The Picture Word Inductive Model and English Vocabulary Acquisition – A Study in a Swedish Primary School

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Abstract

This essay aims to assess the efficacy of the Picture Word Inductive Model (PWIM) in the acquisition of new English vocabulary for Swedish grade-4 pupils of a primary school in southern Sweden. In this study, two aspects of vocabulary acquisition were concerned, namely, the recognition of vocabulary forms (spelling and pronunciation) and general understanding of word meaning in the short term. The pupils were divided into two groups and the methods were tests; questionnaires and the data were analyzed both qualitatively and quantitatively. After teaching lessons with the PWIM for one group and with using the word-list for the other close-level group, the results show that the group taught by the PWIM gained relatively higher test scores and performed more actively and found the lesson more enjoyable in the classroom. Teaching by the PWIM is found to be effective in learning the new English vocabulary of SLA (Second Language Acquisition). Although this efficacy is not prominent, a larger sample size and longer length of the cycles for the teaching of the PWIM would increase precision and will probably provide a different result for the efficacy of the PWIM in further studies.

Keywords: Picture Word Inductive Model (PWIM), English vocabulary acquisition, Swedish pupils.

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1. Introduction

Children in Sweden enter school at the age of seven and compulsory school in mixed-level classes for a period of nine years. They study English as a compulsory subject for six to seven years, from grade 3/4 to grade 9 (Eriksson, 1993:3). According to the English subject syllabus which is provided by the Swedish National Agency for Education, English is an official language or the mother tongue for a lot of countries with many different cultures, and it is the dominant language of communication all over the world. The English language and other forms of culture from English-speaking countries are widely accessible in Swedish society. A knowledge of English is required in most subjects for primary schools.

Therefore, the purpose of the subject in Sweden is to develop the pupils' English language ability and to encourage their motivation. The structure of the English subject requires different abilities to learn English. Amongst these is the ability to master a language's form of English, i.e. its vocabulary, pronunciation, spelling and grammar – be able to reflect over their learning of words and phrases (Swedish National Agency for Education, 2001). Hence, there is a great necessity to have pupils study English vocabulary. According to Joyce and Calhoun (1998), the Picture Word Inductive Model (PWIM) is an effective teaching method to enhance the acquisition of English vocabulary both for Second Language Acquisition (SLA) learners and young English-speaking learners. In addition, based on the pupils' vocabulary level, this model can be adopted by teachers to further the development of children's reading and writing skills.

The PWIM is developed by Joyce and Calhoun (1998); it uses pictures containing familiar objects and actions to elicit words from children's listening and speaking vocabulary. According to this theory, necessarily, the children study various pictures and then "shake out" the words they have seen. The phrase "shake out" means letting the children discover the English vocabulary which describes the objects or actions in the picture. The teacher then draws a line to the corresponding word or phrase, spells it and has the students repeat the pronunciation and spelling. Joyce, Hrycauk and Calhoun (2001) believe that with experience, practice, and modeling, learners can develop a better understanding of the principles of English as they classify the words according to common letter patterns and "begin to internalize phonetic and structural

principles" (Joyce, Hrycauk, & Calhoun, 2001: 43). It is stated that the PWIM induces learners to classify their new words, building the concepts that will enable them to "make sense" of words they have not seen before. The PWIM can not only be used for teaching the correct spelling or pronunciation of the words that the learners already know; it can also be used for teaching new vocabulary (Joyce, Calhoun, & Hopkins, 2009:64).

1.1 Aim

The aim of the present study is to assess the efficacy of the Picture Word Inductive Model (PWIM) in the acquisition of new English vocabulary among the Swedish grade-4 pupils of a primary school in southern Sweden, to find out whether the Swedish pupils' English vocabulary knowledge of word forms and meaning understanding will be enhanced in the short term through the aid of the PWIM. Two aspects are discussed including the recognition of vocabulary forms (spelling and pronunciation) and general understanding of word meaning in the short term.

1.2 Material and Method

The primary material consists of two vocabulary tests embracing a pre-test and an immediate post-test for each group, a picture selected by the teacher, 10 new English words and 16 second language learners of English. The picture used in teaching was downloaded from the internet (see Appendix 3), and the new words were carefully chosen according to the content of the picuture. Questionnaires were also included in the primary material. The questionnaires were designed to show the children's subjective feelings about the new picture teaching model to find out whether they believed the model was helpful or not. Testing was used to show straightforwardly the results: testing scores of the efficacy by using the PWIM to teach.

The research method is both qualitative and quantitative with the combination of a pre-test and a post-test, questionnaires, teaching two lessons with different teaching methods, and the classroom performance of each group. Both of the tests were immediate tests without notifying them in advance. The study was carried out with a comparison with the typical teaching method for English vocabulary: teaching with a word-list. Hence, there were two groups being taught with

two different teaching methods. One was the control group being taught by the word-list without the picture. The other was the experimental group which was taught by the PWIM. The result were shown through the pupils' performance in the classroom, through their testing scores and answers to the questionnaires. Hence the results were not influenced either by their review or preparation for the tests; the results can truly reflect the pupils' learning process and the progress they had made.

1.2.1 Swedish Pupils

This investigation was conducted in a primary school located in a city of the southern part of Sweden. The participants were 16 grade 4 pupils. All of them are Swedes who were born and brought up in Sweden with no immigration background, and most of them are 11 years old. This primary school is a public school and the grade 4 pupils have studied English for two years. These 16 pupils were divided into two groups: Group A and Group B with 8 pupils for each group. There were 7 boys and 9 girls who are aging from 10 to 11. Most of them are 11 years old. They have learnt English as a second language in the classroom for about two years. Usually they learn English vocabulary with the word-lists of textbooks. They know basic spoken English and can write simple English sentences. Before the lesson, the pre-test paper was handed out for all 16 pupils to test their English vocabulary level. According to their scores for the pre-test, the pupils were categorized and divided into two groups which were on close level. These two groups included the control group – Group A, and the experimental group – Group B. The pupils in Group A were taught by a word-list with 10 new words. The pupils in Group B were taught the same 10 new vocabulary by the PWIM.

1.2.2 The Teacher

In order to keep the results of the research more accurate and to precisely apply the PWIM into practice, the researcher, who is conducting the research in this study, was the teacher for both groups for this teaching program, having a better understanding of the teaching program of application of the PWIM. She respectively taught the pupils of each group a lesson for 40 minutes. When the researcher taught lessons, there was an observer who majored in English Education and was good at taking record of the teaching procedure the observer took the report of how the researcher taught in the classroom towards the two different groups and took records of

not only the teaching procedure but also the reaction of the pupils. In addition, in order to understand the Swedish pupils better, there was another teacher who is the grade 4 pupils' English teacher, assisting the researcher's classroom teaching. She is a middle-age Swedish woman who has taught English for more than 10 years and has taught them for two years. She was well-acquainted with the pupils' English level and she provided her classroom and her 16 pupils to the researcher. She speaks both Swedish and English well. She also helped the researcher to do the translation when the pupils were given some English classroom instructions but failed to understand them. She was also responsible for the translation of the Swedish pupils' utterance of Swedish in the classroom to the researcher so that the researcher could understand the pupils better.

1.2.3 The Picture

The picture (see Appendix 3) used for the PWIM teaching was carefully selected by the researcher, it was colorful and with the size of 24" * 30" which is, according to Calhoun (1999), the optimal size for the children taught by the PWIM to observe the picture in the classroom. "If the picture is large enough to be seen by all members of the class, it is favorable for helping children understand the meaning of a word" (Allen, 1983:24). Allen supports the view that the size of the picture should be big enough to be observed by all the classroom learners and it is beneficial for children to see the total scene or picture in learning word meaning. In this study, the total scene of the picture was large enough to be thoroughly observed by the pupils. With regards to to the content of the picture, when pictures of scenes and content that are understandable to children are displayed, the PWIM cycle starts and the picture can be taken in various situations, and with various culture backgrounds (Joyce, Calhoun, & Hopkins, 2009:59). The picture seemed almost the same as compared to a real photograph (see appendix 3). The content of the picture was about two polar bears standing in a snowfield. The Swedish pupils with a scandinavian culture background can be expected to have a fairly good understanding of the winter scene and the polar bear living in the north pole which is close to Sweden. This picture met the demands for size, content and type of the PWIM.

