Learning to Learn English" for a specific period of time, changed their attitude[5] towards language learning and become better learners due to the training process.

Computer-Assisted Language Learning (CALL)

According to Beatty (2003) CALL may be described as *any process in which a learner uses a computer and, as a result, improves his or her language.* CALL covers a great bunch of activities encompassing aspects related to materials design, technologies, modes of instruction and pedagogical theories. With CALL, educators have the possibility to include pedagogical terms, technological advances, and new concepts in computer literacy. They can also design materials with the purpose of improving language learning or adapt existing computer-based materials like videos, predefined activities, didactic products and various tasks according to each learner necessity.

[5]The term "attitude" covers a wide range of positive and negative feelings that have significant effects on students desire to learn, this leads in the interest to work and achieve the learning goals. According to Gardner (1985) "when the desire to achieve the goal and favorable attitudes towards the goal are linked with the effort or the drive, then we have a motivated organism".

CALL is applied in new settings of learning which are physical and virtual learning environments and it has become a new method to promote and study a language. For instance, into the classroom it may be used as an instrument to offer and present new pedagogical tools for better learners, as a remedial aid for students who need to improve or reinforce a language skill, or as a way to supplement student learning. This means that CALL activities are feasible for any type of learner; furthermore it includes interactive and communicative support for reading, speaking, writing, listening and other fields such as autonomy in learning and lifelong learning. In this process it is also important the teacher's role, which consists in directing and monitoring the activities, intervening as necessary and encouraging thinking.

In our case the use of computers and technology in the classroom has become a useful device to work and to help students with learning difficulties because its use provides the opportunity to design meaningful activities. In the case of autonomy, the use of CALL represent an opportunity for learners to study on their own, at their own pace and without the continue guidance of a tutor. Regarding the choice of making use of CALL as a way to direct their own learning process, students can use special software programs to tailor their educational process according to their needs (Westwood, 2003).

In our role of language teachers, the use of CALL software programs has become a great tool for the children, because they can have authentic models of the language and several activities such as games and other materials to practice the four English communicative skills.

The first time computers were used for language learning was in 1950, but at this time they were only available on university campuses and their costs were high. They were used just for translating. Then, in the 1970s and 1980s came to action videodisc technology. In the 1990s

there were thousands of software, designed, especially with educational purposes and that include hypertext, hypermedia and multimedia (Beatty, 2003). According to Warschauer and Healey (1998), the story of CALL is divided into three phases: behaviorism, communicative and integrative. In the behaviorism phase, students were encouraged to drill and test vocabulary and grammatical structures through multiple choice and matching activities. Then, based on the communicative approach, the communicative phase included text reconstruction, games and problem-solving activities. Finally, in the integrative phase, the idea is to integrate speaking, writing, reading and listening skills through the use of multimedia, hypermedia and interactive technologies.

Nowadays, besides the effects of CALL applications on students' achievements and attitudes, this area has expanded to include computer programs in support to the academic curriculum (Lee & Vail, 2005; Simic, 1993). At the same time, it is common to find new terms such as computer - based education (CBE), computer- based instruction (CBI) and computer-assisted instruction (CAI) to refer to the general use of technology within the classroom. An action research study carried out by a group of researchers in the state of North Carolina with a fifth graders class, examined the advantages and disadvantages of the use of the computer software *WordMaker*[6] on students with different reading abilities. According to the results, after the implementation, students progressed in their spelling and decoding skills in a short 10-week period of training, thanks to the boundaries of the program and the opportunity learners had of working with the same words in different ways. In this opportunity the educational software demonstrated to be an effective complement to other activities associated with the curriculum of

[6] WordMaker is Systematic Sequential Phonics Instruction that uses a variety of activities to build targeted phonics skills. In the activities students work with the words they already know how to read and spell and create new words that are longer and more difficult.

the school. In our case, the participants of this project will be encouraged to work in educational activities designed in software called Jclic.

Currently, there are eight CALL applications: word processing, games, literature, corpus linguistics, computer-mediated communication (CMC), WWW resources, adapting other material for CALL and personal digital assistants. The participants of this project will be encouraged to work in educational activities designed in software called Jclic.

Jclic is open code educative software that allows teachers the design of activities while following the track to learners in the development of the tasks. This tool is useful to make different kinds of educational assignments like: puzzles, associations, text exercises and crosswords that can be part of a project[7]. The easiness of its use allows teachers apply this software as a support in any area and context of the students' learning process. Its implementation in the classroom also contributes to promote learner's training while playing, which is something interesting and motivating along the educational sessions.

This technological resource was used to improve the spelling skill in a group of kindergarteners. Some of the activities implemented to cope with this project were: puzzles, associations, crosswords, scramble letters, memory games and exploratory activities with the purpose of improving the students' spelling skills. Our purpose was to make the tasks more interesting and challenging so that learners felt actively engaged in the learning process.

[7] A Project in this software consists in a set of activities and one or more sequences that indicate the order in which they have to be shown

CHAPTER 3: Research Design

Type of Study

The type of study for this research proposal is action research. Action Research is an "ongoing process in which teachers continue their own development through revising and evaluating their work […] it aims at posing and solving problems, understanding, changing or innovating classroom processes by collecting information in a spiral way" (Jimenez, Luna & Marin, 1996, p. 7).

This action research will be based on Kemmis and McTaggart's approach (1985). This approach has four stages in a spiral way: plan, action or implementation, observation or monitoring and reflection.

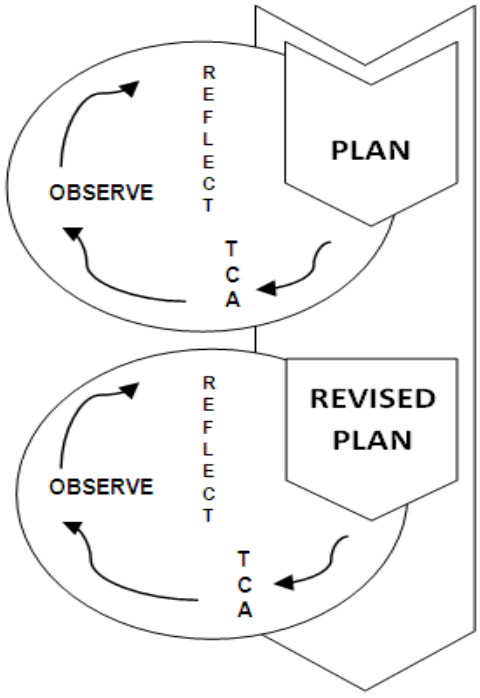

Figure 3. Action Research cycle. Kemmis and McTaggart, 1985. The Action Research Planner.

The plan stage consists on observing carefully and identifying what is happening in the classroom, the purpose of this observation is to identify a problem and a possible solution to it. It

is important to clarify that the possible situation must be interesting, motivating and manageable in a small-scale project. Although, this is just a first step, it is necessary to collect some preliminary data for the decision-making process and various aspects like collaborative work in order to assure support and professional development; the resources needed, a general timetable plan; possible innovation with the research in the field of study and data collection instruments.

The aim of the action stage is to have a revision of the general plan, the resources and techniques. During this phase the observation step plays an important role.

The observation process provides the necessary data for the study. Monitoring also contributes to know the usefulness of the strategies selected during the initial cycle of the research. The impressions compiled in this stage are important for writing the final report.

The reflection period is a space for reflection about processes, issues and constrains found in the action plan; this information is the starting point for the next cycle in the spiral process.

Researchers' Role

Our role as researchers was to observe and become participants at the same time. As participants we were directly involved in the design and implementation of the activities: planning, organizing and sketching every lesson (entry, structuring and closure); monitoring the teaching and managing the participants learning and behavior to assure the success of the project; and reflecting upon the process.

Another duty we had as participants was the design of the classroom investigation instruments we used to collect the data, to capture thoughts and to gather any information, like surveys for students, the teachers' journal, the students' logs, and the tests.

As observers, we evaluated and compared every data obtained along the project. This task contributed to a critical reflection on the process of every session: effectiveness, learning process, difficulties, things to improve and possible changes on the activities or improvisations for the next class.

Context

The Liceo Patria is one of the nine schools that belong to the Colombian Army. It was founded in the year 1959 with the name of Liceo Infantil Patria. That year the school had 18 first graders and 22 kindergarteners. Eight years later its name changed to Liceo Patria, and nowadays, it has a population of 450 students with three groups of each level from kindergarten up to fifth grade. The school is located in the north of the city, exactly on 106th street and 7th avenue in the locality of Usaquen. Students have similar socio-economic status (middle-high) and a positive attitude to English classes.

The mission of the school is:

> *Providing comprehensive education to children of officers, noncommissioned officers and civilian that work for the military institution, active and retired, with administrative subjection of the Army Command will and academic to those established by the Ministry of National Education, in search of quality and excellence to meet successfully the demands of a competitive society.*

And the vision is:

> *To Project the institution for the next five years, as an educational institution that promotes processes of modernization, excellence and high quality, allowing better fit within the national education campuses.*

Regarding the mission and vision of the school, this research study would meet the principal statements of them because we intended to search quality and excellence by implementing technology in the classes and preparing students to face and be part of a competitive society that moves around technology.

The Liceo Patria is in the process of becoming a bilingual institution. This process started with the inclusion of the science class as a content area in kindergarten. To date, besides kindergarteners, students from first, second and third grade attend not only the science class but storytelling and multimedia in English.

According to the Institutional Educational Project one of the areas in which the school will make emphasis is the bilingualism in order to achieve progressively since 2007 the management of the four communication skills: speaking, listening, reading and writing from kindergarten to eleventh grade. With this objective, it will be applied a programme of training, grading, setting, awareness and participation of the educational community with the purpose of increasing, generating opening knowledge of English and job skills in students.

The bilingualism project has taken a long time but all the educational community is committed with it. Money is being invested on resources such as books, didactic material, laboratories and non-English and English teachers.

Participants

The project was carried out with a group of six students from kindergarten who started classes at Liceo Patria from the beginning of the year 2000. Their ages range from 5 to 6 and their English level is A1 (CEF, 2001). These students are curious and active. They also love to play, especially computer games. Their learning style is visual-kinesthetic since they rely on images to make the relations between words, messages and meanings and learn by doing and touching. All of them liked to make part of the activities we developed in class (chants, singing songs, guessing games, listening and coloring, describing pictures, spelling, etc). These students were facing difficulties when spelling the vocabulary they had learned during the English classes; therefore they needed to develop meaningful and motivational activities that allowed them to reinforce their spelling skills according to their pro-phonemic stage.

This group of participants was selected by sample of convenience based on the following criteria: (a) those who lived near the school, because the study was carried out during vacations time; (b) and those whose parents signed the consent letter and committed themselves to take children to school. At the end of the selection process we had only six students, two boys and four girls.

Into the curriculum these learners have to study the areas of science, reading plan, and virtual learning in English, plus an intensive program of English classes every week, being the English class the media to learn and understand basic grammar structures, vocabulary about different topics, commands, instructions and literacy skills.

Data Collection Instruments

The instruments we used to collect the data were: surveys for students and teachers, teachers' journal, students' logs, and tests.

Surveys. According to Jimenez et al.,"the purpose of a survey is to find out what is happening or how people think about a specific topic at a particular time" (1996, p. 18). A survey has predetermined questions and is less time consuming to administer. Furthermore, it gathers the responses of larger number of informants (Burns, 1999).

The surveys were applied in the pre-stage and post-stage. In the pre-stage the surveys were administered to teachers (Appendix C) to identify what they think about spelling, and to students (Appendix D) to make a diagnostic of the impressions students have about their writing spelling skills.

The survey in the post-stage (Appendix H) was for students. With these surveys we gathered information about participants' feelings towards the project after the implementation and how students' writing spelling skills improved.

Teachers' journal. For Burns (1999, p. 89) teacher journals "provide continuing accounts of perceptions and thought processes, as well as of critical events or issues which have surfaced in the classroom", this means that keeping a journal requires discipline and constancy; it is important to make the notes and reflections as soon as it is possible so that details are not missed. The information written in a journal is more subjective because it has personal reflections and interpretations; it is a valuable source of data.

The teacher journal (Appendix E) was kept along the three stages of the research project: pre-stage, while-stage and post stage. The purpose of teacher journal was to record all the details about students' progress, if any, and reflect upon them.

Logs. According to Sagor (2000, p. 103), logs are documents "in which participants are required to record information on what they are doing and when." Logs are highly structured because follow a specific format. They are detailed, accurate and can be self-administered.

The log was kept during the while stage of the research project. We used a format with six columns: in the first column we wrote the students' name, in the second column the session's number, in the third column the activities they developed, in the fourth column the number of times the students accessed to the activity, in the fifth time spent on the activity, and finally the score gotten (Appendix G).

The purpose of the logs is to gather information after each activity to see students' process and contrast them with the teachers' journal. The main goal of the logs is to collect evidence of the process and progress, if any.

Tests. A test is defined by Seliger and Shohamy (2001, p.176) as a "procedure used to collect data on subjects' ability or knowledge of certain disciplines". Test results are evidence on how is the learners' performance in a specific skill. Tests can be classified into high and low level of explicitness.

For the purpose of this study, we used high level of explicitness test because we elicit language data from the participants who were given cloze tests. It is important to mention that what students did in the tests was to read images and write in front of each image the correct word.

