THE PATH TO ENGLISH LITERACY: ANALYZING ELEMENTARY SIGHT WORD PROCUREMENT USING COMPUTER ASSISTED LANGUAGE LEARNING (CALL) IN CONTRAST TO TRADITIONAL METHODOLOGIES

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Abstract

Didactical approaches related to teaching English as a Foreign Language (EFL) have developed into a complex array of instructional methodologies, each having potential benefits attributed to elementary reading development. One such effective practice is Computer Assisted Language Learning (CALL), which uses various forms of technology such as laptops, desktops, headphones, and various software to teach a language. Another operative, more conventional, method involves traditional-based language instruction utilizing teacher-driven edification and paper-based materials without the use of technology.

Given these two instructional variations, this study will examine the quantitative and qualitative effectiveness of teaching Dolch Sight Words (DSW) in South Korean grade six EFL classrooms (n=205, mean age=13) by means of evaluating CALL devices in contrast to more traditional teacher-based approaches. The main research question was to establish how these two methodologies influence DSW comprehension, motivation, and acquisition with a focus on whether CALL is more effectual than traditional practices.

The results revealed that both methods were effective in increasing DSW acquisition rates with the CALL method having a stronger association related to increasing student motivation. The culminating goal of this study was to identify the most beneficial method thus improving teaching practices and consequential student comprehension of the DSW.

Keywords: Literacy development, language learning, technology, motivation, CALL

1. Introduction

The importance of English as a Foreign Language (EFL) sight word instruction with respect to student literacy development has been studied for many years and according to Beechler and Williams (2012), “research shows that building sight word recognition could help them read more fluently, which in turn helps comprehension” (p. 85). These studies are noteworthy

in allowing educators develop effectual literacy programs that promote student success but it must be delivered or taught in an effective manner. In essence, the teaching method must be operative in student progress and motivation; otherwise the instruction will be unsuccessful.

With the advent of Computer Assisted Language Learning (CALL) and its value in language acquisition, more research needs to be directed towards the potential benefits of incorporating computer-based sight word instruction as there are limited studies devoted solely to this form of language learning in an Asian EFL context. Nevertheless, Stepp-Greany (2002) established that technology "…was found to increase learning motivation and interest, develop positive attitudes toward learning, result in higher-order thinking and better recall, as well as improve language skills" (p. 172). In addition, Genç (2012) concluded that students who learned "…in a multimedia-enhanced mode demonstrated significant improvement in listening skills when compared to learners who completed the same syllabus in a traditional classroom mode" (p. 44). Undoubtedly, the use of computers is becoming more common in language instruction as "Computer Assisted Language Learning (CALL) is increasingly being used for educational purposes throughout the world" (Chen, 2012, p. 100). It can improve student development by targeting diverse language learning styles and motivational desires that a traditional classroom fails to accomplish and should be considered in all language education programs.

In contrast, traditional instruction methods involving lessons directed by teachers using non-technological instruments have been used more frequently and are better suited to specific language learning styles in certain circumstantial settings. For example, "…recent research in second language acquisition suggests that certain traditional practices in Asia, such as memorization and form-focused learning, which were believed to be ineffective, may have an important role to play in teaching and learning" (Wang & Hill, 2011, p. 206). Certain students in Asia prefer a traditional teaching pedagogy in the classroom as it is the customary form of instruction that they have grown accustomed to from an early age. These teaching strategies can consequently better target language learning if the students are familiar with this delivery method and strive to succeed in such environments.

Therefore, this innovative study focused on investigating whether using CALL to learn the Dolch Sight Words (DSW) can increase recognition, retention, comprehension, and motivation to learn in contrast to traditional methodologies. As Helman and Burns (2008) stated, "becoming proficient readers who not only decode but also understand what they are reading is a crucial goal for young ELL students" (p. 18). In essence, learning the DSW helps emergent readers meet this goal by increasing aptitudes and accordingly this investigation will

evaluate the most effective teaching method in which to reach this important aim. It will put learners on the path to English literacy by inducing foundational elementary reading development and improving success.

2. Literature review

Prior to presenting the effectiveness of these two teaching methods, a general description of the DSW is necessary. It is a five level list (Pre-Primer, Primer, First, Second, Third) encompassing 220 frequently used and essential vocabulary that has been effective in cultivating fundamental reading development for almost a century. It is a vital part of any reading curriculum. As Yaw, Parkhurst, and Booher (2011) explain, "many of the 220 Dolch words cannot be 'sounded out' using common sound-to-letter implicit phonics patterns and must be learned by sight; hence, the alternative term, 'sightword'" (pp. 46–47). Due to the difficulty in phonetically decoding these words, they are not easily acquired because "beginning ELL readers will focus much of their reading energy on sounding out words and noticing their spelling patterns" (Helman & Burns, 2008, p. 17). Frustration and de-motivation can occur if learners cannot sound out the words using strategies that they have previously used with success. Therefore, "of particular importance in developing early reading foundational skills is the development of 'sight word' reading comprehension" (Meadan, Stoner, & Parette, 2008, p. 46). As literacy is such a vital skill to acquire in foreign language acquisition, it can be implied that learning the DSW needs precedence as these words are foundational in further reading development.

The commonality of DSW in children's English literature is significant where "…50-75% of all words used in school books, library books, newspapers, and magazines are in the Dolch Basic Sight Vocabulary of 220 words (preschool thru grade 3)" (*Sight Word Instruction Expectation and Goal Setting Guide*, 2012). This creates a problem in South Korea as "…ELLs may have fewer experiences with print materials in English, thereby reducing exposure to specific words that could become part of a sight word vocabulary" (Helman & Burns, 2008, p. 15). In an EFL context, language learners have limited contact with English literature, which causes exposure frequency deficiencies. For example, in relation to this study's context, "English for Koreans is learned as a foreign language (EFL) because they are learning English in a country whose L1 is not English …" (Magno, 2010, p. 41). Therefore, the learners in this study do not have the needed exposure to these foundational words compared to what English as a Second Language (ESL) learners would experience. To further explain, "…English is not a second language but a foreign language for Koreans. That is,

there are few chances to speak English because English is not used frequently in daily life" (Jo, 2008, p. 376). The fact that these words are very common and EFL students have limited English reading materials available signifies the need for repeated instruction of the DSW in order to further develop reading competencies.