1.2.4 Vocabulary Tests

There were two tests for the pupils of two groups (Group A and Group B). One was the pre-test which was a placement test; the other was an immediate post-test which was an achievement test. The pre-test was designed to test the English level of the pupils from both Group A and Group B. The pre-test consisted of 15 items including 10 multiple choice items and 5 picture-word matching items. It took 10 minutes to test the 16 pupils before the classroom teaching. According to their scores, the pupils were categorized and divided into two groups which were close in level. The test contained 45 words. All of the words in the test have been taught by their English teacher with the text book of grade 4 (see Appendix 1).

As for the post-test, it was designed to test children's acquisition of new vocabulary in the short term after lessons taught respectively without the picture and with the PWIM. The post-test data were analyzed to discover which group had a better performance in new English vocabulary acquisition after the teaching. The post-test consisted of 30 items including 12 blank-filling items and 11 word matching items, and 7 picture-word matching items which combined with the newly-learned vocabulary. The new vocabulary was chosen according to the picture taught by the PWIM in the lesson. The picture was carefully selected according to the pupils' age, interests and English language level. The selection of new words was aimed to be related with the picture used in the lesson. The selection was, however, not picked at random when it came to form. The word classes which were represented in the test were mainly nouns and adjectives; nouns were given in singular form and the grammar was not the main concern in the testing. because the words were intended to be easily recognizable by all of the participants since failure to understand the vocabulary will affect the results negatively. All of the words were selected according to the picture, and they were included in the post-test which enabled the researcher to test their learning results. The pre-test and post-test are further discussed in the analysis section (see Appendix 1 and Appendix 2). Apart from their post-test scores, their performance in classroom and answers to the questionnaires will also be considered and discussed.

1.2.5 Teaching Program for Group A

Time Duration

One hour: from 12:00 a.m. to 13:00 p.m. May 2nd, 2011.

Place: a classroom which is on the top floor of a teaching building in a public primary school of a southern city in Sweden.

Teacher: the researcher.

Observer: a 24-year's old English-major college student.

Teaching assistant/Interpreter: the pupils' English teacher, a Swede.

Teaching content: There were 10 new English words taught in the classroom as follows: *huge, polar bear, crown, castle, pillar, paw, fur, snowflake, sad, lonely.*

Steps for teaching:

1. Letting the pupils choose the new words they do not know.
2. Giving out the new word-list with 10 words they do not know.
3. Reading out each word and explain their dictionary meaning and letting the pupils recognize the pronunciation, spelling and meaning of the new words. If they have dictionaries, they might be required to look up the meanings of new words.
4. Letting the pupils read out it one by one and spell the words (Repeat reading and read aloud).Then explain the meaning in English.
5. The teacher assisted the pupils to review the previous learning of the new words.
7. Post-testing; time duration: 15 minutes.
8. Questionnaires for the pupils; time duration: 5 minutes.

1.2.6 Teaching program for Group B

Time duration: One hour. From 12:00 to 13:00 May 4th, 2011.

Place: a classroom which is on the top floor of a teaching building in a public primary school of a southern city in Sweden.

Teacher: the researcher.

Observer: a 24-year's old English-major college student.

Teaching assistant/Interpreter: the pupils' English teacher, a Swede.

Teaching content: there were 10 new English words taught in the classroom as follows: *huge, polar bear, crown, castle, pillar, paw, fur, snowflake, sad, lonely.*

Steps for teaching:

1. Showing the pupils a picture (See Appendix 3).
2. "Shaking out" words from the picture i.e. letting the pupils find out the English vocabulary which describes the objects on the picture.
3. Tracing the line from the picture to the words; the teacher read each word out loud and spelt them one by one.
4. Letting the pupils read out it one by one and spell the words (Repeat reading and read aloud); explain the meaning in English.
5. Giving the pupils word cards with English words on one side and corresponding Swedish words on the other side. Letting them check the meaning of the words by looking up from the picture dictionary on the white board.
6. The teacher assisted the pupils to review the previous learning of the new words.
8. Post-testing; time duration: 15 minutes.
9. Questionnaires for the pupils; time duration: 5 minutes.

2. Theoretical Background

In this section, the theories are relevant to the study will be presented one after another. Firstly, the theory of visual scaffolding of pictures/visual images on English vocabulary acquisition for second language learners will be reviewed. Then the PWIM, a new picture teaching model which was applied into practice by the other researchers will be introduced. Moreover, the PWIM involves pictures, memory, and vocabulary acquisition, hence the relationship between these will be discussed in the following sections.

2.1 Pictures/Visual Images and English Vocabulary Acquisition

Among different teaching methods, many researchers believe that the method of using pictures/visual images to teach ESL (English as a Second Language) learners new words benefits English vocabulary acquisition. Schmitt and McCarthy states that the meaning of new words can be learned by studying them with pictures instead of definitions (Schmitt & McCarthy, 1997:212). Kopstein and Roshal argue that pairing L2 words with pictures is better than pairing them with their L1 equivalents in Russian (Kopstein & Roshal, 1954) and Webber also has found the same

conclusion for Indonesian (Webber, 1978). It is possible to hypothesize that pairing L2 words with pictures might be better than pairing them with their L1 equivalents in Swedish. Imagery has been shown to be more effective than mere repetition for reading passages (Steingart & Glock, 1979) and Saltz and Donnenwerth-Nolan demonstrate that imagery is more effective than mere repetition for sentence (Saltz & Donnenwerth-Nolan, 1981), suggesting it could well be more effective for vocabulary too. The aiding of the picture/visual images can promote the learning of new words. In addtion, some scholars like Steingar and Glock state that learners can alternatively create their own mental images of a word's meaning (Steingart & Glock, 1979). Harvey and Goudvis state that if readers/listeners can visualize new words, the words will be more easily understood and remembered (Harvey & Goudvis, 2000).

According to Vale and Feunteun, people are surrounded by visual information in the world, because no matter at home or in public places, information in the form of words and pictures permeates pepople's life, and children learn that there must be a close connection between spoken words and visual information. Children therefore grow up expecting their world to be visual. They are getting used to receiving constant visual support which can communicate with them. (Feunteun & Vale, 1995:105). For young children, reading with picture books supports the learning of written words. There are many popular stories for the young children. These stories are beautifully told through picture books. Hence the conclusion that pictures and other visual aids are extremely important in the teaching of a second language to young learners is drawn by Feunteun and Vale (1995). They also state that the efficient and accessible visual aids in the classroom include the teacher, the children, the blackboard/whiteboard, pictures, word cards, real objects and videos. They also list the following items of how visual aids support classroom teaching:

(1) Support understanding when the children are listening;
(2) Put across the meaning of vocabulary; prompt and support reading;
(3) Provide a topic or visual focus to prompt speaking or writing;
(4) Provide a visual link between L1 and English;
(5) Provide support and motivation for early reading and writing in English;
(6) Provide ways around communication barriers (Feunteun & Vale, 1995:105).

About the requests of size and type for the choosing of picture/visual image, Allen (1983) holds the view that, if the picture is large enough to be seen by all members of the class, it is favorable

for helping children understand the meaning of a word and it is beneficial for children to see the total scene or picture – to see how its parts are related to the whole; a picture will often show a scene/situation in which there are several different objects and persons, while Allen also supports the view that it will also be helpful for children to see a picture of a single object or person as the only focus (Allen, 1983:24).

Concerning the previous theories of using pictures/visual images in teaching, visual scaffolding is "an approach in which the language used in instruction is made more understandable by the display of drawings, pictures or photographs that allow learners to hear English words and connect them to the visual images being displayed" (Herrell & Jordan, 2008: 20). Namely, this approach enables the English vocabulary learning easier to understand. As regard to the first step of applying this approach into classroom teaching, Herrell and Jordan suggest the teachers build a set of visual albums, such as drawings or photographs that can be easily used for teaching. In addition to drawings, photographs and other real objects, video is another visual aid that can be used in scaffolding. They claim that it is possible to film brief video clips including vacation videoes before a lesson so that learners can get a real-life scaffolding as the topic is being discussed. "Visual scaffolding which is a rich source support can be used effectively at all grade levels and across curricular areas" (Herrell & Jordan, 2008: 20). In the view of Herrell and Jordan, there are five steps for planning and carrying out visual scaffolding as follows:

(1) Identifying the vocabulary in the lesson to be taught that can be scaffolded with visual images, such as drawings or photographs.
(2) Finding (or making) photos or line drawings that can be used to visually support the vocabulary needed for the students to understand the lesson.
(3) Reproducing the visuals on transparency film and organize them so that they can be easily used during teaching.
(4) Encouraging students to use the transparency picture file in their presentations or as a way of asking and answering questions.
(5) Continuing to build your file on an ongoing basis (Herrell &Jordan, 2008: 20-2).