The tests were used during the while stage. In each session we did a pre-test and a post-test that served us to see the difference between the before and the after of the implementation. Furthermore, a general pre-test (Appendix F) with 50 words was applied before the implementation as well as a general post-test (Appendix I), with the same 50 words, to be compared and check students performance.

Data Collection Procedures

For the development of this study we followed a three-stage procedure in which all the data was collected. The stages of this research project were: pre-stage, while-stage, and post-stage. Each cycle required the application of a different data collection instruments (see figure 3).

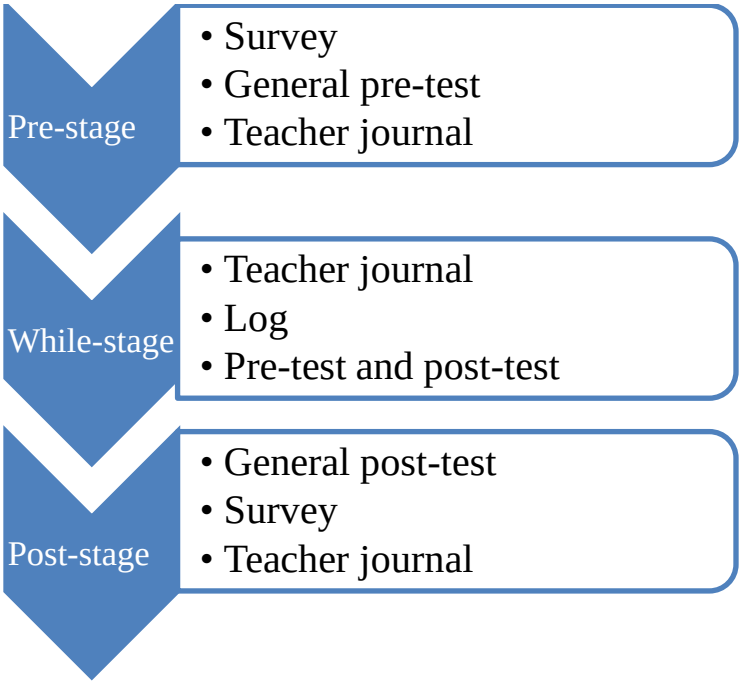

Figure 4. Stages and data collection instruments.

In the pre-stage we designed and applied a survey to participants, in order to collect information about students' impressions regarding their writing skills. Then, we administered a general pre-test with fifty words we selected in advanced from the course book. The test function

was to see the current students' situation regarding their writing spelling skills. During this stage we also filled the teachers' journal to record any information and reflection we had.

In the while-stage we continued keeping the journal to record all the details on students' performance. We also filled the log to register students' names, activity, the number of times they access the activities, the time they spend on each activity and their score. During this stage we had short pre-test and post-test for each session with a total number of five words average.

In the post- stage we did a general post-test that included all the words of the general pre-test. Its purpose was to see if there were improvements after the implementation. Moreover, we applied a final survey to collect information about students' impressions after the implementation, and we continued updating our journal with reflections.

CHAPTER 4: Pedagogical Intervention and Implementation

The main objective of this study was to enhance kindergarteners' spelling skills through CALL activities specifically those designed in Jclic. For tackling the objective, we planned to carry out the implementation process in ten sessions during the school period. By the time we started the execution of the activities, participants were too busy regarding issues concerned with the end of the school year, so we did not have space to overcome with the project; so we decided to ask for the school and parent's permission with the purpose of developing the activities during vacation time. Similarly, the principal provided us with the necessary tools and support to carry out the research in the institution, meanwhile parents expressed their readiness to take the children to school during vacation time. At the end, there were developed twelve sessions as described below.

Along the implementation each session followed the same procedure. First, students presented a pre-test which included pictures and a space to write each word. Then, with the use of a video-beam, students received an explanation about the development of the activities in the front side of the classroom. Next, every student was assigned a computer to work along the sessions, it is important to clarify that they received the necessary support to develop the activities until the end of the process. Finally, participants presented a post-test similar to the pre-test.

Session 1

In this session we applied an initial survey (Appendix D), and a test with the fifty words that were going to be studied during the implementation (Appendix F). With the survey we

pretended to collect information about student's difficulties to learn English; and with the pre-test to identify learner's ability to spell. We spent one hour and a half in this process.

Session 2

For this class we chose vocabulary related to clothes: skirt, shorts, shoes, t-shirt, pants, dress, shirt, scarf, boots, jacket and coat. Participants presented an initial pre-test and a final post-test. They developed activities such as: A puzzle, a cloze activity, a scramble activity, a crossword and matching activities. During this session learners devoted fifteen minutes presenting each test and 120 minutes along the whole session.

Figure 5. Session 2. Pre-test and post-test.

Samples of the six activities developed during the first session:

- A twelve pieces puzzle with the eleven pictures and the words.

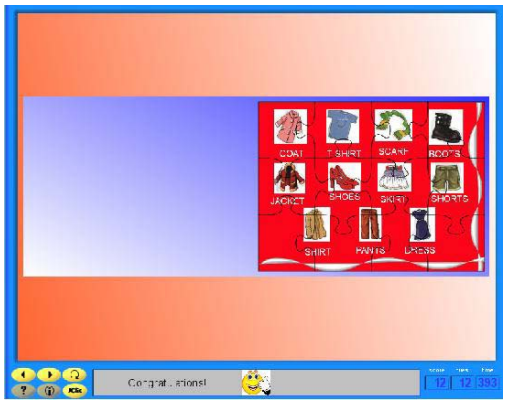

Figure 6. Session 2. Activity 1.

- A matching activity in which students had to find pairs.

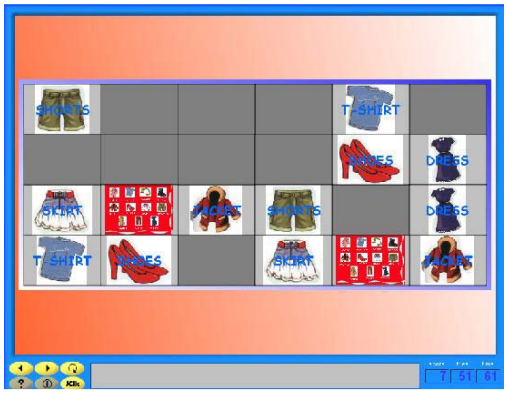

Figure 7. Session 2. Activity 2.

- A matching activity in which students had to link the pictures with the words.

Figure 8. Session 2. Activity 3.

- A cloze activity in which participants had to type the letter that was missing in each word.

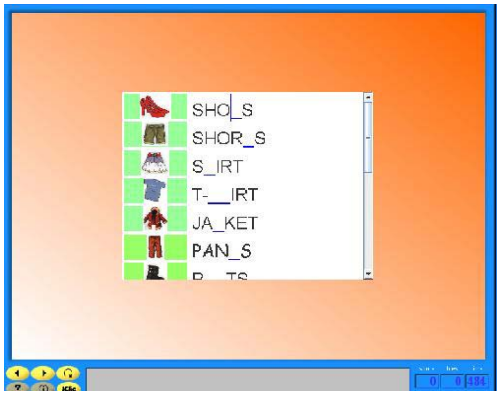

Figure 9. Session 2. Activity 4.

- A scramble exercise in which students had to organize the letters.

Figure 10. Session 2. Activity 5.

- A crossword in which students had to type the complete word.

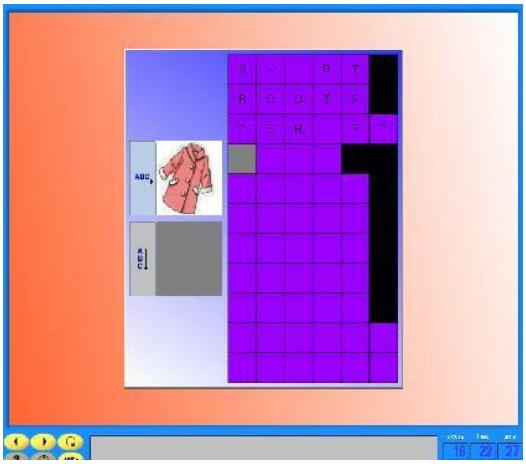

Figure 11. Session 2. Activity 6.

Session 3

In this session we repeated the activities from the previous one, due to the amount of words. Since we realized that students could not study them all, we decided to continue with these exercises and apply the post-test at the end. Students worked along 90 minutes.

Session 4

This session was about numbers from one to five. First, learners presented the pre-test. Then, we explained the activities. Finally, students solved the post-test. The activities in this session were: 1- Listening, spelling and repeating. 2- Finding the numbers in a word search puzzle and listening. 3- Solving a puzzle for each number. 4- Organizing letter to make a word according to the picture. 5- Writing the words. Students spent 91 minutes in this session.

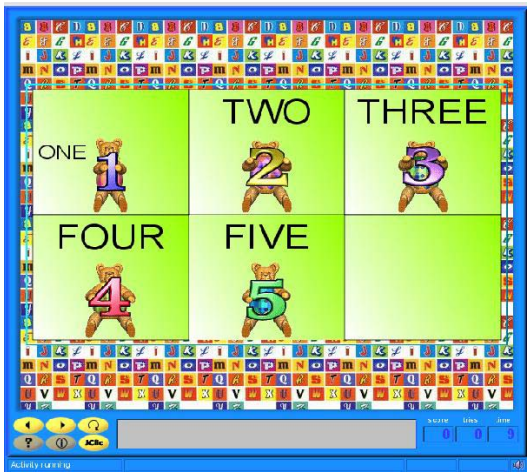

Figure 12. Session 4. Activity 1.

Figure 13. Session 4. Activity 2.

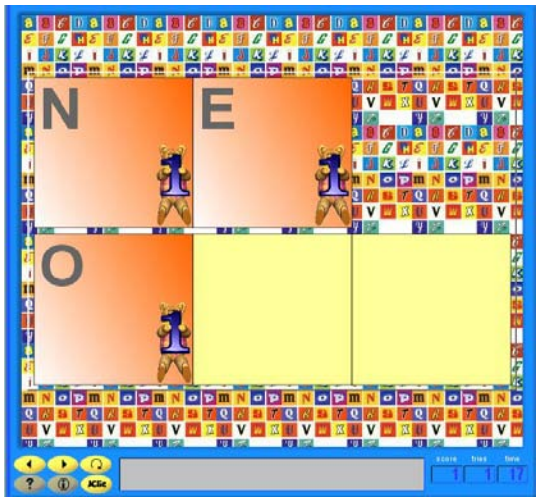

Figure 14. Session 4. Activity 3.

Figure 15. Session 4. Activity 4.

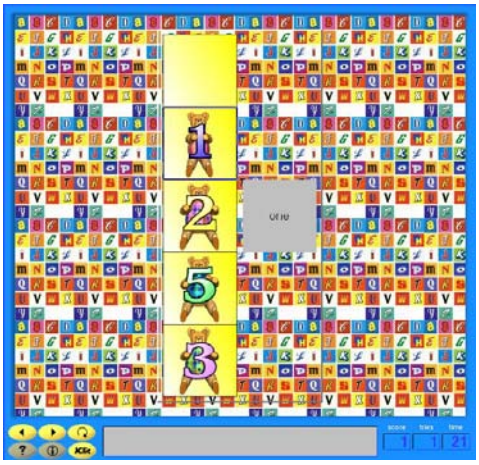

Figure 16. Session 4. Activity 5.

Session 5

For this session we continued with numbers from six to ten. First, students worked in the pre-test; then, in the activities designed in the software; finally in the post-test. They worked on the following exercises: 1- Organizing a puzzle per number. 2- Finding pairs of numbers (in this exercise, students also could listen to the pronunciation and its spelling every time they clicked on the number). 3- Organizing letters according to the number they were shown. 4- Completing a crossword based on the number they listened. 5- Typing the numbers. Students spent 70 minutes in this session.

Figure 17. Session 5. Activity 1.

Figure 18. Session 5. Activity 2.

Figure 19. Session 5. Activity 3.

Figure 20. Session 5. Activity 4.

Figure 21. Session 5. Activity 5.

Session 6

This session was about vocabulary related to shapes: circle, square, triangle, star, and heart. First, students were invited to present the pre-test; then, we explained the activities designed in Jclic; finally, participants solved the post-test. The session included six kinds of activities. 1- Listening to the word and its spelling. 2- Finding pairs: shape and word while listening to the word spelling. 3- Finding the shapes in a word search and listening. 4- Reading and identifying the correct word. 5- Organizing the letters to complete a word. 6- Typing the complete word. Students spent 70 minutes to finish these activities.

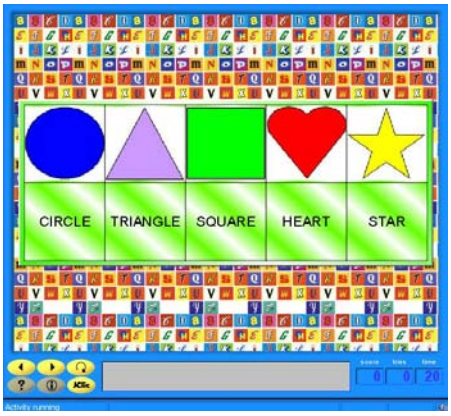

Figure 22. Session 6. Activity 1.