We now recognize that "researchers have identified vocabulary that occurs very frequently and recommended that English-language teachers give it priority in their classroom practices" (Tran, 2006, p. 157). We also know that "students need to develop an extensive sight word memory bank in order to make texts easier to read and in making meaning of what they read" (Bettis, 2010, p. 16). In essence, learning the DSW can improve elementary literacy development and, as Dolch (1930) famously stated, "when the pupil recognizes these 220 words instantly and easily, he will have a 'capital' of word knowledge with which he can attack any reading matter and, with guessing from context and perhaps some help from sounding, get something out of it" (p. 460). By building a good foundation on which to base further reading progress, students will progress to higher reading levels at an increased rate through improved comprehension.

In regards to using CALL to teach EFL, it can be defined as "…the notion that a desktop or laptop computer explicitly helps our students with input and/or practice activities in order to learn, hence the 'assisted learning' part of the CALL acronym" (Jarvis, 2013, p. 191). It can be seen as a modern-day tool that enhances EFL teaching pedagogy by providing a new platform for learning to take place. Additionally, it can be seen as "…the use of technology in the form of computers, and a transformation process in the institution where the implementation actually takes place" (Timucin, 2006, p. 262). This transformation typically involves teacher perceptions regarding the importance of implementing this teaching method into their classroom. It may be seen as intimidating by educators who are unfamiliar with computer technology, but also is praised by instructors who thrive off using this innovative tool. This is maintained by Jafarian, Soori and Kafipour (2012), who state that "from the beginning till today, the effectiveness of various CALL materials has been depended on pedagogical designs and the way teachers use these materials" (p. 139). When used effectively, they can have positive effects on language learning.

Regardless of these underlying opinions concerning technology use in the classroom, CALL has grown to become an important part of modern language pedagogy and "language instruction that integrates technology has become popular and has had a tremendous impact on language education" (Chen, 2005, p. 31). To demonstrate further, O'Donnell (2006)

provides a sound representation of the use of this methodology in an EFL environment as he states that:

> CALL presents many opportunities for innovative language instruction and learner engagement in the arena of second language acquisition. Engaging the learner is especially important in places where opportunities to use the language in authentic circumstances outside the classroom are largely non-existent. (p. 12)

Using CALL to teach English is a phenomenon that is not going to disappear, but rather increase in importance as resources become more diverse and better suited to EFL learners. It will become the norm in the classroom rather than simply being supplementary or discretionary.

In conclusion, the present study focusing on comparing the benefits of incorporating CALL in contrast to traditional methodology in teaching the DSW to elementary school EFL language learners is a new research topic as "beyond the many testimonials and anecdotal articles there is little research on the effects of CAI with elementary school-aged EFL students and language acquisition conducted within the past decade" (Beechler & Williams, 2012, p. 86). It is hoped that these results will provide a new insight into teaching the DSW in EFL classrooms and signify a need for future instruction using CALL.

3. Methodology

3.1. Research question

This study measured the quantitative and qualitative effects of using computers to teach the DSW in contrast to more traditional instruction by investigating how these methodologies affect student comprehension, motivation, and acquisition. Therefore, the main research question is whether incorporating CALL methods using computer-based technology to teach the DSW are more effective than using traditional teacher-focused instructional techniques without exploiting technological means.

3.2. Context and participants

The subjects in this study were all the grade six students (n=205, mean age=13) attending Doksan Elementary School in Seoul, South Korea. This is a large institution with a total population of 947 students enrolled in kindergarten to grade six classes during the 2012–2013 school year. All grade three to six students are required to take three hours of mandatory English instruction per week as a part of their Korean national curriculum. The socioeconomic status of these participants is considered low and the majority do not study

English outside the school. Their English proficiency levels are deemed to be at a beginner level compared to more affluent areas of Seoul where "many children study English outside of public school. They may take lessons at a language school. Language teachers may visit students' houses. The children may learn English by themselves with some teaching materials" (Mikio, 2008, pp. 386–387). Without this supplementary English education, the participants must rely solely on class instruction to advance their language skills.

3.3. Measurements and testing instruments

The dependent variables were the devices used to collect data and included the preliminary DSW screening assessment, pre definitions and speaking test, post definitions and speaking test, in addition to a concluding survey and informal interviews to measure motivational variances. The method used to enhance the quality and reliability of the measurements involved dual evaluation of the data obtained. All test scores were kept private and confidential as results were not shared with the participants. These instruments were administered by the main Korean English teacher at Doksan Elementary School during regular class time consisting of one 20 minute period per instrument excluding the survey which required approximately 15 minutes. The language used to explain instructions was a combination of English and Korean due to low English proficiency levels and this greatly enhanced the understanding of the tasks required by increasing comprehension.

The preliminary DSW screening assessment was administered to all 205 participants from four different grade six classes in order to gain insight into student knowledge of the 220 DSW in its entirety (Appendix 1). This evaluation was conducted in an English classroom with minimal disturbances in order to reduce incongruities that could augment the results. It consisted of all the DSW on one sheet with an area for students to write the Korean definition beside each word.

To test the effectiveness of the two presented instructional methods and identify a target DSW level for further study, the preliminary DSW screening assessment was analyzed first (Table 1). It indicated that student comprehension levels averaged 81.49% at the primer level, 74.86% at level one, 68.73% at level two, and 67.18% at level three. From this, it was deduced that targeting the third level of the DSW list would be most beneficial as student comprehension was lowest at this level. Additionally, it would produce more reliable results as students would learn new words and show improvement that could be analyzed based on the two instructional methods to be tested.

Table 1: Preliminary DSW Screening Assessment Results.

Target Class	Primer Level /52	Total (%)	First Level /41	Total (%)	Second Level /46	Total (%)	Third Level /40	Total (%)	Overall Correct Words	Average (%)
(6-2)	38.56	74.15	27.48	67.02	29.20	63.48	25.12	62.80	120.36	67.24
(6-4) - Class A	46.00	88.46	32.64	79.61	31.96	69.48	26.96	67.40	137.56	76.85
(6-5) - Class B	40.46	77.81	30.88	75.33	31.35	68.14	26.73	66.83	129.42	72.30
(6-9)	44.48	85.54	31.76	77.46	33.96	73.83	28.68	71.70	138.88	77.59

Moreover, two classes were identified for further study based on the similarities of their results on the preliminary DSW screening assessment, the male/female ratio, and their overall classroom dynamics. The first group was labelled 'the traditional teaching class' (class A) and had a total of 25 students (13 male, 12 female). One male student was absent from class A during the pre-test, therefore his scores were omitted from the final results. The second class was labelled 'the CALL class' (class B) and had a total of 26 students (13 male, 13 female). Due to their comparable outcomes on the preliminary screening assessment in addition to having relatively equal numbers of male and female subjects, these two groups characterized a sound representation of the overall grade six student population at Doksan Elementary School.