Visual scaffolding is a powerful tool for English learners and there are abundant visual resources including "photographs which can be copied or downloaded from the Internet" (Herrell & Jordan, 2008:22) to build the picture albums for use in establishing vocabulary and concept understanding. Apart from the visual scaffolding theory and the theories about teaching with the

pictures, the PWIM, as the theoretical frame for the experimental teaching program, will be introduced in the following section.

2.2 The Picture Word Inductive Model (PWIM) – A Model of Vocabulary Teaching with the Aid of Pictures

The Picture Word Inductive Model (PWIM) is developed by Joyce and Calhoun (1998); it uses pictures containing familiar objects and actions to elicit words from children's listening and speaking vocabulary. The PWIM has been used in Calhoun's teaching for American children in the primary school and the kindergarden since the 1970s (Calhoun, 1999), and it has become more and more popular for the other teachers in teaching young ESL learners. There are some reasons as follows for the increasing popularity of the teaching model. According to the PWIM, necessarily, learners study various pictures and then "shake out" the words they have seen. The phrase "shake out" means to let children find out the English words which describe the objects or actions in the picture. And then the teacher draws a line to the corresponding word or phrase, spelling it and having the students repeat the pronunciation and spelling. According to Joyce, Hrycauk and Calhoun, with practice, experience, and modeling, learners will develop a better understanding of the conventions of English because they can classify the words according to common letter patterns and begin to internalize phonetic and structural principles (Joyce et al., 2001). The suggested sequence of the PWIM requires that learners

– study a picture selected by the teacher;
– identify what they see in the picture for the teacher to label;
– read and review the words generated; use the picture word chart to read their own sets of words;
– classify words according to properties they can identify;
– develop titles, sentences, and paragraphs about their picture (Joyce & Calhoun, 1998).

Wood and Tinajero claim that pictures are "universal stimuli to aid learning that provide a starting point for language sharing in the classroom" (Wood & Tinajero, 2002). With the emphasis of using pictures as a stimuli to teach, the PWIM (Joyce & Calhoun, 1998) incorporates learning, writing, vocabulary, and recognition development as a method of supporting learners who learn English as second language to promote an understanding of "the content knowledge necessary to be successful in all subject areas" (Wood & Tinajero, 2002). Wood and Tinajero consider the PWIM as a model that cannot only be used to teach English but can also be applied

to teach other subjects based on English language. Adams and Huggins (1985), Graves (1992), Swanborn and De Glopper (1999) also support the view that the PWIM is applicable to this development and can address the problem of retention of words and how to move them into long-term memory and make them available for the study of how the English-language alphabet works (Adams & Huggins 1985; Graves 1992; Swanborn & De Glopper 1999).

Apart from using the PWIM to aid vocabulary teaching, some scholars such as Joyce, Calhoun and Hopkins concentrate on its application to the reading/writing curriculum in the early years of schooling in Canada (Joyce, Calhoun, & Hopkins, 2009:59). The PWIM focuses on learning to read and to write through inquisitiveness, which is a natural ability for children. "[The PWIM] Teaching [teaches] the students how to learn to read gives them the key to learn the culture, to reach into its writings, to succeed not just in school" (Joyce, et al., 2009: 54). According to Joyce, Calhoun and Hopkins, firstly, the PWIM is designed to meet the challenge of combining children's natural ability with teaching and it supports the research about how literacy is acquired and on research underlying several of the theories of learning with pictures; these researches have been describing in the previous section (see more in 2.1). Secondly, the model is designed to adapt to language arts curriculums for primary level beginning readers, for older beginning or for early-stage readers. Its essence is "to help learners inquire into language and learn to build generalizations about how letters, words, phrases, sentences and longer text work together" (Joyce et al., 2009:59). The model also includes a set of tools to assist teachers and learners to make progress and to study it. In addition to emphasizing the usage and function of the PWIM, they also provide the rationale and structure of the PWIM. "Using [the] PWIM effectively requires an action research frame of reference, for you don't just adopt the PWIM, you inquire into its theory and rationale, its structure and its effects on your students, including their learning how to learn" (Joyce, et al., 2009:59).

One of the most exciting inductions into children's culture is their natural acquisition of language; the process brings them a great sense of satisfaction. It is convenient to study the PWIM in the aspect of cycles of inquiry (Joyce, et al., 2009:59). These cycles are built around pictures that transmit information to children. When pictures of scenes that are understandable to children are displayed, the PWIM cycle starts and the pictures may have been taken in various

situations and with various culturebackgrounds. When the children watch the picture, they identify objects, actions and any other stuff/abstract feeling from the picture, and then they "shake out" the words from the picture. A line is drawn from the object/scene/action in the picture to the chart paper or the white board, where the word or phrase can be written, hence associating the stuff identified with their naturally developed listening/speaking vocabulary as in the scenario in Lisa Mueller's lessons [1] which are the experimental lesson for Joyce et al.'s (2009) study of the PWIM.

They demonstrate that the links between the objects/actions in the picture and children's language enable them to transit naturally from spoken words to written words. This transition can be seen by children who watch the words being read, spelled and spell them out together with the teacher, connecting something on the picture with a word and then watch that word appearing on the whiteboard or being printed. Once they read that word, they will learn its pronunciation, and spelling from the simultaneous reading and spelling by the teacher and classmates as soon as possible. For example, they can identify a flower in the picture, see *flower* written, hear it spelled, spell it themselves and on the way home from school they see blooming flowers along the street they are walking on (Joyce, et al., 2009:59).

With regard to the principles of the PWIM, Joyce, Calhoun and Hopkins state that a major principle of PWIM is to build on children's growing storehouse of words and syntactic forms and to accelerate the transition to written forms. Most children want to "make sense" of the language around them and "they will engage with us [the teacher] eagerly in unlocking its mysteries" (Joyce, et al., 2009:60). During the process of unveiling its mysteries, children's inquisitiveness will be stimulated, encouraging them to learn the word with higher motivation. Besides, an essential principle of the PWIM is that the model respects the children's language development: their words are used and their ability to make associations is cultivated (Joyce, et al., 2009).

One of the advantages of the PWIM is that it approaches the development of sight vocabulary directly. At first, children read and spell the words when they are "shaken out" from the picture. Later, these words are printed on word cards that they can look at and the teacher can hand down

[1] Lisa Mueller is a teacher in Joyce, et al.'s experimental teaching program for the PWIM.

for group instruction so that learners can also have their own vocabulary cards. They classify these words according to different word classes, or word meanings; they look up the picture dictionary created previously on the whiteboard/chart paper to check their understanding and to memorize the meaning of the words. They can keep their word cards in word boxes, consulting them as they wish and eventually use them in generating sentences, reading, and writing. (Joyce, et al., 2009:61).

The PWIM cannot only be used for teaching the correct spelling or pronunciation of the words learners have already known, it can also be used for teaching new vocabulary. It is stated that PWIM induces learners to classify their new words, building the concepts that will enable them to "make sense" of words they have not seen before. When learners work with their words, the categorization procedure occurs. The categorization procedure can be seen as a natural process for extension of the word family for ESL learners. Cameron proposes, if categorization is responsible for certain meta-linguistic abilities then it would be reasonable to suggest that combined with inductive learning ability the acquisition of new words would be more remarkable. They will develop word families and learn that "the generalizations they make will enable them to unlock about 70 per cent of the new words they encounter" (Cameron, quoted form Joyce, et al., 2009:61).