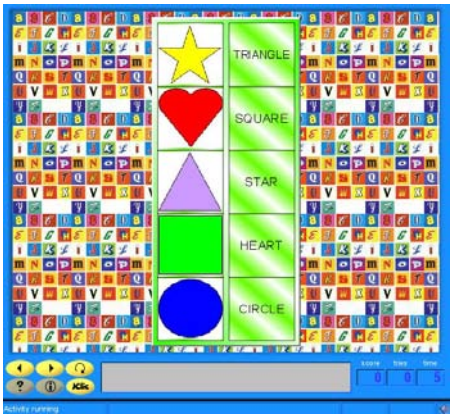

Figure 23. Session 6. Activity 2.

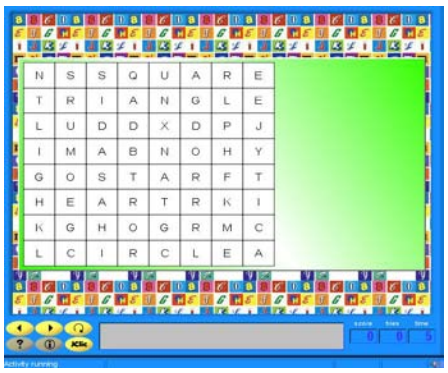

Figure 24. Session 6. Activity 3.

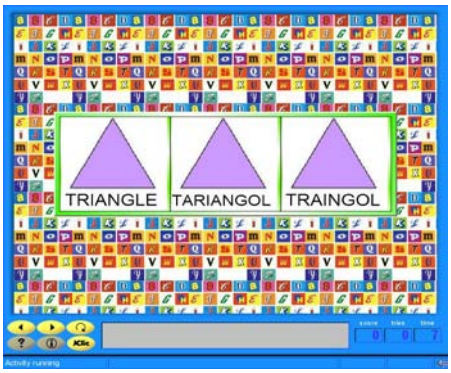

Figure 25. Session 6. Activity 4.

Figure 26. Session 6. Activity 5.

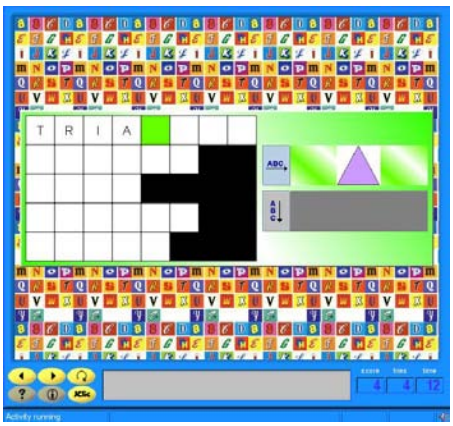

Figure 27. Session 6. Activity 6.

Session 7

This session was about food: apple, bread, pizza, carrots, and cake. First, students completed the pre-test; then, after the explanation, learners worked on the activities designed in the computer software; finally, students solved the post-test. The session included four kinds of activities. 1- Identifying the vocabulary and listening the spelling of the word. 2- Matching the image with the word and listening. 3- Finding pairs. 4- Completing a crossword. Students spent 65 minutes to finish.

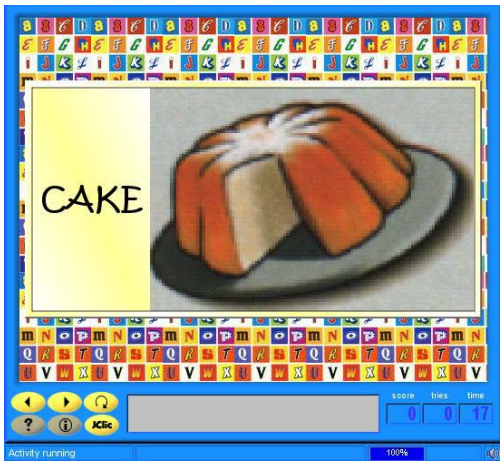

Figure 28. Session 7. Activity 1.

Figure 29. Session 7. Activity 2.

Figure 30. Session 7. Activity 3.

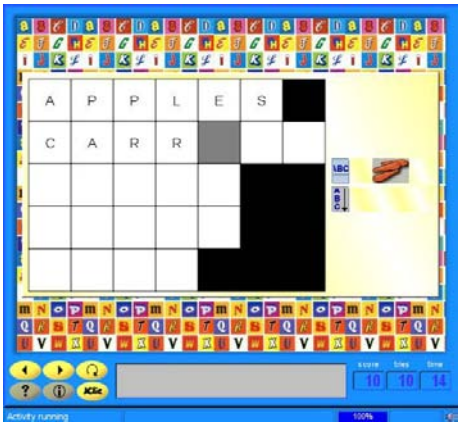

Figure 31. Session 7. Activity 4.

Session 8

This session was about food too: chicken, chocolate, fish, cookies, and ice cream. First, students completed the pre-test; then, learners worked on the activities designed in Jclic after listening to the explanation; finally, students solved the post-test. In this class participants developed four activities: 1- Identifying the vocabulary and listening to the pronunciation and spelling. 2- Organizing a puzzle. 3- Matching pair and listening to the vocabulary. 4- Typing the words. Students spent 67 minutes to finish.

Figure 32. Session 8. Activity 1.

Figure 33. Session 8. Activity 2.

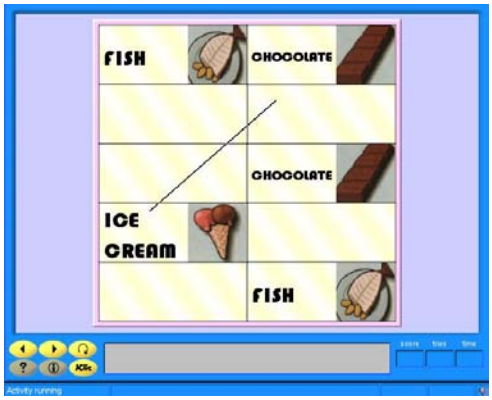

Figure 34. Session 8. Activity 3.

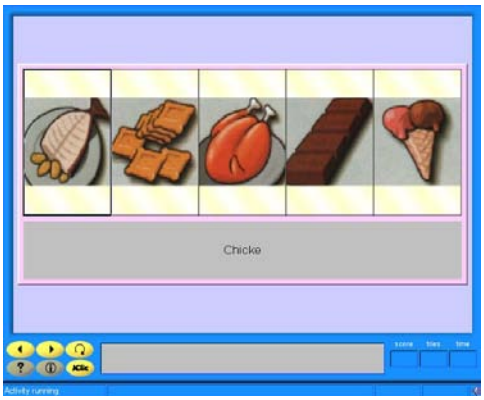

Figure 35. Session 8. Activity 4.

Session 9

This session was about food too: cheese, egg, milk, and French fries. First, students completed the pre-test; then, they worked on the activities designed in Jclic after the explanation; finally, students solved the post-test. Along this session, students developed four activities. 1- Identifying the vocabulary, listening to the pronunciation and spelling. 2- Organizing a puzzle. 3- Matching pairs while listening to the words. 4- Typing the words. Participants spent 66 minutes to finish.

Figure 36. Session 9. Activity 1.

Figure 37. Session 9. Activity 2.

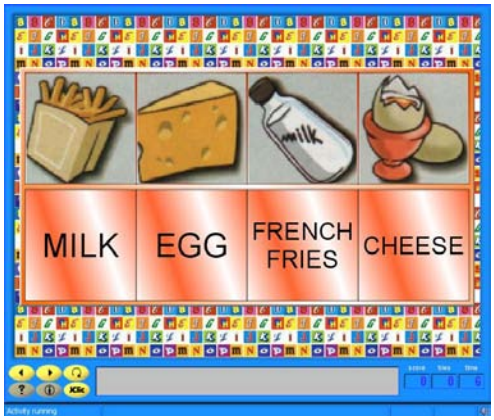

Figure 38. Session 9. Activity 3.

Figure 39. Session 9. Activity 4.

Figure 40. Session 9. Activity 5.

Session 10

This session was about school supplies: pencil, eraser, book, ruler, and school bag. First, participants were motivated to present the pre-text; then, we explained the activities; finally, we implemented the post-test. In this session students developed four activities. 1- Reading, listening to the words and identifying. 2- Matching the words with the images and listening to their spelling. 3- Organizing the letters. 4- Completing a crossword puzzle by listening to the words. Students spent 66 minutes to finish.

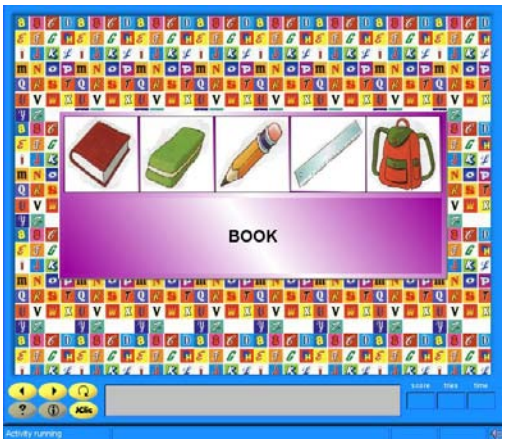

Figure 41. Session 10. Activity 1.

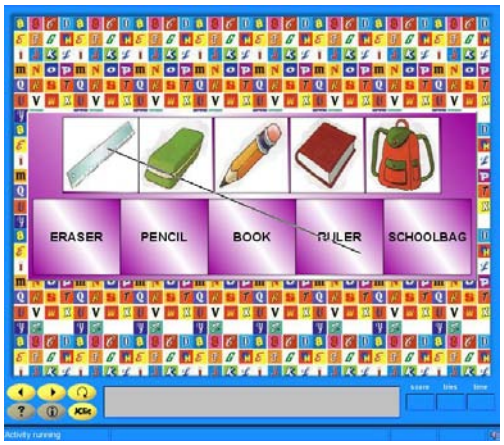

Figure 42. Session 10. Activity 2.

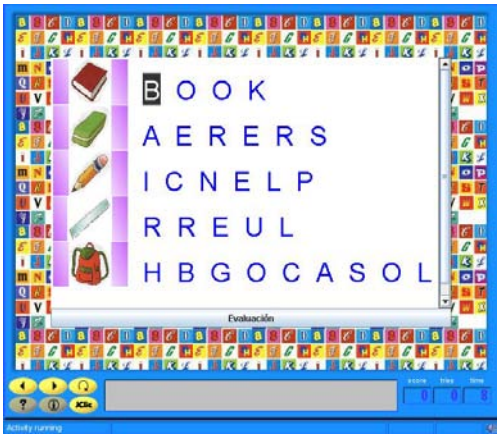

Figure 43. Session 10. Activity 3.

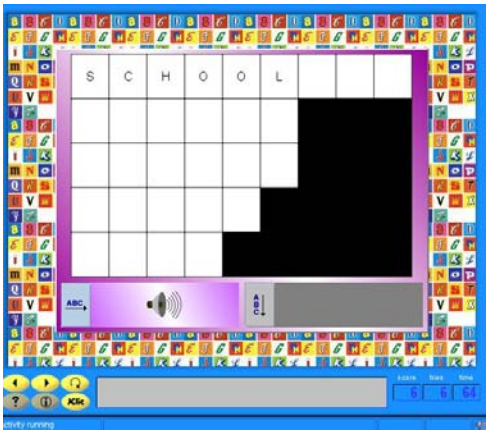

Figure 44. Session 10. Activity 4.

Session 11

This was the last session in which the tool was implemented. It was about school objects, the vocabulary that we included was: pencil sharpener, pencil case, doll, ball, and teddy bear. During this class, as always, we did four things: pre-test, explanation, activities, and post-test. In this session students developed four activities. 1- Reading, listening to the words and identifying. 2- Matching the words and the images and listening to their spelling. 3- Organizing the letters. 4- Completing a crossword puzzle by listening to the words. Students spent 66 minutes to finish.

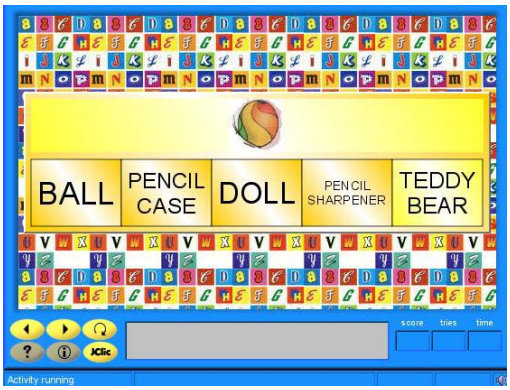

Figure 45. Session 11. Activity 1.

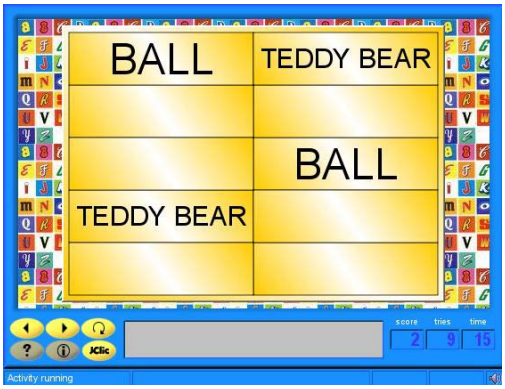

Figure 46. Session 11. Activity 2.

Figure 47. Session 11. Activity 3.

Figure 48. Session 11. Activity 4.