The pre and post definition tests were identical in content and included a list of the 41 third level DSW where students were required to write a Korean definition next to each English word (Appendix 2). This measurement was administered before the delivery of instruction and after its completion. The speaking portions of the pre and post-tests consisted of the same instrument, but students were required to provide verbal output for each of the third level DSW. Their responses were recorded on computers using Windows Sound Recorder software and were then converted to an .mp3 format. The results would be used to measure their improvement in DSW definition and speaking comprehension after the two instructional methods were completed.

Subsequently, the concluding survey contained questions that were designed to measure the motivational and contextual benefits of CALL compared to learning in a traditional classroom without technology (Appendix 3). It was initially developed in English and then translated into Korean by the Korean-English teacher in order to facilitate better student understanding of the questions. This instrument was only administered to class B as they were the sole participants involved in the CALL instructional method. The structure and design was

kept simple using a 5 point Likert scale in order to reduce student misinterpretations.

Lastly, informal interviews were held with each participant in class B for approximately 10 minutes in order to further evaluate the results from the survey and gain insight into the motivational variances resulting from CALL usage. They were held individually, in Korean, with the Korean-English teacher facilitating the questioning. The rationale for using Korean was to better understand student opinions and teacher questioning as the participants' English proficiency was too low. Important findings were noted and all themes or shared beliefs expressed by the participants in regards to their motivational deviations were documented.

3.4. Design and procedure

The independent variables in this study were the two methods of instruction consisting of multimedia-focused lessons utilizing CALL and traditional teacher-oriented lessons using no technology. Of utmost significance in administering both instructional methods was to keep the lesson content consistent between the classes. A great amount of time was devoted to developing lesson plans that would be very similar for both classes A and B by incorporating the same content, structure, activities, words, and processes. Although the substance was similar in nature, the delivery of instruction was different among the two variables. This consistency of topics would provide more reliable results as both groups would receive analogous subject matter and measurement instruments would prove more accurate as a result.

The procedure for testing the two independent variables commenced with the pre definition and speaking tests to obtain baseline data in which to measure further improvement. After these results were obtained, four lessons related to the DSW were taught over a five week period to each of the two groups focusing on ten words per lesson. One lesson included eleven words due to the total number of DSW in the third level being an odd number of 41.

The duration of each lesson was 50 minutes with a review of previous words at the start of each class and a review of the words presented that day at the end. All lessons were taught by the Korean-English teacher who has extensive training and experience as an EFL instructor. No teacher changes occurred during the study thereby eliminating input-related variances. Occasional clarifying instructions and explanations were conducted in Korean due to the low English proficiency levels.

The teaching instruments used in class A's lessons included traditional methods without the use of technology or computers. Such things as paper-based English/Korean

flashcards (Appendix IV), comprehension worksheets (Appendix V, Appendix VI, Appendix VII), individual and group-related DSW games (Appendix VIII), teacher-directed listen-and-repeat drills, in addition to whiteboard usage were employed in each lesson. The setting was the main English classroom and this remained constant. The DSW were presented in English using the teacher as the model and no audio technology was employed.

The instructional devices used in class B's instruction are listed in the appendix and included instruments that incorporated the use of CALL into all aspects of lesson design. For example, time-delayed English/Korean PowerPoint flashcards with integrated listen and repeat audio drills (Video 1, Video 2, Video 3, Video 4), Smart Board usage, interactive online DSW games (Video 5, Video 6, Video 7), and comprehension videos (Video 8, Video 9, Video 10) were utilized. The setting was the school computer lab equipped with windows based computers, headphones, microphones, and a Smart Board. All of the DSW were presented using CALL in the form of audio recordings in PowerPoint and online games with a native English speaker as the model.

After completing the two instructional methods, the post definition and speaking tests were administered to both classes A and B. The results were tallied and compiled using Microsoft Excel in order to examine the effectiveness of each teaching method and to show related variances. Once again, dual evaluation of the data occurred in order to enhance the consistency of the results.

The final testing instruments overseen were the survey measuring motivational variances related to CALL instruction and the informal interviews held afterwards in order to obtain further understanding of the survey results.

4. Results and findings

After carefully reviewing and analyzing the collection of data, some interesting findings were identified. Some of the outcomes were expected while others came as a surprise. Essentially, the results proved that the traditional instruction method was only slightly more effective in increasing the overall acquisition rates of the DSW in this context. That being said, the CALL method proved to be effective as well, but in different aspects of student development, mostly related to increased motivation.

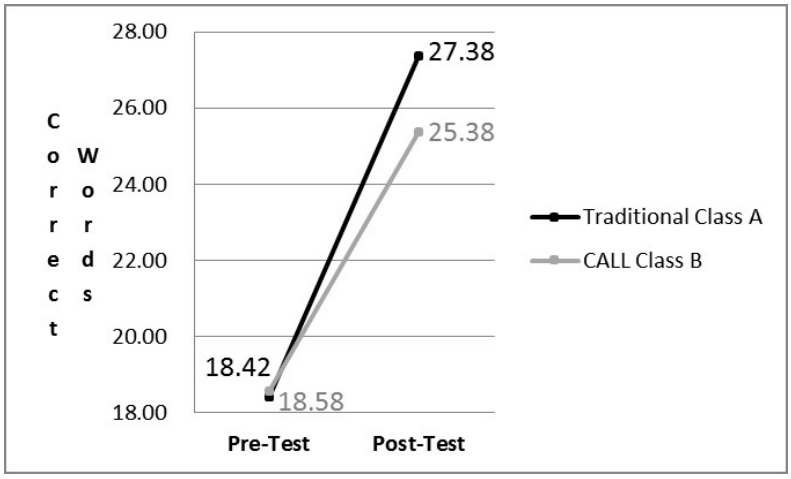
All results for the pre and post tests were out of 41 DSW at the third level and averages were compiled based on the entire class numbers. In order to further analyze the results, the data will be apportioned into sections with each evaluation instrument exhibited separately.

4.1. Pre and post definition tests

In class A, the pre-test revealed that the students successfully defined an average of 18.42 DSW. When given the post-test after the traditional instruction method was completed, they defined an average of 27.38 DSW. Therefore, this instructional method led to an increasing acquisition rate of 8.96 DSW.