When implementing this model, there can be a cycle or a series of cycles for the teaching process. Calhoun (1998) suggests each cycle of the PWIM use a large photograph/picture as a common stimulus for generating words and sentences. A teacher, working with the whole class or small groups of learners, uses the procedure of establishing a PWIM cycle to aid learners' building of words, forming and using phonetic and structural analysis generalizations, reading comprehension at the word, phrase, sentence, paragraph, generating the word, sentence, paragraph and extended text levels. The PWIM cycles generally last 2 to 6 weeks (Calhoun et al., 2001). Why does the cycle last relatively longer than the general classroom teaching method? The reason is that the teacher not only teaches vocabulary but also tries to develop learners' skills of sentence generation, of reading and writing short paragraphs. The sequence of the cycle begins with the picture, usually a photograph, whose contents contain many things that learners can describe using their developed listening-speaking language (Joyce, et al., 2009). The learners

study the picture and then “shake out” the words, drawing the lines, tracing the lines and then read and spell them out; then the teacher writes the words on the whiteboard and the learners reiterate the words. After the teacher finishes several steps for implementing the PWIM, an illustrated picture-word dictionary is created. When providing learners with their individual sets of words cards to check whether they can “recognize” the words immediately or explain their meaning if necessary, the picture-word dictionary will be very helpful if they have difficulties. It’s convenient to assess learners’ ability to read the words as the learners begin to read the words, and then the learners enter into the next phase of the model: the categorization process, which happens several times during the PWIM cycle (Joyce, Weil, & Calhoun, 2009).

According to Joyce, Weil, and Calhoun, the pace of lessons during a picture-word cycle depends on the reading level of the learners and the curriculum objectives of the teacher, but after the categorization process of words, learners are required to generate sentences about the picture and then, the teacher selects learners’ sentence categories to write a well-organized paragraph, sharing their thinking about how they use the ideas in the sentences. “The PWIM cycle ends at any time after the paragraph development stage” (Joyce, Weil, & Calhoun, 2009: 136).

It follows that the PWIM stresses on children’s natural ability to think inductively because it respects their thinking ability. According to Acha (2009), inductive learning ability has been proved to relate to language acquisition and may affect organizing in the mind parts of speech and grammar rules as well as thematic concepts of words. With its emphasis of developing inductive ability, the PWIM enables them to build generalizations that form the basis of structural, phonetic or meaning analysis. The model will develop a better understanding of the conventions of English because they can classify the words according to common letter patterns and begin to internalize phonetic and structural principles (Calhoun, 1999). The PWIM is an inquiry-oriented model of teaching and it provides a multidimensional teaching model “at the primary grade levels, and for English-as-a-second-language students” (Joyce, Calhoun, & Hopkins, 2009:64).

2.3 Relationship between Memory, Words, and Pictures

Teaching with the PWIM involves pictures, memory, vocabulary acquisition, hence the relationship between memory, picture and vocabulary acquisition are discussed. From the

previous study about the PWIM, we learn that there is a cycle or a series of cycles which can last from 2 to 6 weeks when implementing the PWIM into classroom teaching, especially when it is used to develop learners' ability of reading and writing which will move into the long-term memorizing of the words, sentences, or paragraphs. Yet, this study mainly focuses on the efficacy of the PWIM in the aspect of vocabulary acquistition rather than reading or writing. Meanwhile, the PWIM cycle only lasted for a short period of time, so the pupils' ability to learn word forms and meaning were tested in the short term. Hence, the short-term memory of the new words in terms of pronunciations, spellings and meaning is related. In the following section, studies about relationship between memory (especially short-term memory), words and using pictures to teach will be discussed.

According to different reseachers, there are various kinds of memory. Glassman holds the view that memory has not been regarded as a unitary entity. Several kinds of memories have been tested yet not all of them proved to be relevant to language learning. Memory can be divided into three major stages: encoding, storage and recall, namely immediate and active retrieval of information stored (Glassman, 2001: 159). Groome, Dewart, Esgate and et al. claim that the tasks involve mostly recall and recognition forms of memory. What is more interesting is that "recall and recognition are both examples of explicit memory and that the subject is unaware of having is implicit" (Groome et al., 1999:125). According to Groome et al., recognition which represents the form of memory appears to be relevant to young learner's language learning. They insist that recognition is superior to recall because it offers more common feature between input and output; recognition belongs to one of the sub-process to recall (Groome et al., 1999).

Talking about the relationship between various memories and language learning and teaching, Wesche insists that there is some evidence that when teaching methods are correctly matched to learners' ability including memorizing, language learning is enhanced; yet when they are not matched, learning will be diminished (Wesche, 1981).

In terms of relationship between memory and language learning, Milton and Alexiou (2006) have conducted research on the relationship between the well-known Kim's game which is a rote learning game and memory in the short term. The game scores involved significantly with

language learning success demonstrates that “learners with strong short-term memory have an advantage over those with weaker memory” and the advantage will be more prominent when it concerns about learning new vocabulary in a foreign language. According to Milton and Alexiou, based on the results obtained in a series of studies, certain memory types appear to promote language learning. There are as follows: “short term immediate memory for pictures, associative short term memory (pictures-shapes) and visual perception (spot the difference)” (Milton & Alexiou, 2006). There is a study being conducted according to the relationship among picture, memory and language learning: different picture cards and matched words are shown to children in the paired associates; then their teacher changes the order of words and they are required to match them with the correct picture card again. The purpose is to measure children’ ability to remember sight words so that conclusions about the ability to memorize foreign language vocabulary in the short term can be drawn (Esser & Kossling, quoted from Nikolov, 2009).

Aitchison suggests that memory is an area with potential interest and she considers the paired associative memory as one of the factors that can influence more intensively language achievement which includes a certain relabeling of objects, words, and so on (Aitchison, 1987). Here the word *relabeling* of objects can be interpreted as using pictures to re-label and the memory of the picture can affect language achievement.

Alexious proposes that recognition of something as familiar requires making use of memory. Hence, when conduct language teaching, it requires acute sensory stimuli (Alexious, 2005). These sensory stimuli include pictures or any other visual images. As regard to how the teacher tests this recognition and the memorization (the cognitive process), Nikolov proposes that using a standardized test of cognitive skills which seemingly facilitate foreign language learning would “offer a valuable source for a child’s learning profile at the very beginning of learning” (Nikolov, 2009:58). In some cases, different presentation modes in different learning environments show that adding a picture to a word might strengthen the comprehension of school texts and the information storage and retention process (Tindall-Ford, Chandler & Sweller, 1997). Another researcher, Mayer, claims that the results may come from the fact that the picture makes retention easier by identifying previous experience stored in memory, or alternatively, the word next to the

picture reduces the translation inaccuracy. Namely, it makes the result more reliable. When the picture is presented next to the word, the beneficial effect obtained (Mayer, 1997).

Nonetheless, there are several researchers who express doubts about the distraction produced by the pictures when it is used in the classroom teaching. Pellegrino, Siegel and Dhawan demonstrate that pictures and words are equally well remembered under conditions of visual distraction, but simultaneous visual and acoustic distraction reduce retention of pictures while also facilitate word retention (Pellegrino, Siegel & Dhawan, 1976). Acha (2009)'s research demonstrates that recall of word translations is better for the pupils who only receive verbal annotations than for the pupils who received visual and verbal annotations simultaneously or visual annotations only (Acha, 2009). Results show that the young learners' learning process is hindered by limited working memory. This finding implies a challenge for using picture/visual aids to classroom teaching for the young learners.

Mayer, Heiser and Lonn (2001), Moreno and Mayer (2002) argue that cognitive load may occur when two types such as a written word and a picture of stimuli that carry the same information are observed through the same information processing visual channel. In order to reduce cognitive load, the unneeded duplication of the information needs to be cut (Mayer, Heiser & Lonn, 2001, Moreno & Mayer, 2002). Thus, to create effective teaching, the combined verbal presentation and picture mode can be used only when its effectiveness has been obviously demonstrated.