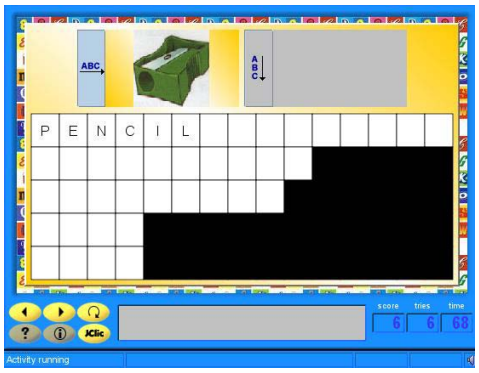

Figure 49. Session 11. Activity 5.

Session 12

In this final session we applied a survey (Appendix H), and the final test with the fifty words we worked during the implementation (Appendix I). Participants spent 40 minutes to finish.

CHAPTER 5: Data Analysis and Findings

This chapter aims to present the data collected and the procedure followed while analyzing it. Bearing in mind the research question: *Will the use of Jclic activities improve spelling skills in kindergarteners?* Categories findings will be also presented.

As qualitative and quantitative data were collected, it was decided to follow Sagor's (2005) trend analysis method. Trend analysis seeks to record changes that occurred during implementation, regarding the objectives of the action research, understanding and explaining why changes occurred. We decided to choose this analysis method because what we intended to do is to analyze students' performance after the implementation of Jclic activities, bearing in mind the aspects that contributed or influenced to any change, either positive or negative.

For analyzing the data, Sagor (2005) stated that three questions must be addressed:

1. What did we do?
2. What changes occurred regarding the achievement targets?
3. What were the relationship, if any, between the actions taken and the changes in performance?

In line with the first question, three stages needed to be tackled: allocating the time, looking for patterns, and creating a timeline. Regarding the second question, there was only one stage named checking performance. Concerning the last question, two stages were taken into account: comparing the data from question 1 and 2, and drawing tentative assertions. Those stages were the path to follow for analyzing the data of the study.

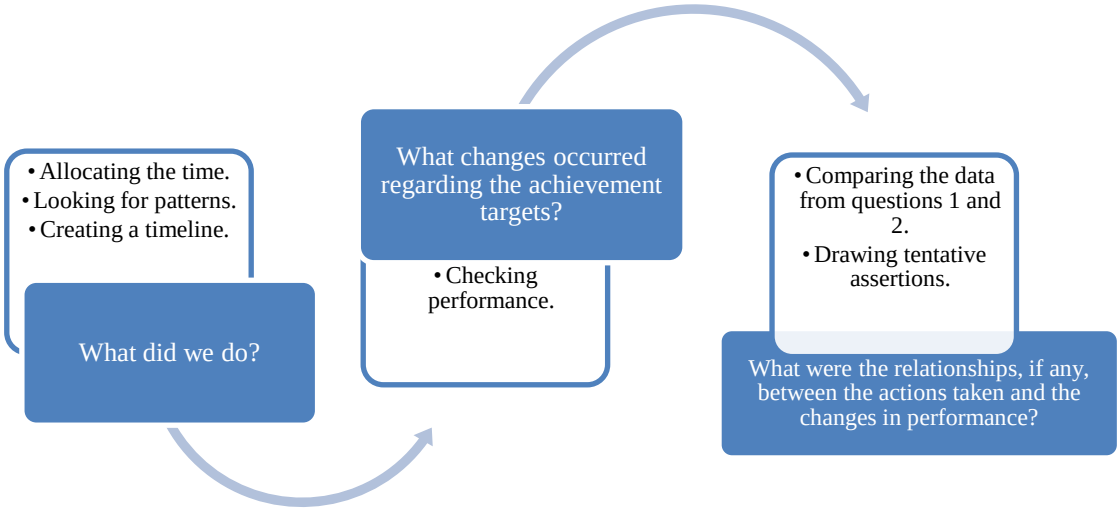

Figure 50. Trend analysis steps. Sagor (2005).

Allocating the Time

Allocating the time allowed us to have an overview of the time we invested over the course of the study on each category of action, and make comparisons between the time we planned to spend and the time we actually spent. In this stage we used the worksheets provided by Sagor: Time Priority Sheet (Appendix J), Summary Time Priority Sheet (Appendix K), and Time use graph (Figure 51).

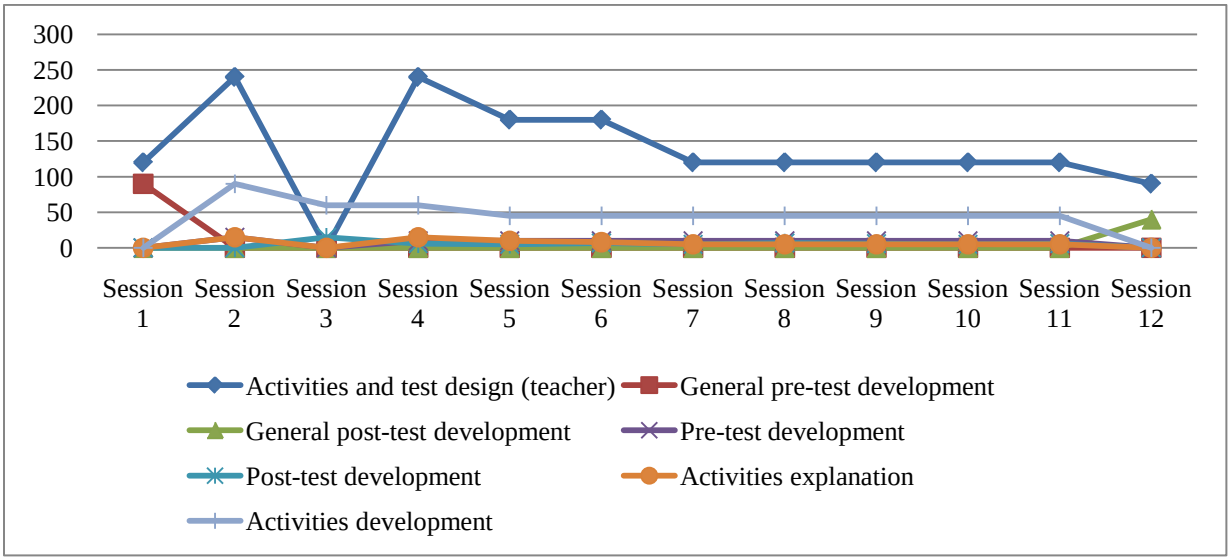

Figure 51. Time use graph

By doing the comparison, it was found that although we planned to invest 1.690 minutes on the implementation of the project, we actually invested 2.535 minutes, because of some technical problems and extra-practices that students needed in order to achieve the goals of the project. The calculation of this time was made based on seven specific categories of action: Activities and test design, general pre-test development, general post-test development, pre-tests development, post-tests development, activities explanation, and activities development.

Another aspect found in this stage is that as time passed, researchers spent less time designing the activities and the tests. At the beginning, the design of the activities in Jclic took 240 minutes, and the last activity, took only 120 minutes. This was due to the lack of experience researchers had dealing with the software. Jclic was a new tool for the teachers – researchers, and they did not know how to design the activities, add colors, audio recordings, fonts, etc.

On the other hand, participants spent 90 minutes answering the general pre-test and 40 minutes developing the general post-test which means they spent almost half of the time. This happened because when they presented the pre-test they did not know how to write most of the words, they identified the vocabulary because they had a word bank, and they could even say the words but they had to think once and again how to write the words. In contrast, when presenting the post-test they had already practiced how to write the words in each of the activities designed through Jclic; as a result, the time they invested answering the general post-test was lesser than the one in the pre-test.

Meanwhile, in the development of the pre-tests there was a constant. Participants spent always 10 minutes answering the pre-tests of each session whereas in the post-tests the time was not always the same: sometimes they spent 5, 6 or 7 minutes. Nevertheless, it is important to

mention that the time devoted on the post-tests was always fewer than the one invested in the pre-test.

Other important aspect noticed in this stage was the period of time used in the development of the activities. In the first three sessions students spent more time developing the activities but after the fifth session the time spent on this category of action became consistent. A cause of this change is that at the beginning it was difficult for learners to deal with the activities because they were not used to them but as time passed they started to mechanize the procedures and the activities became familiar for them.

Looking for Patterns

This step allowed us to identify the patterns that arose during the study. These patterns helped us to have a more detailed and better analysis of what happened with the implementation regarding the research question.

The patterns were found by reading the teacher journal and by analyzing the surveys. At the same time, a matrix was designed with the purpose of registering events that appeared more than twice and that were relevant for the objectives and questions of the study (Appendix L). At the end of this process we found 15 patterns.

In the teacher journal, it was found that: in the first five sessions there was more spelling difficulties noticed by the researchers whereas from the session six up to the twelve the spelling skills seemed to improve.

> *"This first session with computers was really hard and we really noticed the weaknesses students have for spelling words. They confuse letters and type the words as they listen to them".*

Excerpt 1. Journal: Session 2.

The excerpt above provides evidence of the problem students had; they could not write words with an accurate spelling and had a tendency to write words as they sound in Spanish.

> *"We have noticed that most of the students are progressing normally. They are able to write most of the vocabulary with high degree of automaticity. This does not mean that they do not make errors, but in case they have written any word inappropriately, they can notice it"*

Excerpt 2. Journal: Session 7

On the other hand, excerpt two shows how researchers noticed and registered students' improvement with the implementation and how students were responding positively.

Another pattern is related to the use of technology. Throughout the whole implementation the researchers were always writing in their journal the influence and importance that the use of computers had in the process.

> *"Learners have gained confidence in the use of the computer software. Now, trying to get a conclusion for our research project, we can say that it was a good strategy the implementation of technology to improve this learner's spelling performance. This practice has provoked a positive attitude in participants, has contributed to master the spelling of the words, and has enhanced their writing skills and their memory".*

Excerpt 3. Journal: Session 9

This excerpt is an evidence of the positivism researchers had towards the use of the educational tool Jclic. Based on student's attitudes and behavior, they mentioned the benefits it can give to learners not only in the skill that was intended to improve but also in aspects such as memory and confidence.

> *"This systematic and motivating experience is a sample that changing the way things have been doing with these students can promote learning and help them to internalize and store new words"*

Excerpt 4. Journal: Session 10

Furthermore, in excerpt 4, researchers stated that implementing technology in their teaching practice would benefit the students' learning process because they felt attracted towards it; hence the input that students had through educational software could be more meaningful, as a result the student's output would be broaden.

> *"At the end of this class we decided to access some web pages for students to practice the alphabet"*

Excerpt 5. Journal: Session 3

It was also noticed the importance of implementing extra material from the web. As the action plan was being implemented, the need of looking for complementary material to reinforce the practice of the alphabet raised. Hence, we looked for songs and videos on the internet.

> *"We have decided to allocate some time to complement the previous lessons by allowing a free practice, especially with those words where learners have encountered more difficulties. Nonetheless, it is important to mention that learners were the ones who requested to repeat some of the activities they had already developed".*

Excerpt 6. Journal: Session 6

Besides that, after finishing with the words planned for the session, some students requested to work in the previous activities they developed. That is why, we decided to allow them to repeat and practice with the previous activities. This pattern shows how motivated

learners were with the use of technology, especially with the activities the research team designed.

In the initial survey (Appendix D), which purpose was to identify the perceptions students had regarding their English class, it was found that all the participants liked the English class and they mentioned some of the words they studied in the course book. Two participants said they did not understand when they are spoken in English. Two participants considered they could write words without help whereas the other four learners were aware of their difficulties to write the words.

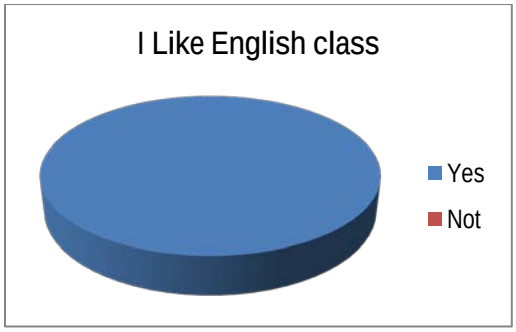

Figure 52. Initial survey. Question1.

Figure 53. Initial survey. Question 2.

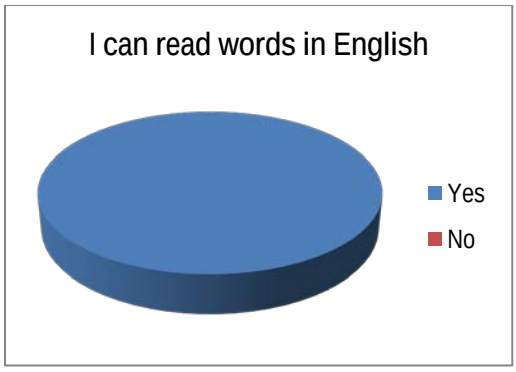

Figure 54. Initial survey. Question3.

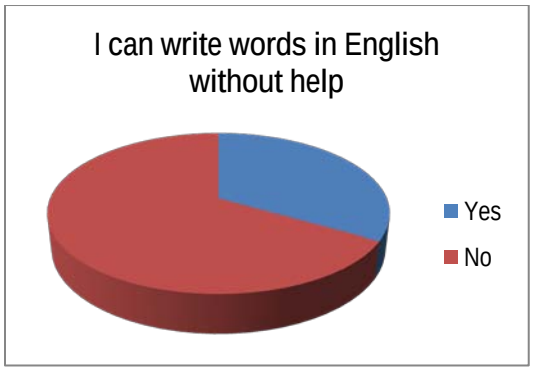

Figure 55. Initial survey. Question 4.