In comparison, the pre-test for class B resulted in students defining an average of 18.58 DSW while the post-test results showed an average of 25.38 DSW. This represents an increasing acquisition rate of 6.81 DSW after the completion of the CALL lessons (Figure 1).

Figure 1: Definition test results comparing CALL and traditional instruction methodologies.



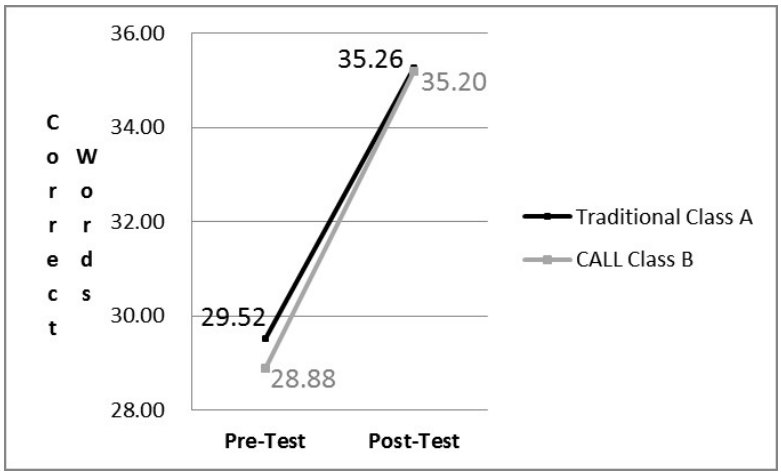
When examining the definition results of the two instructional methods, we see that the traditional method resulted in students comprehending the definition or meaning of 2.15 more words in comparison to using the CALL instructional method. This represents a very inconsequential difference, but still proves that using a traditional method to teach DSW is slightly more effective when teaching definitions to the students in this context.

4.2. Pre and post speaking tests

In this part of the evaluations, class A demonstrated that they could verbally produce an average of 29.52 of the DSW on the pre-test. After the traditional instructional method was completed, they averaged 35.26 and this represents an increasing acquisition rate of 5.74 DSW.

In contrast, class B effectively produced an average of 28.88 DSW on the pre-test whereas they averaged 35.20 DSW on the post-test. This class documented an increasing acquisition rate of 5.32 from the pre to post speaking tests (Figure 2).

Figure 2: Speaking test results comparing CALL and traditional instruction.



The results were very similar between class A and B for the speaking portion of the tests. In evaluating the most effective teaching method in relation to speaking acquisition rates, the traditional method resulted in students knowing .42 more words, which represents an insignificant difference. Therefore, both instructional methods proved to be equally effective in teaching students how to pronounce or speak the DSW and no instructional method proved to be more beneficial in speaking development

4.3. Survey of motivational variances

After the conclusion of the CALL instructional method, the survey used to measure student motivation when learning with computers proved that the students in class B were more enthused and enjoyed using computers to learn the DSW. All of the questions indicated positive results by providing the following student reactions:

- Found using CALL more interesting than traditional methods (25 students)
- Thought the online games were interesting and fun (23 students)
- Believed using a computer was a better way to learn English (22 students)
- Were more motivated using CALL (21 students)
- Felt they learned better using this method (20 students)

The only question that showed a negative response was if they would rather stay in class to learn these words without computers (12 students). This can be attributed to the fact that students may have misunderstood the question by thinking that it meant to stay in the computer lab which they clearly wanted to do. This was confirmed through further questioning with the students during the interviews.

This survey was specifically designed to measure student enthusiasm and the data proves that CALL does increase motivational levels. They really enjoyed using computers to acquire the DSW and wanted to continue similar lessons. They especially enjoyed the games and this increased motivation to learn, which is in line with Kirikkaya, İşeri, and Vurkaya's study, where they found "using games in lessons increases students' motivation as well as social and academic abilities" (2010, p. 1). This is a positive result of the CALL instructional methodology and one that cannot be overlooked in this study.

4.4. Student interviews

The final step in the procedure involved administration of individual informal interviews. These were important in gaining additional awareness of the intrinsic motivational influences of incorporating CALL in the classroom. Therefore, each student was asked the following questions:

1. Why was using computers more interesting than learning without computers?
2. What part did you find most fun during the computer lessons and why?
3. Why is using a computer a better way to learn English today? What does the future hold?

The interview results verified that these students were extremely motivated to use computers to learn the DSW and wanted to continue learning more words using this method. They stated that it was interesting because it was more exciting and stimulating than listening to a teacher talk at the front of the classroom. Also, working individually meant they could control their own learning and learn aspects that interested them as opposed to just being told what to learn from their teacher. As for the most fun part of the CALL lessons, they all stated that the online games were the most enjoyable and helped them to acquire the words in a different way. Also, the PowerPoint English/Korean flashcards were, in their opinion, beneficial because they were easy to see and hear as opposed to listening to a teacher in front of a classroom of 25 students.

Finally, several students stated an interesting fact as they felt learning English using CALL is something that is going to be a more popular in the future and even may take over for English teachers. This is amusing as students need an instructor to guide their learning, but definitely something that may be possible given the rapid rate of technological advances in the field of language learning and CALL.

Overall, the interviews provided concrete confirmations that the CALL methods benefited these students and provided them with an opportunity to increase their knowledge of the DSW

with an underlying motivational stimulus. This is in line with Bekele's (2010) study, where they found that "…consequently, adequate levels of student motivation is key to success" (Bekele, 2010, p. 124). By being more motivational, it increased acquisition thus improving their literacy development in this study.

5. Discussion and limitations

When comparing the effectiveness of CALL in contrast to traditional methods, one would assume that computers would considerably increase the acquisition rate due to student interest in using technology in addition to the uniqueness of the method. In reality, the effectiveness of each method depends on a variety of contextual, situational, cultural, and environmental factors that brought forth mixed results when comparing the two instructional techniques in this study. In addition, in reference to digital game-based (DGB) technologies, "students' learning motivation, learning ability, and playing skill could be key factors that collectively influence the effectiveness of knowledge acquisition in DGB" (Tsai, Yu, & Hsiao, 2012, p. 240). Essentially, there are a large variety of stimuli that affect the effectiveness of each of the presented teaching methods and in order to highlight these important elements and explain the limitations, they will each be discussed separately in the sections that follow.