As regards the effectiveness of the dual presentation of words and pictures for vocabulary acquisition, two aspects are considered according to the following researchers. Firstly, the individual difference, such as characteristics, visual and verbal abilities will impact the effectiveness. Riding and Grimley claim that in certain learning situations, some learners benefit more than others from the simultaneous presentation of words and pictures. The effectiveness of presentation modes also emphasizes factors involved in the learner's characteristics that may involve greater degree of difficulty in learning, such as the individual's visual or verbal competence (Riding & Grimley, 1999). Mayer and Sims state that learners with high competence of verbal and of visual have more advantages than learners with low competence when facing

simultaneous presentation of word and picture (Mayer & Sims, 1994). When learners are capable of choosing the presentation mode based on their preference, presenting words and pictures simultaneously is more effective than presenting only words or only pictures (Mayer, Plass, Chun and Leutner, 1998). Secondly, some researchers consider the learning context as the main factor for the effectiveness. According to Ainsworth, when the task involves reading comprehension and integration of information, pictures have been useful to interpret text and construct deep understanding (Ainsworth, 1999).

Badeley states that simultaneous presentation of verbal and pictorial stimuli is not always proved to be useful in self-paced learning, probably because of limited working-memory capacity (Baddeley, 1986, 1997). Additionally, Ache's study provides empirical evidence that, in a second-language vocabulary learning multimedia program for children, presenting a word is more effective than presenting the word together with the picture or only the picture (Acha, 2009). The result shows that adding a picture does not enhance children's acquisition of English vocabulary in a self-paced multimedia program. Yet, Acha concludes that, on the one hand, it may force the children to handle an additional element, thus increasing the experienced cognitive load. On the other hand, the experiment was conducted in a self-paced learning multimedia environment, but when changing the self-paced learning environment to others learning environment, such as teacher-guidance learning environment, probably, the integration of using a word and a picture may reinforce the memory trace in children (Acha, 2009). Other researchers also point out that although adding a picture did not enhance vocabulary learning in the above-mentioned vocabulary learning experiments, this could not demonstrate the effectiveness of a "word and picture" presentation mode in other learning environment (Mayer & Anderson, 1991; Mayer, Bove, Bryman, Mars & Tapangco, 1996).

3. Analysis and Discussion

In this section, the teaching program conducted by the researcher will be analyzed and the results from Group A (the control group) and Group B (the experimental group) are discussed on the basis of the pupils' testing scores, the classroom performance and the answers on the questionnaires. The analysis aims to assess the efficacy of the PWIM in the acquisition of new

English vocabulary among ESL young learners in the short term. The participants were 16 Swedish grade-4 pupils of a primary school in southern Sweden. Two aspects of the efficacy will be discussed, namely the learning of word forms (spelling and pronunciation) and the general understanding of word meaning.

3.1 Testing and Assessment

In this section, two types of tests will be discussed. One is the pre-test which is a placement test, and the other is the post-test which is an achievement test. Each of the tests will be assessed in detail in the following sections.

3.1.1 Test Assessment for the Pre-test

The pre-test was a placement test which aimed to place the pupils in two groups according to their different level of English vocabulary. According to Hughes, the placement test provides information about how to place learners in light of their levels of competency (Hughes, 1989: 30). The placement test attempted to predict the most appropriate group for any particular learner. The purpose of the test was to divide 16 pupils into two groups with the similar level after categorizing the pupils at different level. There were the same numbers of the pupils with different vocabulary level containing lower, intermediate and advanced level. The smaller the proportion of misplacement is, the more valid the test will be (Hughes, 1989). In order to ensure the validity of the test, the proportion of misplacement was well-controlled. The vocabulary level of Group A and Group B are very close with the average scores of 17.88 for Group A and of 18.13 for Group B.

The Vocabulary range covered 45 words the pupils have learned from their textbooks. There were 15 items: 10 multiple choice items and 5 picture-word matching items. The total score for the pre-test was 20 points. Words were grouped according to their usefulness and frequency. The words in the test were grouped in terms of their relative importance. In the aspect of technique, there were 10 multiple choice questions and 5 gap filling items with pictures. Gaps relate to words as well as pictures. The researcher was responsible for scoring; templates with keys were constructed so that scoring could be done efficiently. Only 10 minutes were allowed to complete the test.

The ability to recognise words both in form and in meaning was also tested. In terms of guessing the meaning of the words, sufficient numbers of distractors were prepared. For example, the items were designed to let the test-takers choose the word that did not belong to the same word category in the pre-test (See Appendix 1) e.g. ( ) *A. telephone B. sofa C. chair D. T-shirt.* All the alternatives (A, B, C, D) are distractors since telephone, sofa, chair and T-shirt are all things that can be used by people in daily life. But the pupils who understand the properties of the above words can clearly manage to categorize telephone, sofa and chair by their common property: they are all items of furniture. Then the pupils' vocabulary production ability has also been tested. Pictures have been used as an aid to test when teaching vocabulary. "The main difficulty in testing productive lexical ability is the need to limit the candidate to the lexical item that we have in mind, while using only simple vocabulary ourselves. One way round this is to use pictures" (Hughes, 1989: 182). Namely, it is difficult to test the pupils' productive lexical ability when the teacher selects the word they have known, but using pictures is a better and more easier way to test the productive lexical ability. Hence this test used the pictures to test the pupils' productive lexical ability. Take the following item as an example; the pupils were required to write down the name of the object being showed on the picture.

Write under the picture what it is.

_____ (see Appendix 1)

3.1.2 Test Assessment for the Post-test

The post-test was an achievement test, administered at the end of the lesson by teaching 10 new English words. "Achievement tests are directly related to language courses, their purpose being to establish how successful individual students, groups of students, or the courses themselves have been in achieving objectives" (Hughes, 1989: 12-3). That is to say, the purpose of establishing an ahievement test is to test how successful the learners have achieved according to the language course objectives. The score of an achievement test can reflect the efficacy of the language course. Therefore, the scores of this post-test directly reflect the performance of the pupils from

each group in acquiring new words. The purpose of the test was to measure the two different groups'understanding of the newly-learned words both in terms of forms (spelling) and meanings. This test was designed to show the results between the Groups A and B after being taught with different teaching methods and embracing the word-list teaching and the PWIM. The test measures their achievement immediately after the lesson. It is useful to learn what the diffierences are after using different teaching method towards different groups.

The test-takers were 8 pupils from Group A and 8 pupils from Group B. The vocabulary range included 45 words, 10 new words of them were new words. The total score was 30 points. The writer was responsible for the scoring; templates with keys were constructed so that scoring could be done efficiently. The time allocated was 15 minutes; all of the pupils finished the test on time. The test comprised three sections: gap-filling, word and meaning matching and picture and word matching. There were 12 blank-filling questions which occupied 40% of all the items of the test. The blank-filling was designed to test the spelling form of newly-learned English words. In the test, for example, the test gave out a new learned vocabulary: *pilla_*(see Appendix 2) the letter *r* is missing for the word *pillar*. Test-takers must fill in the missing letter in the blank. Apart from their ability of to recognise words forms, the ability of to understand the meaning of the words has also been tested.

In the second section of the post-test, 11 words were listed in the left column while the word meanings were given in the right column, and the order of their corresponding meaning has been changed. Test-takers were required to link the lines between the lexical items and their corresponding meaning. These items were designed to test pupils' understanding of the meanings of words. The proportion of these items was approximately 37%, which was very close to 40% which is the proportion of spelling testing. Hence, the testing of word meaning and spelling was well-organized.

The third section of the test required the pupils to write down words under the corresponding pictures. In this section, the pupils' vocabulary production ability was tested by using pictures. Their answers must be chosen from the newly-learned vocabulary. If words are consciously taught to the learners, then all the items thereby presented to the learners should be contained

(Hughes, 1989: 180). Thus, all the 10 newly-learned words and most of the other words presented in the classroom teaching have been contained in the test. The proportion of word-picture matching items was 23%, which combined the purpose of testing meaning and word forms with the pupils' vocabulary production ability.

3.2 Group Performance in Tests

The pre-test, as a placement test, has been conducted so that the 16 pupils' previous English vocabulary level can be identified and the grouping between two groups can be conducted. The following figure (see Table 1) shows two groups' scores for the pre-test, and their mean for the pre-test is also given.