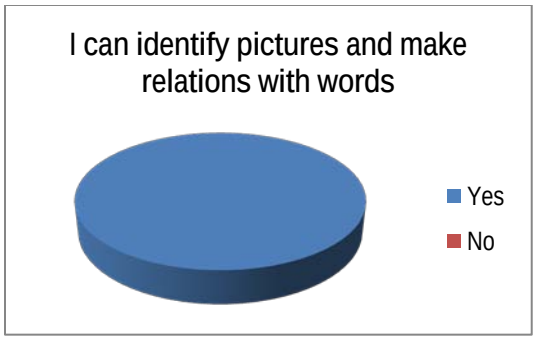

Figure 56. Initial survey. Question5

In the final survey (Appendix H) we identified that students liked the activities and considered that they could identify and write the words easily

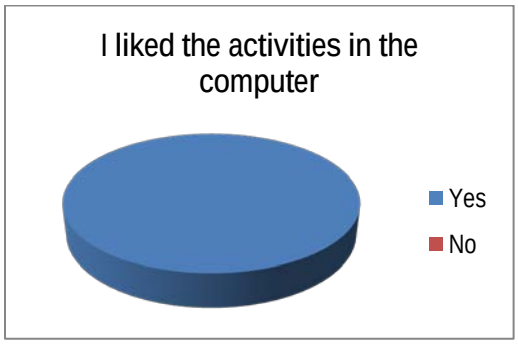

Figure 57. Final survey. Question1.

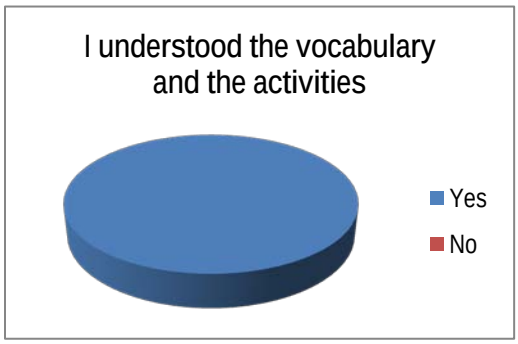

Figure 58. Final survey. Question 2.

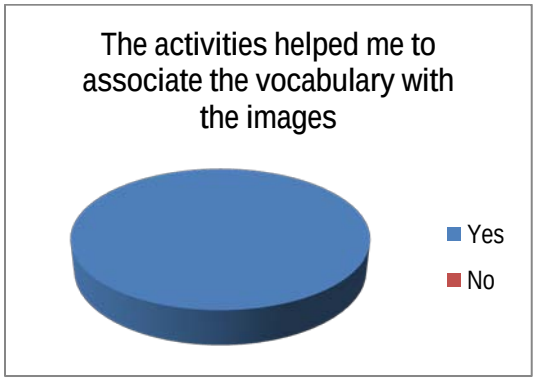

Figure 59. Final survey. Question3.

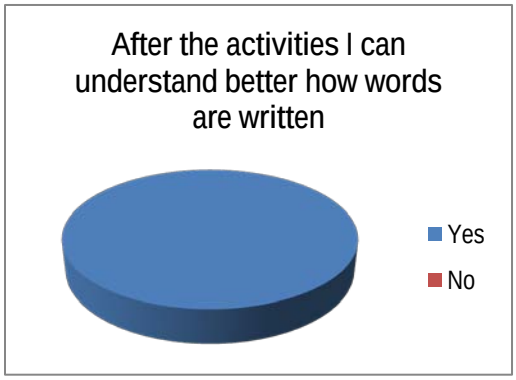

Figure 60. Final survey. Question 4.

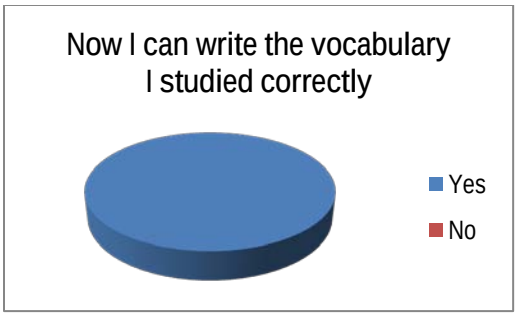

Figure 61. Final survey. Question 2.

Creating a Timeline

This step allowed us to keep a detailed record of what was done in each of the sessions. We used the instructional timeline stated by Sagor (Appendix M). With this tool we found that a total of 43 activities were designed in Jclic. Despite it was invested twelve sessions in the implementation, only in nine of them a new activity was implemented. In the nine activities designed we found that: in six exercises we had included puzzles; in seven animations we had a presentation time where students click on the pictures in order to listen and repeat to the words, and their spellings; in all of the activities, students had to type the complete words with the purpose of completing the whole task; five crosswords and four one-answer question were designed to reach this goal; five activities to find pairs; five matching exercises; two cloze activities; five scramble; two word search; and two activities where they had to choose the correct spelled word.

Checking Performance

This step permitted us to see the improvements that children had throughout the implementation process. We used the data from the tests to place it in a chronological sequence, per participant and session and compared the results of the test with the score obtained on the activities, which was registered in the students' logs.

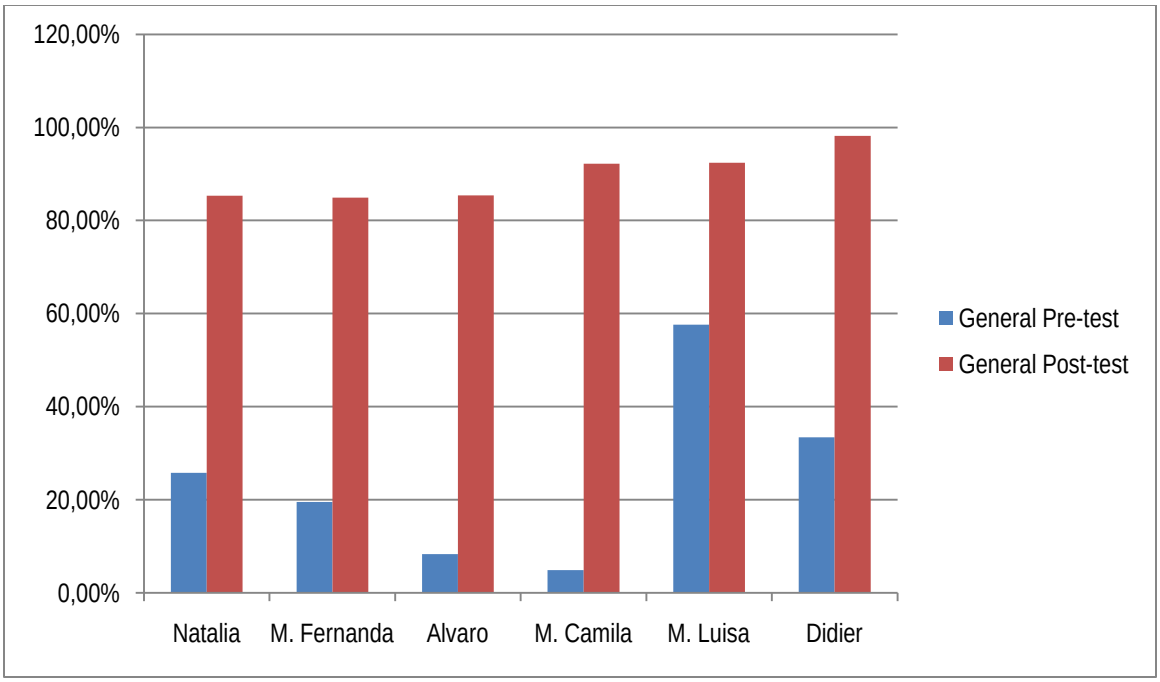

Figure 62. Performance comparison.

In this graphic the scores collected in the general pre-test and the general post-tests were compared. In the general pre-test participants got an average of 24.9% on their performance whereas in the general post-test they had a performance of 90.4%. These results reflect an improvement of about 65.5% with the implementation of the activities designed through Jclic.

Checking the tests, it was found that the first activity was the most difficult for learners. Some of the reasons might be the lack of experience students had to develop this kind of exercises, the amount of words and the absence of a listening guidance to facilitate the process.

Comparing Data from Questions 1 and 2 and Drawing Tentative Assertions

These steps allowed us to see the performance and the possible actions that influenced the changes. We identified changing patterns here and started to reflect on the findings and identify relationships and correlation between performance and actions. As we are two researchers, we discussed what we found regarding the influence of actions on performance.

After having followed all the stages stated by Sagor and bearing in mind Auerbach and Silverstein's coding procedures (2003), we started to code the data. As we already had the data organized in a chronological sequence, the first step was to highlight the repeating ideas in the answers for the three questions. Then we organized those ideas into themes. After that, we classified the themes into theoretical constructs and from the theoretical constructs we wrote our theoretical narrative "which summarizes what we had learned about our research concerns" (Auerbach & Silverstein, 2003)

The process explained along this chapter allowed us to frame the data in two main categories: accuracy in spelling and technology to design meaningful and motivational activities. This last category was divided into two subcategories: staging motivation and technology in the teaching practice

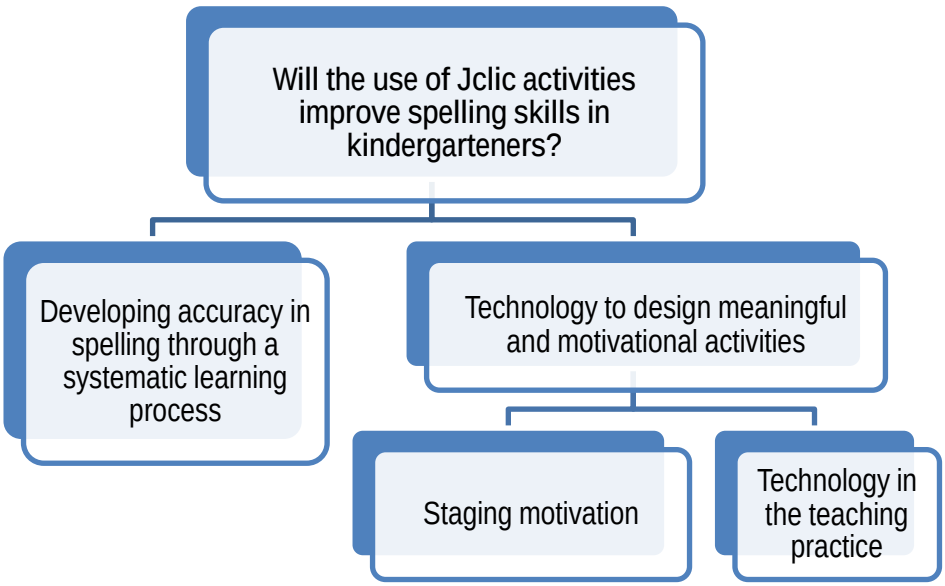

Figure 63. Categories and subcategories.

First category: Developing accuracy in Spelling through a systematic learning process. This category emanates from the general aim of this project which objective was to

improve the spelling skills in a group of kindergarteners, bearing in mind the importance of directing teaching since early grades with the purpose of helping students to spell accurately (Meeks, 2003). During the initial test and pre-tests[8] that participants took, we noticed an inaccurate spelling in written utterances although they knew the meaning of the words and had already studied the vocabulary in the English class. In this sense, according to our research in the development of the process of these participants in the English class, they had learned to spell incidentally rather than systematically; and "incidental learning is indirect learning, that takes place when the learner's attention is centered not on improving the skill in question, but on some other objective" (Hildreth, 1956). This means that, although participants were exposed to an apparently clear and effective learning method like presenting and activating vocabulary in context through realistic patterns and appealing dialogues in each module of their English book, they only had the possibility to learn words visually and by sounds without a systematic teaching of spelling or any follow up process after each module of study, because each module has its own aims and objectives. The following excerpt contains clear examples about the way students used to write some of the target words before implementing the project. As it is noticed, they spelled some words the way they sound in Spanish.

[8] The initial test provided the information needed to plan the activities for the implementation process, meanwhile the pre-test provided information about the learner's spelling level about the target vocabulary before each session.

Figure 64. Session 1. General pre-test

Consequently, in order to address efficiently with this situation, the first step was to include appropriately new material along the sessions taking into account the previous established cognitive field learners had (Ausubel, 1968). Then, in line with Patterson (1961) who stated that "when pupils follow a systematic method make much greater progress and retain their learning better than those given no directions for learning to spell", we also implemented a program based on the vocabulary from different topics that participants had studied during the English classes with the aim of evolving the student's verbal, visual and perceptual-motor ability to spell[9] (Peters, 1970). With this objective, every session included practices like: Puzzles, cloze, scramble and matching activities, crosswords, listening exercises, writing, word searching, among others; so that learners had the possibility to say the words aloud, to have a visual perception of the word and to develop carefulness in writing every word. The following excerpt is a sample of the exercise related to a matching finding pairs' activity in the project.

[99]These are the three essential factors which must be taught to learn to spell successfully, emerged in a research carried out in 1970 by Margaret L. Peters from the Cambridge Institute of Education.