5.1. Familiarity with instructional method

Historically in Korean English education, the instructional method has been centered on teacher-focused audio-lingual approaches with listen-and-repeat drills or rote memorization similar to the method tested in class A's instruction. This teaching culture in South Korea has been part of their educational pedagogy for a long time. As Magno (2010) states, cultural background "…is influential too because rote memorization and other forms of memorization were found to be more prevalent to Asian students as compared to other cultural backgrounds" (p. 44). Textbooks are utilized more than computers and technology is used sparingly with the exception of an occasional video or PowerPoint presentation used for content comprehension. Most worksheets and activities are paper or textbook based which is a format that students are familiar with. They generally do not have regular individual access to computers when learning English within public schools. Therefore, as O'Donnell states, "applying CALL to the Korean context presents unique opportunities and difficulties due to the socio-cultural and educational environment" (2006, p. 22).

As a result, Korean students are trained at a young age to learn in this type of individualistic environment. Due to this attentiveness, they understand how to perform well

under these circumstances and proved this with slightly higher scores in the traditional classroom. When presented with the CALL method, students were occasionally confused and sometimes had difficulties following directions. They were unfamiliar with this style of instruction and their scores reflected this.

5.2. Classroom speaking anxiety

Within the traditional instruction classroom, all students could hear each other orally produce the DSW and would notice if someone made a mistake. Many male students explained in the interviews how their fear was that other students in the class would hear their mistake and would think negatively of them or make fun of them. Wong (2009) explains how speaking anxiety affects output where "if students are too scared to speak up in class, they can't have any opportunities to practice and improve their oral skills" (p. 4). Speaking anxiety is a major issue in Korean English education and affected the results of this study in the traditional classroom.

In contrast, the CALL instruction method was conducted individually with headphones thus students could practice without the fear of making mistakes. Speaking anxiety was minimalized in this method and the male students reported that they felt more confident in this setting because it targeted their preferred language learning style. To exemplify, "language learning styles and strategies appear to be among the most important variables influencing performance in a second language" (Oxford, 1989, p. 4). The CALL method is clearly an effective tool in targeting certain language learning styles and has the positive effect of lowering speaking anxiety compared to traditional classroom instruction.

Notably, the fact that they could clearly hear the words due to wearing headphones greatly helped with their DSW retention compared to the traditional classroom method where it was sometimes harder to interpret the words due to the large class size and in-class distractions. This fact also helped the boys feel more confident as they had a better understanding of how to pronounce the words, thus they improved their speaking test scores compared to the girls.

5.3. Gender-related issues

An interesting finding from this study was the fact that the girls had a much higher prior knowledge of the DSW and achieved greater gains in acquisition rates with the exception of the boys' results on the CALL speaking tests. The girls tended to take the lessons more seriously, listened to directions, and stayed on task while the boys were generally more

distracted. The girls performed much better on the definition tests in both instructional methods achieving higher scores in these areas.

Meanwhile the boys showed greater improvement on only the CALL speaking tests. This can be attributed to the fact that the girls paid closer attention to the instructions and stayed focused during the definition portion of teaching, thus retaining more DSW than the boys. In contrast, the boys did better on the CALL speaking tests because they had more confidence and the test was conducted individually without the fear of having fellow classmates hear their mistakes. These gender-related disparities are interesting and warrant further investigation.

5.4. Computer literacy levels

A final noteworthy limitation was the low computer literacy levels exhibited by the participants. Although almost all students had computers in their homes and had regular access to them in their daily lives, the majority did not have the knowledge of how to use basic computer-related programs nor did they possess reasonable English typing skills. This can be attributed to the fact that, as stated in the interviews, most of these students spend their time playing computer games and rarely had a need to use PowerPoint, open a video file, or type in English.

Correspondingly, the popularity of smartphone usage among the students resulted in their decreased ability to effectively use computer programs as the majority of their phone time is spent playing games or typing in Korea. This adds to the problem as they continue to have reduced exposure to English based typing instruction or computer program usage. These contributing factors had a role in the lower than expected results related to the effectiveness of the CALL instruction method.

6. Suggestions for further development

In order to advance this research topic and gain more insight into the benefits of the presented instructional methods, it would be constructive to examine how a class that received a combination of CALL and traditional lessons performed. Thus, instead of measuring two independent variables, a third would be added in order to measure the effectiveness of incorporating both methods in one class. To support the need for this conception, Beechler and Williams (2012) state that “computer-assisted instruction coupled with traditional methods may help ELL students perform at grade level faster than traditional methods alone” (p. 85). Possible lessons would include partial instruction using traditional methods while

using aspects of CALL to supplement the acquisition of the DSW. In an Asian context, and from this specific study, it seems this would be valuable thus further studies would benefit by combining these instructional variables.

7. Conclusion

The DSW continue to be an influential vocabulary list that should be used to increase literacy levels among all elementary EFL students worldwide due to its relevancy and representation of the vocabulary in primary materials (Palmer, 1986). That being said, Edward William Dolch would probably be very surprised with the fact that CALL has become such an influential tool in language instruction and that it increases student motivation in learning his DSW. For example, as Beechler and Williams state, "using computers to assist ESL students learn basic sight words is effective and enhances motivation" (2012, p. 91). This ideology would have gone beyond Dolch's wildest expectations and shows how the progression of language instruction using CALL continues to evolve at a rapid rate.

Nevertheless, this examination of the effectiveness of using CALL in contrast to traditional teaching methods to teach the DSW has proven that, in the South Korean context, both methods have the benefits of improving the acquisition rates of these words. Given the presented limitations and contextual factors affecting each method, it must be stated that teaching these words in an effective manner is an important instructional decision that can have the positive impact of increasing student literacy. By improving DSW comprehension using CALL and traditional methodologies, EFL learners will have a better ability to read children's literature and thus expand upon their literacy levels as "reading fluency and reading comprehension are highly correlated" (Ng & Lam, 2009, p. 169). Learning the DSW is an important first step and emergent EFL learners will benefit greatly when they know all of the 220 words. They can then take this knowledge and use it to move from early emergence to a more advanced reading proficiency level thus moving along the path towards English reading fluency.