Table 1: Descriptive Statistics of the Pre-test Score of Group A and Group B

Pre-test Score		
No.	Group A	Group B
1	20	20
2	19	20
3	19	19
4	19	18
5	17	18
6	17	17
7	16	17
8	16	16
Mean	17.88	18.13

According to their performance in the pre-test, the researcher chose 8 pupils for Group A and the other 8 pupils for Group B. The grouping was well-balanced with regard to their vocabulary level and the two groups were almost equal in terms of their vocabulary level. For Group A, there were one pupil got 20, three 19, two 17 and two 16 with an average grade of 17.88. For Group B, there were two pupils got 20, one 19, two 18, and two 17 and one 16 with an average grade of 18.13. The discrepancy between Group A and Group B for the pre-test is 0. 25 which is less than 1, and the occupation of the discrepancy at their total score is 1.25%, Hence, the vocabulary level between Group A and Group B is very similar before the lessons so that the impact from different vocabulary level on the post-test can be reduced to the minimum.

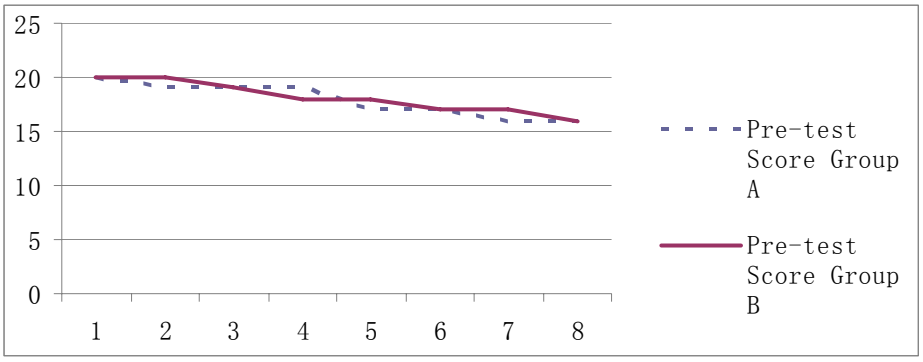
After the pre-test, and after being taught by the different teaching methods, the pupils were required to do an immediate post-test. Their scores can be seen from the following figure (see Table 2).

Table 2: Descriptive Statistics of the Post-test Score for Group A and Group B

Post-test Score		
No.	Group A	Group B
1	30	30
2	29.5	30
3	28	27
4	28	27
5	27.5	22
6	22.5	22
7	15.5	21
8	10.5	19
Mean	23.94	24.75

Table 2 above demonstrates that the mean for the post-test for Group A is 23.94 while the mean for Group B is 24.75. Different groups have different testing results. So the discrepancy between Group A and Group B is 0. 81. It is minor and occupies 2.7% of the total score but the discrepancy does exist. For the pre-test, a comparison between Group A and Group B is displayed in Figure 1.

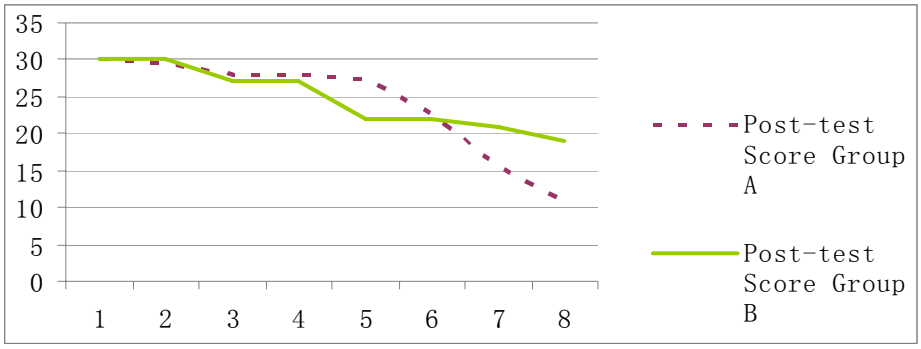
Figure 1: Comparison between Group A and Group B for the Pre-test Score



In Figure 1, the abscissa, marked with 1-8, is defined as the ranking position of the pupils who are represented by their ranking positions in the pre-test. The ordinate is defined as the score

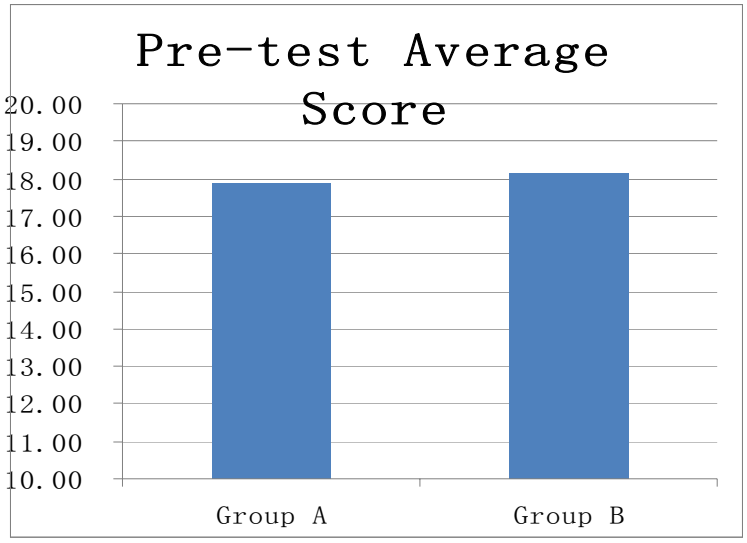
gained by the pupils. The dotted line in this figure represents the trend of the respective scores of 8 pupils in Group A. The real line demonstrates the trend for the respective scores of 8 pupils in Group B. The real line and dotted line run almost at the same level with the intervals ranging from 15 to 25. The concrete data about their discrepancy have been shown in Table 1 and analyzed previously. For the post-test, a comparison between Group A and Group B is demonstrated in Figure 2.

Figure 2: Comparison between Group A and Group B for the Post-test Score



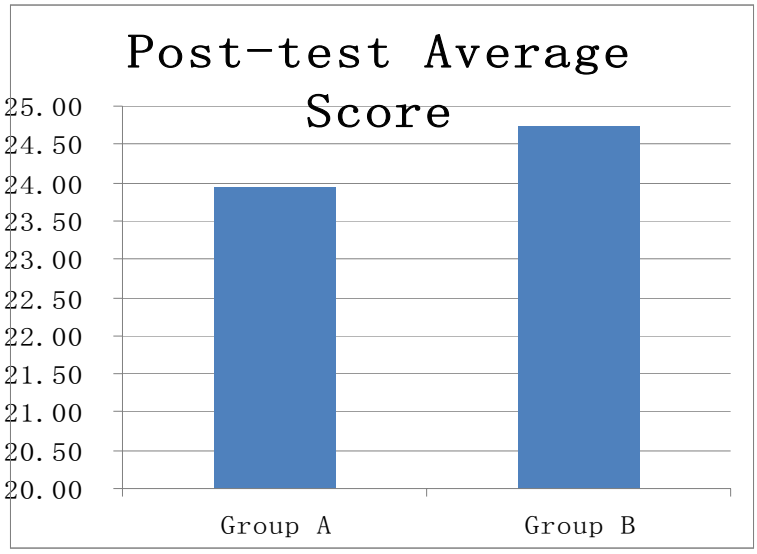
In Figure 2 above, the abscissa is defined as the ranking position of the pupils who are represented by their ranking position in the post-test. The ordinate is defined as the score gained by the pupils. The dotted line in this figure represents the trend of the respective scores of 8 pupils in Group A for post-test. The real line demonstrates the trend for the respective scores of 8 pupils in Group B. Both the real line and the dotted line run down forward. The intervals for the dotted line range from 10 to 30; the intervals for the real line range from 15 to 30. In addition, the performance within the group various. The best performer got a full score while the worst performer got 10 for Group A, and for Group B, the discrepancy is relatively less, the top pupil got a full score and the weakest performer got 19. There is a little difference between Group A and Group B's performance. More concrete data about their discrepancy have been shown in Table 1 and analyzed previously. In the following, a comparison between the mean of Group A and Group B rather than individuals will be demonstrated through Figure 3 and Figure 4.

Figure 3: Comparison between Group A and Group B for the Average Pre-test Score



From the histogram above, Group A and Group B gained similar scores which are respectively 17.88 and 18.13 for the mean. The discrepancy is only 0.25, which demonstrates that two groups have similar vocabulary level before the lessons.. The following figure is Figure 4 which shows the mean of Group A and Group B for the post-test.