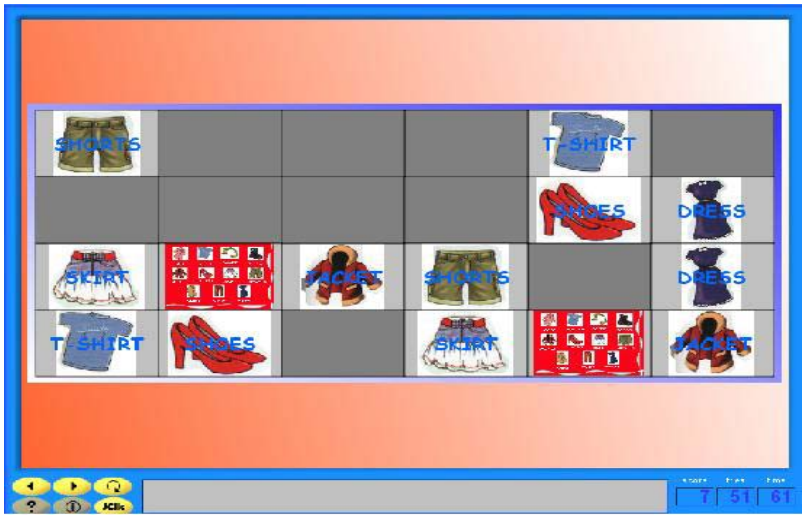

Figure 65. Session 2. Activity 2.

During the first sessions, it was manifested the level of difficulty participants had to carry out the activities for two reasons: first, because they were not used to work in processes like those and students were not familiarized with the software; second, because of the level of difficulty they had in spelling. For addressing those difficulties, we followed the routine proposed by Horn (1919) and Arvidson (1963), which is: 1- LOOK: Learners pay special attention to the word so that they can remember easily. 2- COVER: Students try to remember what they just saw. 3- WRITE: Participants use their memory to practice writing. 4- CHECK: Students revise what they have done so far and repeat any of the previous steps again if necessary. The following figures are an example of the routine implemented in the session related to numbers.

Figure 66. Look: Organizing a puzzle per number

Figure 67. Cover: Finding pairs of numbers

Figure 68. Write: Organizing letters according to the number they see.

Figure 69. Check: Completing a crossword based on the number they listen.

As in this session, every activity started by modeling appropriately each of the words students were going to find, so that they could identify the spell of each utterance accurately, otherwise the software would not allow them to continue with the activity. During the first four sessions, we noticed that in spite of learners had a mental "word bank", they tended to imitate writing by copying down from their peers or by inventing new words where the letters did not have any relation, because they did not know how to write the words.

> *"With this questionnaire we found out that students had a mental "word bank". This means that they had visual information about the vocabulary and wrote the words inventing random strings of letters and spelling words as they hear them. It was also evident that it was easy for them to write words which spelling is similar to their native language; for instance chocolate, pizza and radio".*

Excerpt 7. Journal: Session 1

Now, in relation to the level of difficulty learners had, especially during the first sessions, and conscious that the ability to spell is caught easily when learners develop other linguistic skills, we decided to include some practices with the alphabet. Our purpose was to help students to catch the spelling easily by developing a good visual perception of word forms through

reading practices and activities that included spelling of the vocabulary, pronunciation of the words and listening activities plus a tutorial with the teachers in charged.

Figure 69. Alphabet practice taken from http://www.learningplanet.com/act/fl/aact/index.asp

Figure 70. Alphabet video taken from http://www.youtube.com/watch?v=MaMS_of8cKU

Figure 71. Alphabet game taken from http://www.youtube.com/watch?v=MaMS_of8cKU

During each class it was evident the progress students had, these insights were registered in the teacher's journal, in the post-test that participants presented, in the scores gotten in the Jclic activities and in the final test. We also observed that most of the students progressed normally, for example they were able to write most of the vocabulary with high degree of automaticity. This does not mean that they did not make errors, but in case they had written any word inappropriately, they could notice it and due to the way the software is designed, they had the strategies for checking and self-correcting words accurately.

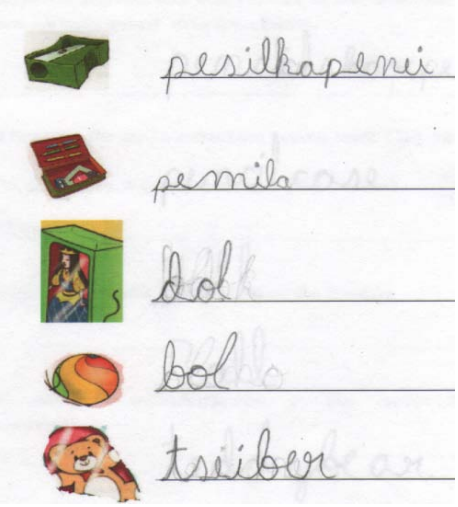

Figure 69. Session 11. Pre-test

Figure 70. Session 11. Post-test

Second category: Technology to design meaningful and motivational activities. This category also arises from the main aim of this project which involved the use of educational software called Jclic to improve the students' ability to spell; this is an open code educative software that allows teachers the design of activities with a specific purpose, while following the track to learners in the development of the tasks. In our case it was used to help participants to improve their spelling skills. This category deals with the development of the activities themselves, which were specially designed to ensure that learners broaden their ability to spell

through a systematic process, constructive feedback and the development of meaningful tasks; as well as the attitude participants had to work along the sessions, their responses and performance every time they had to work with the computer. The following subcategories make part of this finding: *Staging motivation* and *implementing technology in the teaching practice.*

Subcategory 1: Staging motivation. The evidence to this category emerges from the teacher's journal and the final survey. The journal has clear evidence that although it would be easy to conclude that the progress of the participants in this project would be the result of technology itself, motivating someone to do something involves many different things, in our case motivation was focused on effective teaching, which involved instructional clarity in order to facilitate the way students had to follow the intended program and reach the main objective of the project; specially because at the beginning of the implementation learners were not conscious about the use of the software. The excerpt below is one of our insights after the session related to clothes.

> *"This first session with computers was really difficult and we noticed the weaknesses students had in the spelling skills. They confuse letters and type the words according to the pronunciation".*

Excerpt 8. Journal: Session 3

As it is noticed in the example, unless it had not been implemented a clear step-by-step explanation in order to deal with those issues that learners did not know, it would have been not possible to succeed and get the benefits of the activities neither of the software. Along the project we did not only devote the necessary time to make the teaching material relevant for the learners, but we also implemented extra practices with the alphabet in order to increase student's self-confidence, satisfaction and support to develop the activities.

> *"At the end of this class we decided to access some web pages for students to practice the alphabet.*
> *Bearing in mind that students were currently working with computers and that technology offers a huge amount of resources and activities to practice effective learning spelling strategies. Starting this session participants will have the opportunity to practice after each session with different activities than the ones we settled with the purpose of identifying and writing single letters and words. For instance, they will play games, sing songs, practice pronunciation and writing, etc. During these exercises students will also be monitored to encourage them and help them in case any problem arises".*

Excerpt 9. Journal: Session 3

Furthermore, conscious that one of our responsibilities as teachers was to motivate learners, thinking about the importance of expanding a long-term development of these group of participants ability to spell, every task was presented in a way that students could understand what they would be doing by providing an appropriate strategy[10] to do each task during the implementation stage: look-cover-write-check[11]; plus clear instructions and techniques like explaining things simply, showing examples, giving enough time for practice, repeating things, etc. This excerpt from the teacher's journal exemplifies our reflections at the end of session six.

> *"At this point most of the students have already finished the activity and had time to review some of the previous lessons. Since our purpose is to enhance these students spelling skills we have decided to allocate some time to complement the previous lessons by allowing a free practice, especially with those words where learners have encountered more difficulties".*

Excerpt 10. Journal: Session 6

[10] "Strategies are those specific attacks that we make on a given problem, and that vary considerably within each individual" (Brown, 2007). Chamot defined strategies as "procedures that facilitate a learning task…strategies are most often conscious and goal driven" (as cited in Brown, 2007)
Learning strategies are procedures learners use relate to input, to processing, storage and retrieval, that is, to taking in messages from others (Brown, 2007)

[11] With this strategy the child is trained to look carefully at the structure of the word, endeavor to memorize it, and then make an attempt to reproduce the whole Word

On the other hand, as it was previously stated the implementation of technology was not the only motivational event in this process but also the inclusion of an effective teaching practice. For instance, although the final survey does not reveal specific information about the motivational practices followed in the program, it can be inferred from question 1 and 2 that the techniques employed during the implementation made students feel at ease to work. The following graphics show the results obtained in the first two questions from the final survey.

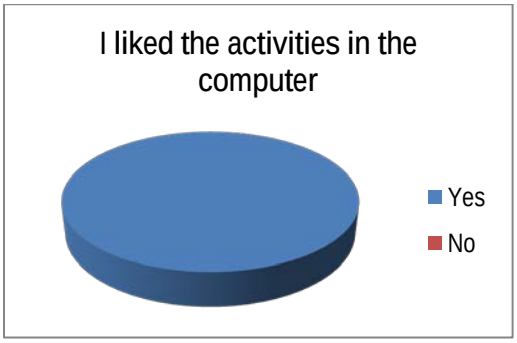

Figure 71. Final survey. Question 1.

In the first question, the six participants said they liked the activities. This result reflects that the teaching material designed specifically to address the main objective of the study was relevant and enjoyable for the learners which according to Dörnyei (2001) are important motivational strategies that help learners achieve the learning goals.

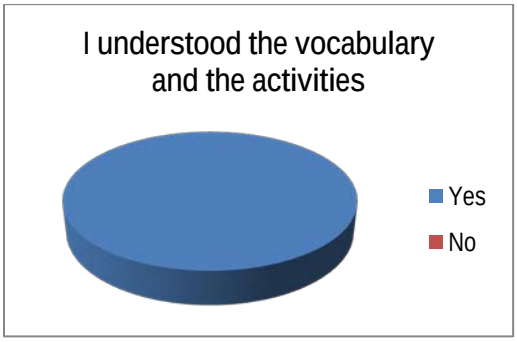

Figure 72. Final survey. Question 2.

Regarding the second question, the participants expressed they understood the vocabulary and the activities. This understanding is the result of devoting the necessary time to a topic until there was evidence of participants' comprehension. Besides, each "class" was developed following the specific steps of: looking, covering, writing, and checking. By devoting time and having a clear routine are methodological teaching issues that enhance children's motivation.

Subcategory 2. Technology in the teaching practice. The advance students had in the development of each activity is evident in the teacher's journal and the log. In the project, the inclusion of computers and technology was useful to help students gain confidence and automaticity due to sequential and repetitive process students needed to relate to what they already knew. Taking into account that since the beginning of the project our purpose was to help these participants to "catch" an accurate and assertive spell of the vocabulary that they had studied in their English textbook, the activities designed in the educational software Jclic facilitated the retention of written utterances. The following figure is an example of the way the software provided practice and over learning in the task related to school objects in one of the students.

Maria Camila				
Session's number	Activity	Number of times the students accessed to the activity	Time spent on the activity	Score
11 (45')	Presentation	2	6	
	Matching (find pairs)	2	7	80%
	Puzzle (doll)	2	3	85%
	Puzzle (ball)	2	3	85%
	Puzzle (teddy bear)	2	3	85%
	Puzzle (pencil sharpener)	2	3	85%
	Puzzle (pencil case)	4	3	85%
	Fill in the letter	3	9	90%
	Crossword	4	8	95%
	TOTAL	**18**	**45'**	**86%**

Figure 73. Log. Session11.

Along the process, we also noticed that students were engaged and motivated to complete every task thanks to the use of the computer which constituted in a vehicle to master the way the target vocabulary was written due to the repetitive lessons, its consistency and patience in every practice. The next excerpt shows a perception we had after students finished one of the sessions related to food.

> *"Learners have gained confidence in the use of the computer software. Now, trying to get a conclusion for our research project, we can say that it was a good strategy the implementation of technology to improve this learner's spelling performance. This practice has provoked a positive attitude in participants, has contributed to master the spelling of the words, has enhanced their writing skills and their memory".*

Excerpt 10. Journal: Session 9

Now, since the purpose of the implementation of the software into the teaching practice, was to increase the learner's ability to spell, the way in which activities were designed contributed to make use of a form of subversive teaching, this means that learners were unaware of the objectives of the tasks they were working at, because the Jclic software is designed in such a way that allow the creation of engaging activities such as memory games, puzzle, crosswords, word search, etc, which had embedded the pedagogical objective meanwhile learners had the perception of being playing. The following figure is a sample of the exercise related to numbers, implemented in the project.

Figure 74. Session 5. Activity 1.

To conclude, after the data analysis process, it can be evidenced that the implementation of the educational software Jclic may constitute a valuable approach to improve spelling skills in kindergarteners. Nevertheless, it is necessary to pursue a systematical method that includes meaningful tasks and bears in mind the motivational strategies and techniques to engage students.

CHAPTER 6: Conclusion, Pedagogical Implications and Further Research

In this chapter we present the conclusions, pedagogical implications, limitations, and recommendations for further research in relation to the findings and analysis of data according to the purpose of this project which was to improve the spelling skills in a group of kindergarteners through the implementation of Jclic activities. These are our deductions.