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Appendix 1. Preliminary DSW Screening Assessment

Dolch Sight Words Screening Assessment

1. a
2. and
3. away
4. big
5. blue
6. can
7. come
8. down
9. find
10. for
11. funny
12. go
13. help
14. here
15. I
16. in
17. is
18. it
19. jump
20. little
21. look
22. make
23. me
24. my
25. not
26. one
27. play
28. red
29. run
30. said
31. see
32. the
33. three
34. to
35. two
36. up
37. we
38. where
39. yellow
40. you
41. all
42. am
43. are
44. at
45. ate
46. be
47. black
48. brown
49. but
50. came
51. did
52. do
53. eat
54. four
55. get
56. good
57. have
58. he
59. into
60. like
61. must
62. new
63. no
64. now
65. on
66. our
67. out
68. please
69. pretty
70. ran
71. ride
72. saw
73. say
74. she
75. so
76. soon
77. that
78. there
79. they
80. this
81. too
82. under
83. want
84. was
85. well
86. went
87. what
88. white
89. who
90. will
91. with
92. yes
93. after
94. again
95. an
96. any
97. as
98. ask
99. by
100. could
101. every
102. fly
103. from
104. give
105. going
106. had
107. has
108. her
109. him
110. his
111. how
112. just
113. know
114. let
115. live
116. may
117. of
118. old
119. once
120. open
121. over
122. put
123. round
124. some
125. stop
126. take
127. thank
128. them
129. then
130. think
131. walk
132. were
133. when
134. always
135. around
136. because
137. been
138. before
139. best
140. both
141. buy
142. call
143. cold
144. does
145. don't
146. fast
147. first
148. five
149. found
150. gave
151. goes
152. green
153. its
154. made
155. many
156. off
157. or
158. pull
159. read
160. right
161. sing
162. sit
163. sleep
164. tell
165. their
166. these
167. those
168. upon
169. us
170. use
171. very
172. wash
173. which
174. why
175. wish
176. work
177. would
178. write
179. your
180. about
181. better
182. bring
183. carry
184. clean
185. cut
186. done
187. draw
188. drink
189. eight
190. fall
191. far
192. full
193. got
194. grow
195. hold
196. hot
197. hurt
198. if
199. keep
200. kind
201. laugh
202. light
203. long
204. much
205. myself
206. never
207. only
208. own
209. pick
210. seven
211. shall
212. show
213. six
214. small
215. start
216. ten
217. today
218. together
219. try
220. warm

Appendix 2. Pre/Post Definition and Speaking Tests

Dolch Sight Words Assessment - Level Three

1. about _____
2. better _____
3. bring _____
4. carry _____
5. clean _____
6. cut _____
7. done _____
8. draw _____
9. drink _____
10. eight _____
11. fall _____
12. far _____
13. full _____
14. got _____
15. grow _____
16. hold _____
17. hot _____
18. hurt _____
19. if _____
20. keep _____
21. kind _____
22. laugh _____
23. light _____
24. long _____
25. much _____
26. myself _____
27. never _____
28. only _____
29. own _____
30. pick _____
31. seven _____
32. shall _____
33. show _____
34. six _____
35. small _____
36. start _____
37. ten _____
38. today _____
39. together _____
40. try _____
41. warm _____

Appendix 3. Motivational Variances Survey

1. Did using computers make learning the words more interesting?
   컴퓨터를 사용하여 단어를 배우는 것이 더욱 재미있었습니까?

   1- Strongly Agree 매우 그렇다 | 2- Agree 그렇다 | 3- Neutral 보통이다 | 4- Disagree 그렇지 않다 | 5- Strongly Disagree 매우 그렇지 않다.

2. Would you rather stay in class and learn these words without a computer?
   당신은 교실에서 이 단어들을 컴퓨터 없이도 더 배우고 싶습니까?

   1- Strongly Agree 매우 그렇다 | 2- Agree 그렇다 | 3- Neutral 보통이다 | 4- Disagree 그렇지 않다 | 5- Strongly Disagree 매우 그렇지 않다.

3. Did you find the online games interesting and fun?
   당신은 온라인 게임을 하면서 흥미롭고 재미있었습니까?

   1- Strongly Agree 매우 그렇다 | 2- Agree 그렇다 | 3- Neutral 보통이다 | 4- Disagree 그렇지 않다 | 5- Strongly Disagree 매우 그렇지 않다.

4. Is using a computer a better way for you to learn English?
   컴퓨터를 사용하여 영어를 배우는 것이 더 좋은 방법이라고 생각합니까?

   1- Strongly Agree 매우 그렇다 | 2- Agree 그렇다 | 3- Neutral 보통이다 | 4- Disagree 그렇지 않다 | 5- Strongly Disagree 매우 그렇지 않다.

5. Were you more motivated to learn the words using computers?
   컴퓨터를 사용하여 단어를 배우는 게 동기유발이 잘 됩니까?

   1- Strongly Agree 매우 그렇다 | 2- Agree 그렇다 | 3- Neutral 보통이다 | 4- Disagree 그렇지 않다 | 5- Strongly Disagree 매우 그렇지 않다.

6. Do you feel you learned the words better using computers?
   당신은 컴퓨터를 사용하여 영어를 배우는 것이 더 좋다고 느껴집니까?

   1- Strongly Agree 매우 그렇다 | 2- Agree 그렇다 | 3- Neutral 보통이다 | 4- Disagree 그렇지 않다 | 5- Strongly Disagree 매우 그렇지 않다.

Appendix 4. Traditional Paper-Based English/Korean Flashcards

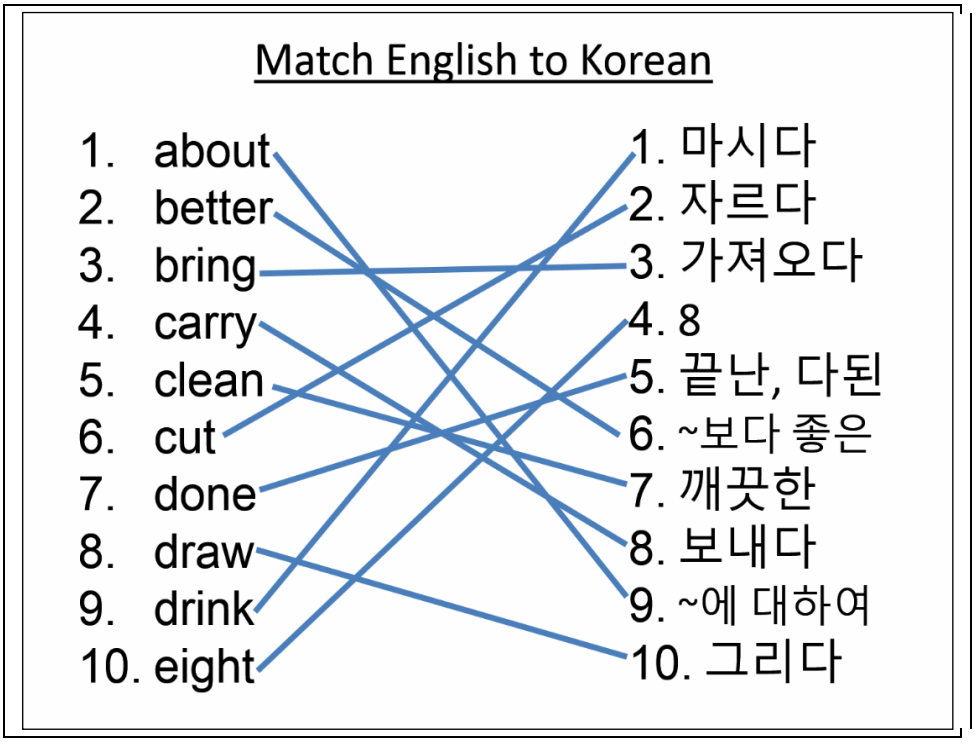
about	~에 대하여
better	~보다 좋은
bring	가져오다
carry	보내다