Figure 4: Comparison between Group A and Group B for the Average Post-test Score



In the above histogram, Group A and Group B have different heights of the columns which are respectively 23.94 and 24.75. The discrepancy of the mean is 0.81, much larger than 0.25 which

is the mean of the pre-test. This figure demonstrates that after using different teaching methods, Group B performed a little better than Group A in the immediate post-test. But the discrepancy is not apparent.

The post-test results show that, with the mean of 24.75, the experimental group being taught with the PWIM has performed relatively better than the control group taught by the word-list, with the mean of 23.94. The scores of pre-test demonstrate that 8 pupils from the control group have similar vocabulary levels as compared to 8 pupils of the experimental group. Yet, after using different methods of teaching, there is a minor difference between their performances. With the mean of 24.75, the experimental group performed better than the control group. Hence, it means that teaching by the PWIM has gained a certain degree of efficacy. The control group who were taught with the word-list performed less well. Although there are some other variables that can affect the result, the result demonstrates the PWIM's advantages for immediate vocabulary testing in this study.

Apart from the scores of the post-test, the questionnaires answered by the control group pupils indicate that participants desired to be taught by pictures. Approximately 38% pupils from the control group wrote their suggestion on the questionnaire (see Appendix 4) with an exclamations: "Draw!" Although their requests were not expressed concretely and completely, their desires to be taught new words with pictures can be reflected.

With reference to the questionnaires (see Appendix 5) answered by the experimental group, 75% pupils wrote their suggestion with surprising unanimity: "It was funny!" 100% pupils admitted they enjoyed the lesson. "For most beginning readers and writers, the PWIM is a satisfying and pleasurable activity" (Calhoun, 1999: 24). The answers from the pupils showed their satisfaction and happiness of being taught by the PWIM. There was no one claiming that they did not like the new way of teaching. With their higher scores and pleasant feeling of having classes, the purpose of learning of new English vocabulary have been met both in learning and motivation.

Nonetheless, because the post-test was taken immediately after 40 minutes' vocabulary teaching, the results of the test still cannot demonstrate the long-term retention of the newly-learned words.

In addition, according to Milton and Alexiou (2006), certain memory types appear to promote language learning including short term immediate memory for pictures, associative short term memory (pictures-shapes) and visual perception (Milton & Alexiou, 2006). Hence, the short-term retention ability was mainly involved in this study. Yet, some pupils will probably forget the meaning or the form of the test two days later or even shorter. The full sequence of the PWIM usually lasts from 3 days to 2 month (Caulhoun, 1999: 22); and a cycle of the PWIM usually lasts from 2 to 6 weeks for repeated appearance of the new vocabulary (Caulhoun et al., 2001). In this study, the researcher's cycle only lasted for 3 days, and there was no more time for the pupils to experience the PWIM cycle and to re-test the pupils' retention of the words after a relatively longer period. In addition, this study focuses on the vocabulary acquisition but not on developing language skills in sentence generation, reading and writing as compared to the previous research. This factor might influence the result to a certain degree. However, the efficacy of teaching by the PWIM would be more prominent if the PWIM cycle and sequency could have longer length of time.

3.3 Group Performance in the Classroom

Apart from the testing scores, the pupils' classroom performances were also considered as another important factor to evaluate the results of different teaching methods of the two groups in addition to the testing results and the answers to the questionnaires. Especially for the PWIM teaching, the efficacy could be seen from the pupils' classroom performance and hence, the comparision between the two group in the aspect of the classroom teaching process and the pupils' classroom performance and participation will be displayed in the following sections. For the teaching, the researcher was the teacher for these two groups for two lessons[2]. Different groups had different performance in the classroom.

3.3.1 Teaching with the Word-list for Group A

The teacher selected a word-list that contains no familiar words for the pupils and checked the vocabulary had not been included in their grade 4 textbooks. The teacher wrote a word-list for 10 words including *polar bear, crown, castle, pillar, paw, snowflake, sad, huge, fur,* and *lonely* on

[2]In this study, the researcher is the classroom teacher who was responsible for the teaching of following lessons; hereafter the researcher will be called the teacher.

the whiteboard and asked the 8 pupils whether they knew any word of the ten. After the investigation, the result showed that a boy knew the word *snowflake*, a boy knew the word *polar bear*, two girls knew the word *sad*, and the rest of the words list they did not know. After ensuring most of the words: 70% of them were new for most of the participants, the teacher began her teaching without the picture and with the word-list for the control group.

In the beginning, the teacher read out each word aloud, spelt it and then explained its English meaning in English, then asked the pupils to read after her, to spell the word and to try to explain the word meaning in English. The pupils read together with the teacher for a new word, and then the teacher asked them to explain the meaning in English. The pupils then did it together and practiced the reading and spelling mechanically. All of the pupils actively participated in the reading and spelling in the beginning, but 15 minutes later, several pupils became silent and seemed tired and increasingly lost interest. The teacher continued to teach them new words with the same procedure. Then after a while, 10 words were taught through the word-list. Then the teacher asked the pupils to do a review of newly-taught words by reading aloud, asked them to tell the meaning and to spell them together again. Their voices became lower and lower.

In the classroom, the pupils did not participate with great motivation, as compared to the experimental group. No more words were produced apart from the new 10 words that appeared on the word-list. No sentence was generated by the pupils with the use of the 10 new words. The pupils had minor chance to participate actively. They mechanically conducted the command of the teacher. Without pictures, they listened, read and spelt mechanically. The main way to remember the meaning of the new words was through rote memorization and through the translation method with the help of their Swedish-speaking teacher who knows both English and Swedish well. With reference to the answers on the questionnaires, the pupils suggested the teacher teach with pictures. As compared to the classroom performance of Group A, however, the Group B pupils participated more actively and excitedly with higher motivation.

3.3.2 Teaching with the PWIM in Group B

In this section, the implementation of the PWIM will be decribed and discussed in the two aspects: how to conduct the cycle, how to create a picture-word chart and a picture-word dictionary during the teaching process.

3.3.2.1 The PWIM Cycle in Teaching

The sequence of the PWIM suggests the following steps for teaching: Firstly, the teacher lets the pupils study a picture selected by the teacher and identify what they see in the picture for the teacher to label. Secondary, the teacher lets the pupils read and review the words labeled; and then use the picture word chart to read their own sets of words (Joyce & Calhoun, 1998). In order to enable the pupils to be familiar with the picture, three days before the teaching for Group B, the teacher hung a picture which was used in the PWIM teaching on the wall in the classroom. Joyce et al. (2009) states that one of the most exciting inductions into children's culture is their natural acquisition of words and the process brings them a great sense of satisfaction. As the picture was displayed naturally, the pupils could observe the picture naturally and acquire the words more naturally and with satisfaction. Hence even before the lesson, they were already familiar with the content of the picture and it was helpful for the teaching procedure as they could immediately say the words they saw from the picture in the lesson.

Three days later, at the beginning of the lesson, the teacher showed the pupils the picture which has been shown in Appendix 3. The teacher asked the pupils to "shake out" English words from the picture. The phrase "shake out" means to let learners find out the English vocabulary which describes the objects or actions in the picture (Joyce, Hrycauk, & Calhoun, 2001). Then the teacher commanded the pupils to try not to use Swedish but English in the class so that the procedure of the pupils' English vocabulary acquisition can be fully displayed in the PWIM cycle. The words generated could be the words for objects in the picture; it could also be action and even abstract words which described the scenario on the pictures. The pupils were requested to say the word they saw from the picture and then spelt the word. During this process, some pupils knew the word meaning but failed to provide the correct spelling. The techer thus provided the correct spelling of the word and asked them to repeat and remember. The constant correction from the teacher did not reduce the pupils' high motivation of "shaking out" more words. When doing the "shake out" procedure of the PWIM, one boy came to the white board and wrote *stone*

chair but made mistakes in spelling. 6 pupils came to the board to draw the lines from the picture and wrote out the words. The teacher did not do it by herself, but let the participants draw the lines. Although, according to Calhoun (1998) the PWIM is conducted through the drawing by the teacher, the researcher changed this because she wanted the participants to participate in the lesson actively, hence their inductive learning ability could be cultivated and their motivation will be strengthened.