Conclusions

The first conclusion is related to the use of technology in the classroom, which according to our research is a good strategy to use technology to enhance the language learning process in students. In our case the use of computers and technology, specifically the use of the educational software Jclic in the classroom, became a useful device to work and to help students with spelling difficulties, which besides providing us the opportunity to design meaningful activities in the form of games, also provided pleasure to participants and the opportunity to learn while playing thanks to the repetitive practice, the feedback that the software provided and the interaction (learning by doing and learning from mistakes) students had in the search of a learning goal embedded in the process.

Our second conclusion is related to a consistent attitude from the language teachers to help students "caught" the ability to spell. According to the results and the evidence that we gathered at the end of the research process, these learners' skills to spell increased due to a systematic teaching process. In this case we followed the routine proposed by Horn (1919) and Arvidson (1963): Look-cover-write-check using a group of words previously studied by learners in the English class along twelve sessions. During each "lesson" learners had the opportunity to play with the vocabulary and to internalize the way each utterance was written.

The third conclusion is related to the way learners can be motivated to work on a desired activity. In our case the objectives of the project were also reached due to an effective teaching and clear instructions on each stage of the implementation. Our strategies consisted in giving clear explanations about each step learners had to follow in which we spent the necessary time to explain things, to repeat tasks in case they were difficult to understand, to provide enough time for practice, etc.

The fourth conclusion has relation to the development of meaningful tasks to help learners to relate the new knowledge with the existing cognitive structure they had. In this case the design of the activities contributed to reach the objectives of the project because they were designed based on fifty words already familiar for students. This fact contributed to the internalization of the visual characteristic of the words due to the extensive experience students had.

Pedagogical Implications

In relation to the pedagogical implications, according to the surveys and the analysis of the tests presented by students, we could realize that they had learned to spell the intended words incidentally, in this sense our recommendations for teachers is to open a brief period of time on several occasions in each week to focus on a group of words related to a theme studied within the curriculum (Chandler, 2000; Yetter, 2001), so that the spelling instruction never be abandoned within the language classroom (Bouffler, 1997); the objective is to complement the attention given to this important part of the English program and enhance the students literacy skills. Consequently, this study along with the technological tool, the strategies and the

procedure included on it may constitute a starting point for language teachers at the school as a way to reflect more on their teaching practices regarding the spelling skill.

Limitations

The limitations that we had during the implementation of the project were related to technological issues: lack of headphones and Jclic reports; and individual differences among spellers.

In relation to the headphones, as the implementation took place during the time of vacations, these devices were taken by the technician of the school from the English laboratory to be repaired; therefore learners could not follow the listening exercises during the first two sessions and we had to repeat them after getting other receivers for the following “lessons”. Regarding the educational software, as it is designed in such way that it can keep information about the performance of the students; unfortunately, we could not find out the way to save those reports in the server and they were really important for the data analysis. A time consuming solution that we found in this case was to wait until each student had finished each activity in order to copy the data in the logs.

On the topic of the individual differences among spellers, since all the learners did not have the same ability to spell due to the individual response each of them had according to the process of spelling they had received (Graham, Harris and Loynachan 1996), within the group of learners we had students with higher confidence to spell than others; hence we had to provide abundant opportunities to develop the activities once and again to ensure that these participant’s ability to spell had advanced. At the same time this situation was a good opportunity for competent spellers who had further practice.

Further Research

Finally, our recommendation for advance research is focused on designing Jclic activities for teaching sentence construction. As the use of the software Jclic became a good instrument to design educational activities, as well as a good strategy to motivate students to learn due to the power technology has over learners; it would be a good strategy to use it for other language activities like accurate writing of sentences. In any case, it is important to take into account that children need the teacher to model any strategy implemented in the classroom with the purpose of guiding them toward the correct process, to instruct them in the right way of developing each activity, to assist participants according to their needs, and to provide several opportunities to practice what they have learned inside the classroom.

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Appendix A

Consent Letter Principal

Bogotá, 2009

Señora:
Ruby Parra Amaya
RECTORA
Liceo Patria
Bogotá

Apreciada rectora:

Actualmente estamos realizando una investigación dirigida a estudiantes de transición del Liceo Patria, la cual intenta contribuir al proceso de aprendizaje de la lengua extranjera tras la creación e implementación de actividades en un software cuyo nombre es Jclic.

El objetivo de este estudio es analizar si las habilidades de escritura (ortografía) en Ingles presentan una mejoría tras la implementación de actividades diseñadas a través del software y las cuales se desarrollarían en el laboratorio de Ingles durante el periodo vacacional. Cabe anotar que dicha investigación hace parte de nuestro trabajo de grado de la Maestría en la didáctica del Ingles con énfasis en ambientes de aprendizaje autónomo, que actualmente cursamos en la Universidad de la Sabana.

Por lo anterior, comedidamente solicito su consentimiento y colaboración para realizar mi propuesta de investigación, que se llevará a cabo durante el segundo semestre académico del presente año. Esto implica recolectar datos e información de los estudiantes mediante la aplicación de encuestas y logs. Eventualmente, hare copias de esos instrumentos las cuales servirán de sustento para la redacción del trabajo escrito y para posibles artículos de publicación en revistas académicas.

Igualmente, a los participantes se les garantizará el uso de nombres ficticios para mantener su identidad en el anonimato, así como estricta confidencialidad con la información que se recolecte. El proyecto no tendrá incidencia alguna en las evaluaciones y notas parciales y/o finales del curso.

Agradezco de antemano su valioso aporte para llevar a buen término nuestra investigación.

Atentamente,

_____ _____
DANIA MAGALY CADENA MENDEZ YOLANDA LEGUIZAMON ESPITIA

Autorizo: Si _____ No _____ Firma: _____

Appendix B

Consent Letter Parents

Bogotá, D. C. 2009

Señores:
Padres de familia

Apreciados padres de familia y estudiante:

Actualmente estamos realizando una investigación dirigida a estudiantes de transición del Liceo Patria, la cual intenta contribuir al proceso de aprendizaje de la lengua extranjera tras la creación e implementación de actividades en un software cuyo nombre es Jclic.

El objetivo de este estudio es analizar si las habilidades de escritura (ortografía) en Ingles presentan una mejoría tras la implementación de actividades diseñadas a través del software y las cuales se desarrollarían en el laboratorio de Ingles durante el periodo vacacional. Cabe anotar que dicha investigación hace parte de nuestro trabajo de grado de la Maestría en la didáctica del Ingles con énfasis en ambientes de aprendizaje autónomo, que actualmente cursamos en la Universidad de la Sabana.

Por lo anterior, comedidamente solicito su consentimiento y colaboración para realizar nuestra propuesta de investigación. Esto implica llevar al niño (a) al colegio y recogerlo, recolectar datos e información de los estudiantes mediante la aplicación de encuestas y el desarrollo de las actividades en el colegio. Eventualmente, haremos copias de esos instrumentos las cuales servirán de sustento para la redacción del trabajo escrito y para posibles artículos de publicación en revistas académicas.

Igualmente, a los participantes se les garantizará el uso de nombres ficticios para mantener su identidad en el anonimato, así como estricta confidencialidad con la información que se recolecte. El proyecto no tendrá incidencia alguna en las evaluaciones y notas parciales y/o finales del curso.

Cabe anotar, que esta idea ha sido previamente apoyada por la señora Ruby Parra Amaya rectora del colegio.

Agradezco de antemano su valioso aporte para llevar a buen término nuestra investigación.

Atentamente,

_____ _____
DANIA MAGALY CADENA MENDEZ YOLANDA LEGUIZAMON ESPITIA

Nombre del estudiante: _____

Autorizo: Si _____ No _____ Firma del acudiente: _____

Appendix C

Survey for English Teachers

Dear teacher,

The following survey aims at looking for information regarding the importance given to spelling skills in an English Language Teaching Context. There are not correct or incorrect answers but the data given will be of valuable importance for the research process we will carry out here in the school.

Thanks for your cooperation and time.

1. Number each of the skills, according to the importance you consider they have in students learning process. Bear in mind that the number one (1) is the most important and number five (5) is the one you give less importance.

Listening	Reading	Spelling	Writing	Speaking
☐	☐	☐	☐	☐

2. From the answers given above, support why the skill number 1 is the most important for you.

_____
_____
_____
_____.

3. Regarding your answer in question 1, support why you consider the skill number 5 the less important.

_____
_____
_____
_____.

4. Do you teach spelling to your students? If the answer is yes explain how.

Yes ☐ No ☐

_____
_____
_____.

5. In the book you follow with your students is there any section, unit, exercise, that devote time to teach spelling?

   Yes ☐ No ☐

6. According to your experience, is spelling learnt in a systematic way or is it an unconscious process?

   Systematic ☐ Unconscious ☐

Appendix D

Initial Survey for Students

Querido estudiante,

Esta es una encuesta que busca recolectar información acerca de las dificultades que tienes al aprender Ingles. No existen respuestas correctas o incorrectas pero las respuestas que nos des serán de gran ayuda para que tus teachers te ayuden a superar tus dificultades.

<table>
<tr><td colspan="3"> 
En frente de cada oración traza una (X) sobre la carita  si te sientes a gusto; o una (X) sobre la carita  si se te dificulta.</td></tr>
<tr><td>Me gustan mis clases de Ingles</td><td>  </td><td>  </td></tr>
<tr><td>Entiendo cuando me hablan en Ingles</td><td>  </td><td>  </td></tr>
<tr><td>Puedo leer palabritas en Ingles</td><td>  </td><td>  </td></tr>
<tr><td>Puedo escribir palabras en Ingles sin necesidad de copiarme</td><td>  </td><td>  </td></tr>
<tr><td>Identifico imágenes y las relaciono con palabras</td><td>  </td><td>  </td></tr>
</table>

Appendix E

Teachers' Journal

IMPROVING SPELLING SKILLS IN KINDERGARTENERS THROUGH JCLIC ACTIVITIES

Session No. Topic: Time:

DESCRIPTION	REFLECTION

Appendix F

General Pre-test

EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

PRE-TEST 1.

1. Look at the pictures and write the words with the letters below.

QSARUE RTHEA TRSA LCERCI TIRANLGE

_____ _____ _____ _____ _____

2. Look at the pictures and find the words

P	E	N	C	I	L	S	H	A	R	P	E	N	E	R
A	S	T	E	D	D	Y	B	E	A	R	V	B	U	A
Q	Q	E	R	A	S	E	R	U	M	C	F	G	T	U
Q	W	E	H	K	J	O	P	D	O	L	L	F	H	H
A	D	V	B	O	O	K	B	N	J	G	E	U	O	P
A	E	T	H	K	O	P	E	D	N	L	B	A	L	L
S	C	H	O	O	L	B	A	G	D	F	H	K	L	X
P	E	N	C	I	L	F	G	H	N	M	W	E	U	O
O	P	P	E	N	C	I	L	C	A	S	E	S	D	K
E	G	Y	P	T	D	G	H	R	U	L	E	R	D	L

EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

3. Complete the words and match them with the pictures.





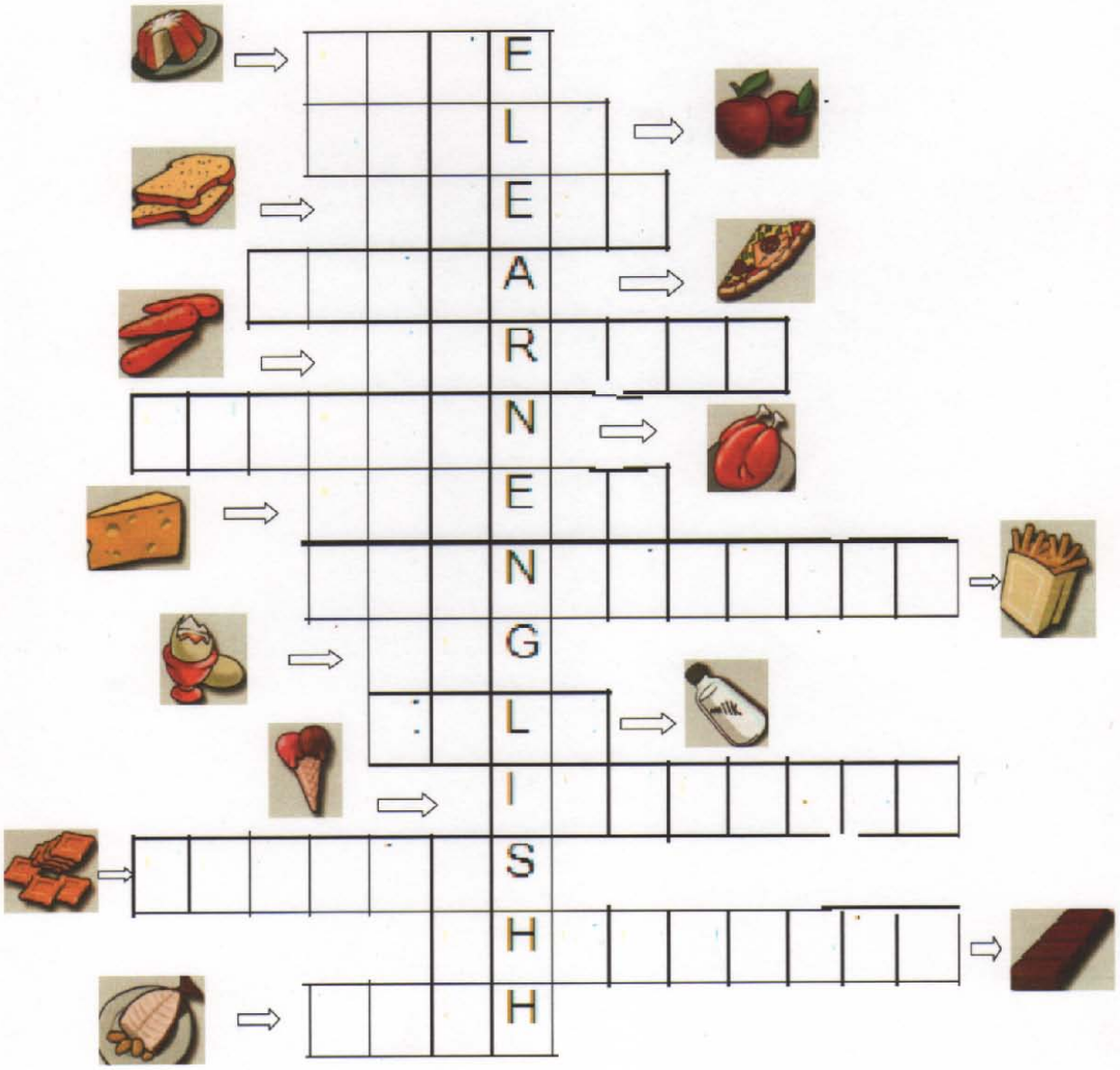

1. B _ _ T S
2. S _ O E S
3. _ A C K _ T
4. C _ _ T
5. S K _ R _
6. P A _ _ S
7. S _ O R T _
8. D _ E _ _
9. S H I _ _
10. T S H I _ _
11. S C _ R _





EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

4. Look at the pictures and complete the crossword puzzle.



EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

5. Write the numbers

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Appendix G

Log

Student's name: Alvaro				
Session's number	Activity	Number of times the students accessed to the activity	Time spent on the activity	Score
2	Puzzle	4	15	98%
	Matching (find pairs)	3	15	10%
	Matching (pictures-words)	3	15	15%
	Filling the letter	3	15	10%
	Scramble	3	15	10%
	Crossword	3	15	5%
	Total	19	90	24.6%

Appendix H

Final Survey

EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

Final survey for students

Querido estudiante,

Esta es una encuesta que busca conocer tu opinión acerca de las actividades que desarrollaste con el fin de mejorar tu nivel de spelling en el área de Inglés. No existen respuestas correctas o incorrectas pero las respuestas que des serán de gran ayuda para tus teachers.

En frente de cada oración traza una (X) sobre la carita  **si te sentiste a gusto; o una (X) sobre**  **la carita si se te dificultó.** 		
Me gustaron las actividades de Inglés		
Entendí el vocabulario y las actividades que debía desarrollar		
Las actividades me ayudaron a asociar con mayor precisión el vocabulario con las imágenes		
Después de las actividades entiendo mas fácilmente la forma como están escritas las palabras		
Ahora puedo escribir con mayor facilidad el vocabulario que estudie		

Appendix I

General Post-test

EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

PRE-TEST 1.

1. Look at the pictures and write the words with the letters below.

QSARUE RTHEA TRSA LCERCI TIRANLGE

_____ _____ _____ _____ _____

2. Look at the pictures and find the words

 _____

 _____

 _____

 _____

 _____

 _____

 _____

EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA



3. Look at the pictures and write the words.





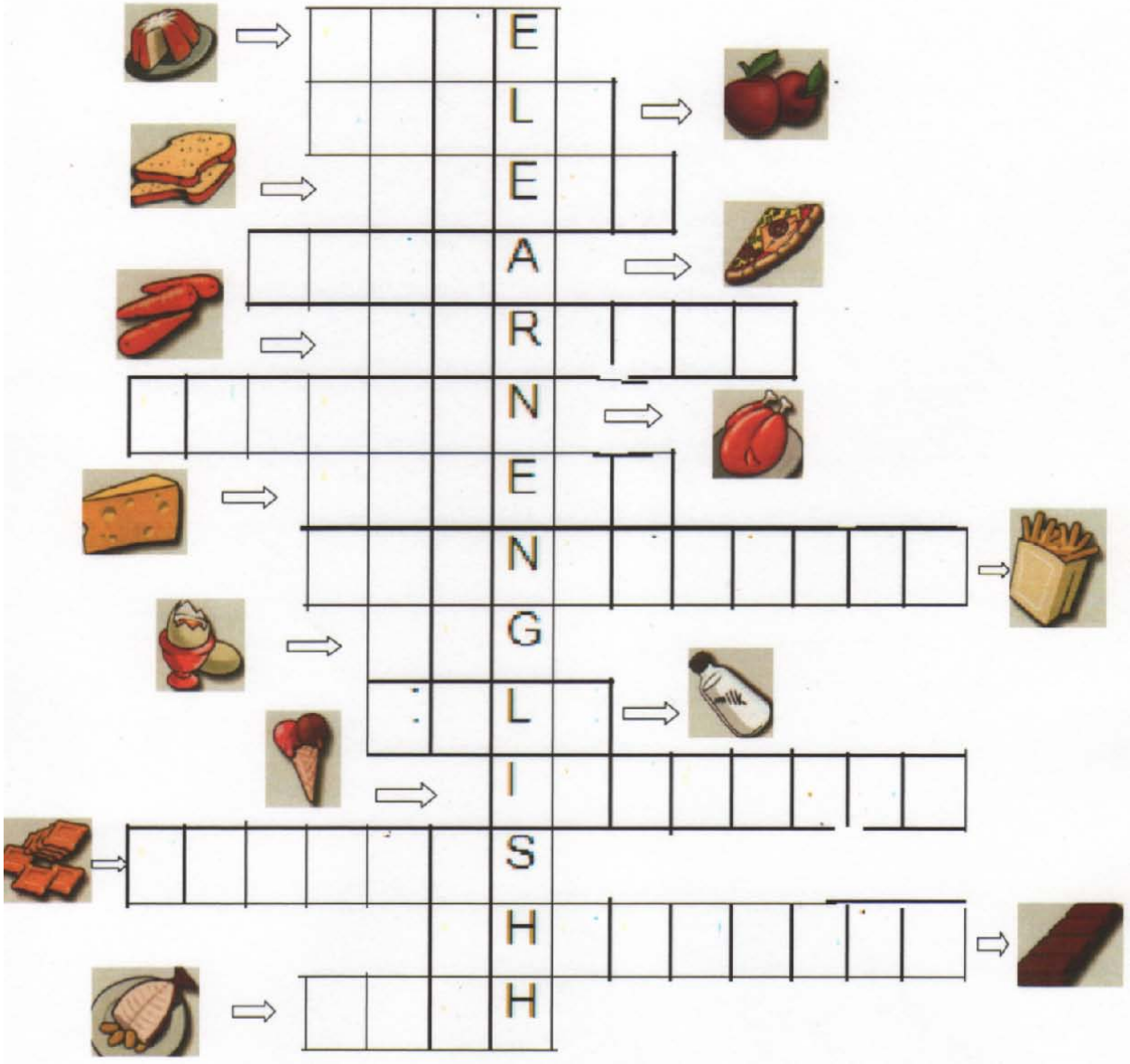






EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

4. Look at the pictures and complete the crossword puzzle.



EJERCITO NACIONAL
LICEOS DEL EJERCITO "PATRIA" SECTOR NORTE "A"
LICEO PATRIA

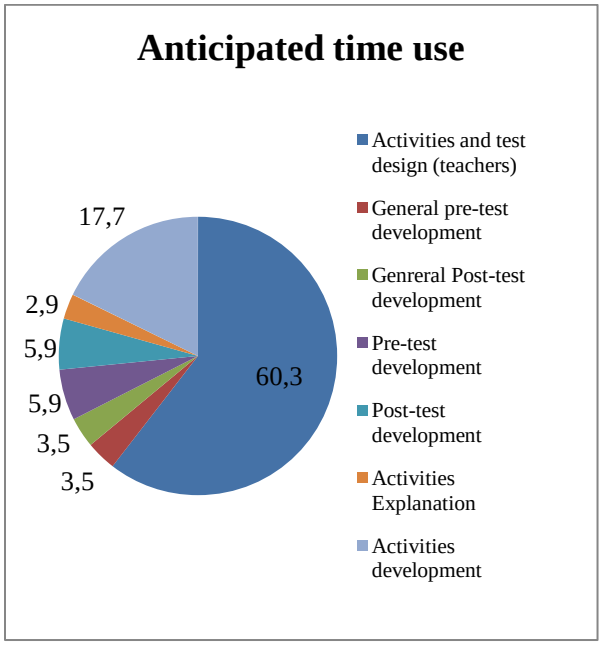
5. Write the numbers

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Appendix J

Time Priority Sheet

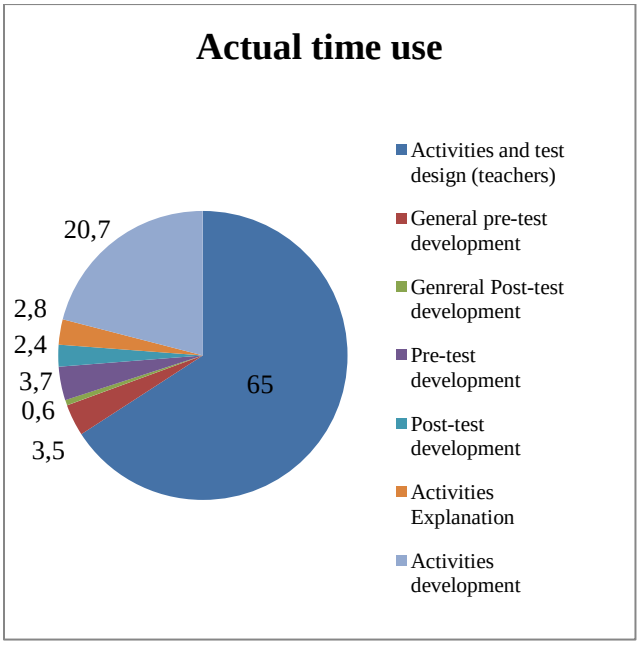
	Session												
Category of action	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Total**
Activities and test design (teachers)	60	90	90	90	90	90	90	90	90	90	90	60	1020
General pre-test development	60	0	0	0	0	0	0	0	0	0	0	0	60
General post-test development	0	0	0	0	0	0	0	0	0	0	0	60	60
Pre-test development	0	10	10	10	10	10	10	10	10	10	10	0	100
Post-test development	0	10	10	10	10	10	10	10	10	10	10	0	100
Activities explanation	0	5	5	5	5	5	5	5	5	5	5	0	50
Activities development	0	30	30	30	30	30	30	30	30	30	30	0	300
Total	120	145	145	145	145	145	145	145	145	145	145	120	1690



Appendix K

Summary time Priority Sheet

	Session												
Category of action	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Total**
Activities and test design (teachers)	120	240	0	240	180	180	120	120	120	120	120	90	1650
General pre-test development	90	0	0	0	0	0	0	0	0	0	0	0	90
General post-test development	0	0	0	0	0	0	0	0	0	0	0	40	40
Pre-test development	0	15	0	10	10	10	10	10	10	10	10	0	95
Post-test development	0	0	15	6	5	7	5	7	6	5	6	0	62
Activities explanation	0	15	0	15	10	8	5	5	5	5	5	0	73
Activities development	0	90	60	60	45	45	45	45	45	45	45	0	525
Total	210	360	75	331	250	250	185	187	186	185	186	130	2535



Appendix L

Patterns Matrix

EVENT OR ACTIVITY	SESSIONS OF OCCURRENCE	FREQUENCY	COMMENTS

Appendix M

Instructional Timeline

Session 1	Session 2	Session 3	Session 4	Session 5	Session 6
Initial survey and the test with the fifty words.	Pre-test with eleven words related to clothes. Six activities designed: A puzzle, two matching activities, a cloze activity, a scramble activity, and a crossword.	We had to repeat the activities of session two. Post-test.	Pre-test numbers 1-5. Five activities: presentation activity, word search, puzzle, scrambling, type the numbers. Post-test.	Pre-test numbers 6-10. Five activities: puzzle, find pairs, scramble, crossword, and type the numbers. Post-test.	Pre-test: circle, square, triangle, star, and heart. Six activities: presentation, find pairs, word search, identify correct word, scramble, and type the words. Post-test.

Session 7	Session 8	Session 9	Session 10	Session 11	Session 12
Pre-test: apple, bread, pizza, carrots, and cake. Four activities: presentation, matching, finding pairs, and crossword. Post-test.	Pre-test: chicken, chocolate, fish, cookies, and ice cream. Four activities: presentation, puzzle, find pairs, and type the words. Post-test. .	Pre-test four: cheese, egg, milk, and French fries. Five activities: Puzzle, presentation, match, choose correct word, type the words. Post-test.	Pre-test: pencil, eraser, book, ruler, and school bag. Four activities: presentation, match, scramble, crossword. Post-test.	Pre-test: pencil sharpener, pencil case, doll, ball, and teddy bear. Five activities: presentation, find pairs, puzzle, cloze, and a crossword. Post-test.	Final survey. Final test with the fifty words we worked during the implementation.