clean	깨끗한
cut	자르다
done	끝난, 다된
draw	그리다

drink	마시다
eight	8
fall	가을, 떨어지다
far	먼

Appendix 5. Traditional Paper-Based Matching Worksheet

Appendix 6. Traditional Paper-based Matching Worksheet (Answers)



Appendix 7. Traditional Paper-Based Multiple Choice Worksheet

Multiple Choice – Listen and Find the Right Answer

1. Please be home at _____ o'clock.
   a) eight b) every c) sleep d) today
2. I can _____ that toy.
   a) draw b) them c) when d) many
3. Does she know _____ it?
   a) there b) start c) about d) never
4. _____ it to me.
   a) write b) bring c) under d) round
5. They _____ the apple in two.
   a) cut b) but c) ran d) now
6. They want to _____ some water.
   a) right b) every c) those d) drink
7. Please _____ this now.
   a) clean b) their c) there d) would
8. Would you _____ this bag?
   a) where b) carry c) brown d) green
9. It will get _____.
   a) yellow b) better c) little d) always
10. Have you _____ your homework?
    a) four b) your c) done d) hold

Appendix 8. Traditional Paper-Based Classroom Bingo Game

D	O	L	C	H
seven	about	own	draw	far
small	if	today	laugh	start
full	hot	kind	shall	long
hold	pick	together	grow	try
hurt	eight	light	six	bring

http://print-bingo.com

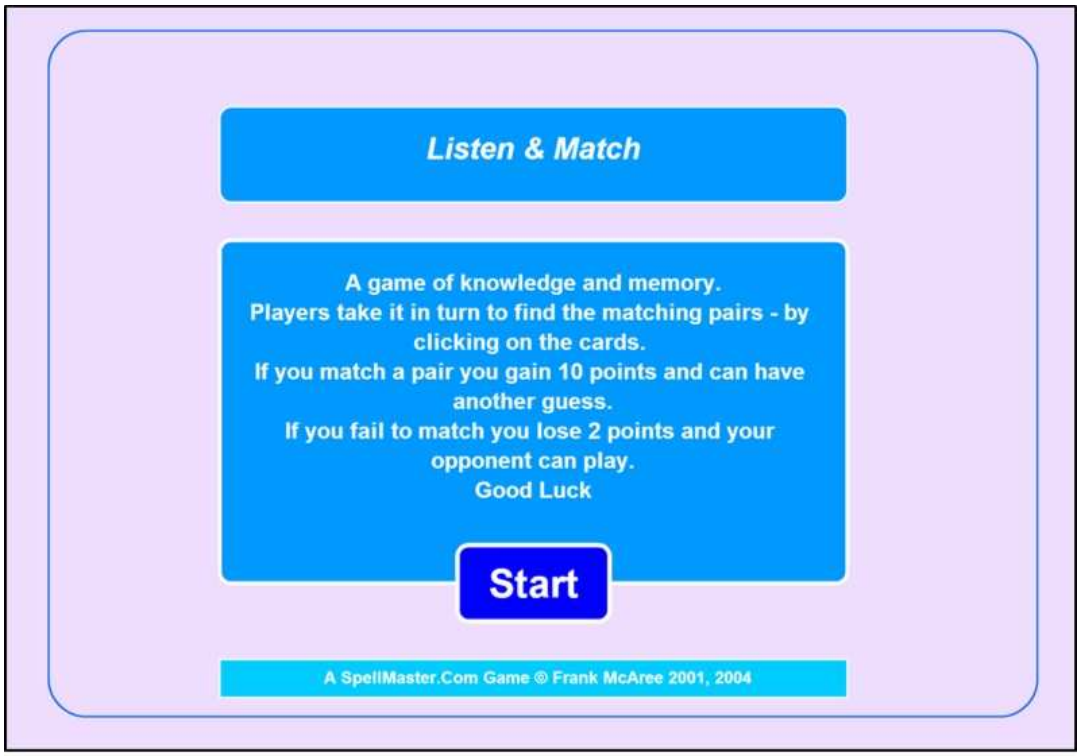
Source: http://print-bingo.com

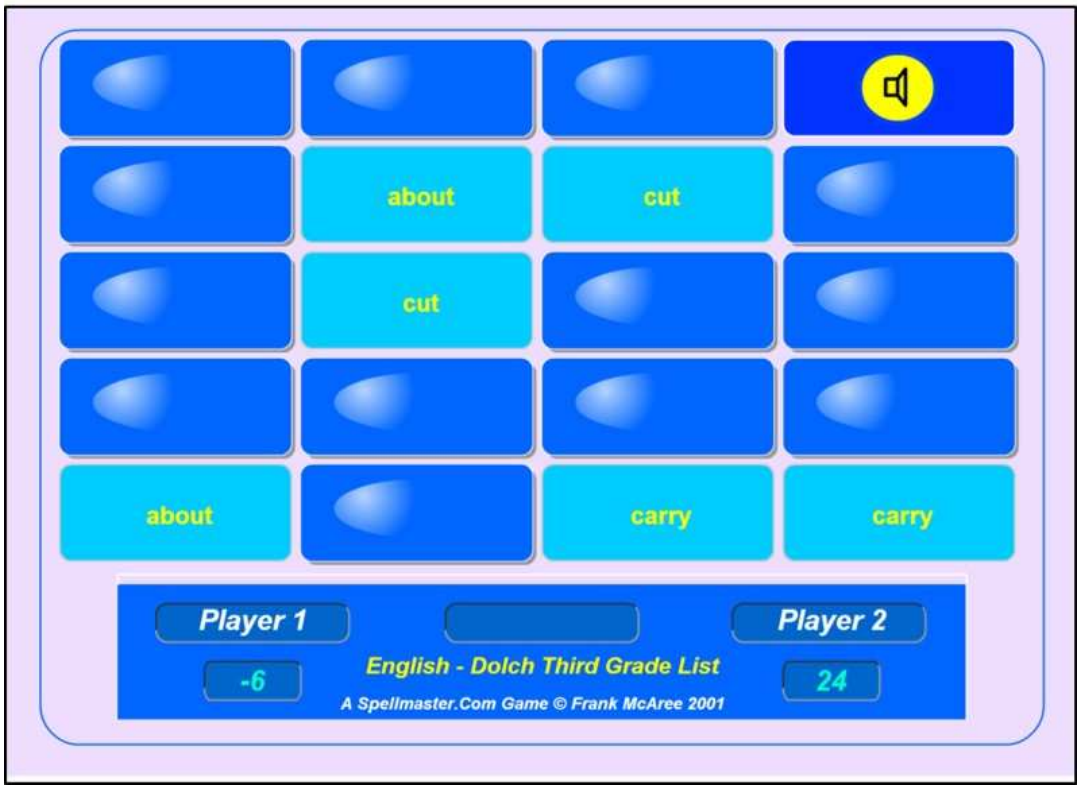
Appendix 9. Screen-Shots of CALL Classroom PowerPoint Lesson

Appendix 10. Screen-Shots of CALL Classroom Online Bingo Game

Source: http://www.abcya.com/dolch_sight_word_bingo.htm

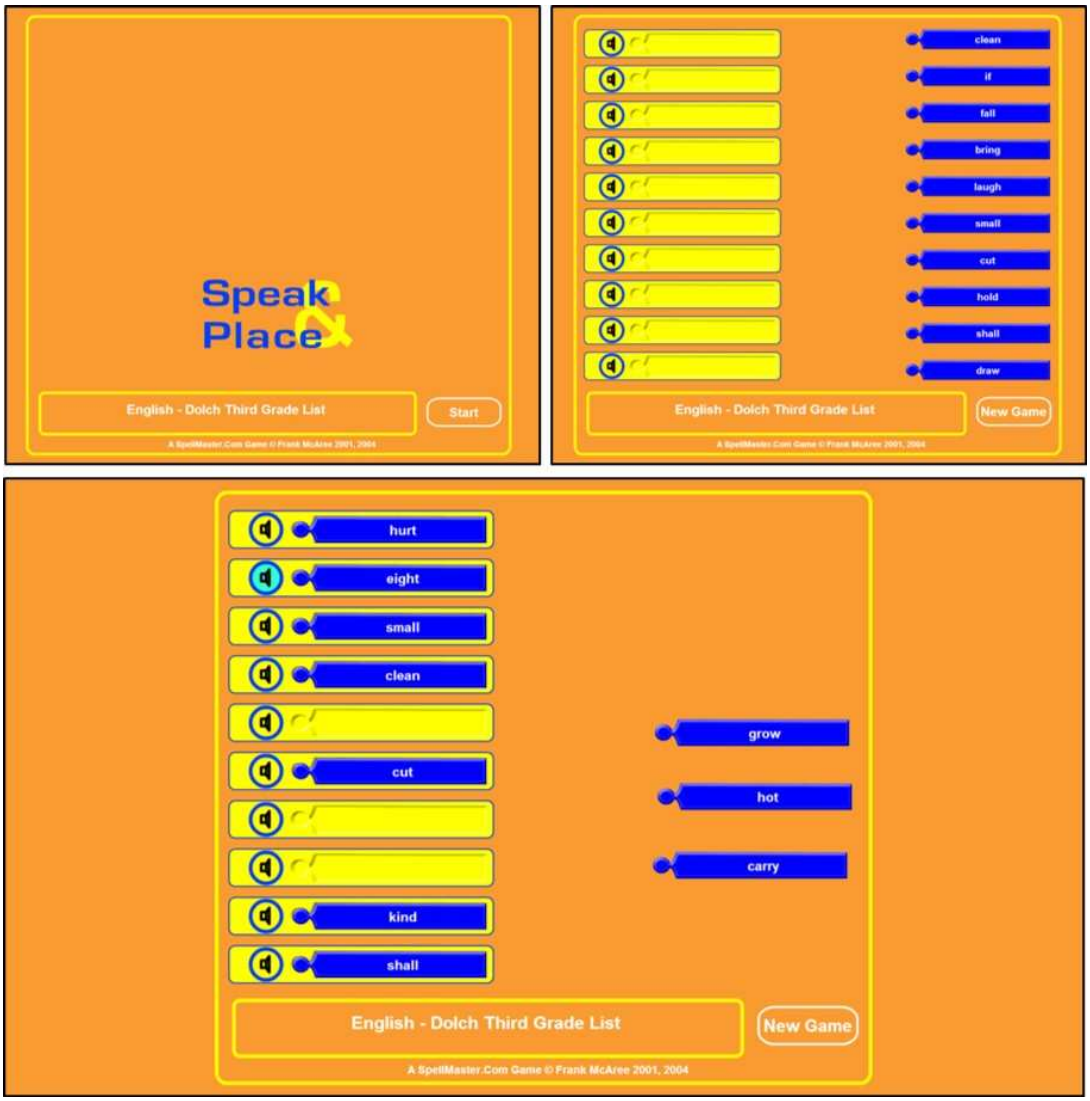
Appendix 11. Screen-Shots of CALL Classroom Online Listen and Match Game





Source: http://www.dolchword.net/thirdgradess/listenmatch.html

Appendix 12. Screen-Shots of CALL Classroom Online Speak and Place Game



Source: http://www.dolchword.net/thirdgradess/jigsound1.html

Appendix 13. Audio and Video Links

Video 1 - http://goo.gl/vv3i4O

Video 2 - http://goo.gl/nnrPSf

Video 3 - http://goo.gl/oXt2LC

Video 4 - http://goo.gl/ibglsw

Video 5 - http://goo.gl/waTWSJ

Video 6 - http://goo.gl/9Lhz4C

Video 7 - http://goo.gl/oZs8vV

Video 8 - http://goo.gl/TQ8lP4

Video 9 - http://goo.gl/gs1DqA

Video 10 - http://goo.gl/PbS6zX