When the teacher pointed to the polar bear in the picture, and asked the pupils to say the corresponding English words, one of the pupils succeeded in saying the word *bear*, an answer which was close to the word the teacher wanted to teach: *polar bear*, and then the teacher reminded the boy that this bear lived in the Arctic area which is called the North Pole. He was requested to trace the line of the polar bear. The act of tracing the line, actually, is a process of "re-labeling". The word "relabeling" of objects can be interpreted as using pictures to re-label so that the memory of the picture can affect language achievement (Aitchison, 1987). Apparently, the re-labelling process related with the memory of the picture promoted the boy's learning of the word. The boy raised his hand and answered immediately, "I know, it is a polar bear." Then the teacher asked him if he could spell it. The boy tried to spell the word as "P-o-l-o-r b-e-a-r", and then the teacher corrected him immediately, "Please remember, it is *o* not *a* between the letter *l* and *r*." The boy nodded his head, read it aloud and repeated its spelling. Because of the limitation of time, there was no more time for every pupil to point out what he/she knew from the picture. Hence, the teacher asked the volunteers to go to the picture directly, and draw lines from the picture. 13 words were "shaken out" from the picture, and they were *ice field, cloud, sky, crown, full moon, stonw chair*(*stone chair*), *casel*(*castle*), *mautain*(*mountain*), *ice, snow, flag.* The teacher corrected the wrong spelling and explained every word's meaning and traced their lines to the picture.

For the teaching of each word, the teacher asked the pupils, "Does everybody understand the word correctly?" Then each pupil answered yes and the teacher asked one of them to say the word, to read it out aloud, to repeat it, to spell it out and to explain the English meaning of each word. Usually most of them knew the Swedish explanation of words but when they were required to express it in English they would take longer time to think about the words, and the teacher

gave some hints, for example, when the pupil explained the meaning of *stone*, he said, “It is a kind of thing you take from mountain.” Then the teacher gave him hints, “The thing is a hard and solid substance but not metallic, right?” The boy nodded his head and said, “Yes.” In addition, when the pupils saw the snowfield in the picture, a boy and a girl expressed it as “*ice street*” which , although it was not correct, it precisely described the physical features of the snowfield. Then the teacher told them that they were correct in understanding the meaning but should know the expression in English was *snowfield.* The pupils were required to read it out aloud and to repeat it and to explain its English meaning. Then after the teacher asked the pupils to pay attention to the size of the polar bear, and most of the pupils shouted out,”Big! Big!” The teacher aimed to make use of the pupils’ inductive ability so she did not give out the answer directly. The teacher told them that they were right and reminded them there was another English word instead of *big*. Then some of the pupils shouted out the corresponding Swedish word *stor.* Then the teacher asked the pupils to look at the size of the polar bear then told them another expression in English for *big* is *huge*, “Read after me! Huge, h-u-g-e, huge. It means big, a huge polar bear.” The teacher required the pupils to read the word because according to Joyce et al. (2009), once they read that word, they would learn its pronunciation, and spelling from the simultaneous reading and spelling by the teacher and classmates as soon as possible. After making sure everybody spelt it correctly and understood its meaning, the teacher asked the pupils whether they could “shake out” any other word from the polar bear on the picture.

The pupils kept thinking and some of them looked quite excited. During the process of unveiling the mysteries of “shake out” process, children’s inquisitiveness will be stimulated, encouraging them to learn the words with higher motivation (Joyce, Calhoun, & Hopkins, 2009:60). Then the teacher gave the hints, “Anybody knows the feeling of the polar bear?” Then one girl raised her hand and told the teacher, “The bear is sad.” Joyce, et al. (2009) states the PWIM focuses on young learners’ natural ability to think inductively because it respects their thinking ability. The girl answers correctly after her inductive thinking. But she did not know how to spell the word *sad*. A boy helped the girl to spell it correctly and the teacher ensured that everybody had learned the word. And the teacher asked the boy whether he could tell her how the polar bear walked, the boy thought for a second and answered, “The huge polar bear looked sad and walked alone.” He generated a sentence with the newly-learned words including h*uge, polar bear, sad* and gave out

his answer, *alone*. The boy's performance was praised by the teacher and the word *alone* was explained by the teacher, and the teacher asked others, "Does anybody here know another word for the same meaning of *alone*?" After ensuring nobody know the answer, the teacher gave pupils the hint that the new word was an adjective form for the adverb – *alone*. Then a boy shouted out the answer, *"lonely!"* According to Joyce et al. (2001), with practice, experience, and modeling, learners will develop a better understanding of the conventions of English because they can classify the words according to common letter patterns and begin to internalize phonetic and structural principles. The boy developed his ability of generalization for the common letter pattern and classified the word class: *alone* and successfully add *-ly* to lone and eliminatd *a.* Then the teacher asked the pupils to remember the meaning and the form of the word.

When the teacher asked the pupils to look at the skin of the polar bear and asked them whether there was another new word that could be shaken out from the polar bear, one girl raised her hand and said, "*Skin*." The teacher said, "Yes, precisely! But do you know another word for the skin of an animal with soft or thick hairs?' Then three of the pupils shouted out, "päls, päls!" *Päls* is the Swedish for *fur* in English. The teacher commanded them to use English. Then pupils looked anxious and eager to tell the teacher its English meaning, because it seemed that they all knew the meaning but needed more help for their English vocabulary size. After making sure nobody know its English meaning, the teacher taught them the word *fur*. And without the teacher's command all the pupils read it out loudly automatically. Then when the teacher asked them what its meaning was, a boy and a girl said it simultaneously, "It means the skin with hairs of an animal." Two of the pupils already knew the word *snowflake* and even wrote its correct form with its plural form – *snowflakes* on the whiteboard, but the rest of them did not know, the teacher asked the boy who wrote the word to explain the meaning of the snowflake to the others, he said, "snowflakes will fall down when it is snowing in winter." Then all of the pupils said that they had all understood it.

But there were also some problems discovered by the teacher in the aspect of pronunciation. When the Swedish pupils made the spelling of words, they always made the mistake in pronunciation of two letters: *a* and *i*. They pronounced the letter *a as /a/ or /a:/* rather than /ei/ or /ei:/, and the letter *i* were read as */i/ or /i:/* , because in Swedish, the letter *a* and *i* are pronounced

respectively as */a,a:/, /i, i:/.* the teacher corrected them and reminded them do not let their Swedish pronunciation features affect their pronunciation in English. According to Joyce, et al. (2009), the PWIM can be used for teaching the correct spelling or pronunciation of the words. The pupils were happy to accept this and most of them read and spelt the words correctly after the teacher's reminder

A girl drew a line from the feet of the polar bear in the picture and wrote the word "*feet*", then the teacher asked the pupils, "Does anybody know another word for the feet of a polar bear", some of them shouted out, "hands", the teacher said yes and reminded them there was another answer, but most of them kept saying its Swedish meaning, "Tass." Then the teacher taught them the word *paw* , the pupils seemed happy and excited to know it and kept repeating its form and spelling. Then the teacher randomly chose a girl to explain its meaning, the girl answered immediately, "it means the feet and hands of an animal." Then everybody appeared to have grasped the the meaning of the word.

One of the disvantages, however, was that the pupils kept saying Swedish words. Clearly they understood the meaning more quickly through the PWIM than the Group A but they were relatively weaker in remembering the written form of its corresponding English word. But the memorization of the written form and spelling was strengthened through the picture-word chart created through the implementation of the PWIM cycle.

3.3.2.2 The Picture-word Chart

The picture-word chart is the essential material for the PWIM lessons and units. The chart contains the picture and the words that are identified or "shaken out" of the picture by the learners (Calhoun, 1999: 23). During the teaching process, a picture-word chart was also produced. For this lesson, 13 old words and 10 new words were inductively produced. Through lines between words and objects, action or emotion words in the picture (see Appendix 3), the pupils who were given new vocabulary cards were able to find the corresponding word meaning from the picture-word chart. They read out the words, repeated reading and spelling and thought about its actual meaning and tried to memorize both of the forms and the meanings. The memorization procedure was mainly related to the recognition of the word form and the general

understanding of its meaning. Many pupils shouted out the corresponding Swedish words very quickly but failed to figure out the English words. Their Swedish English teacher knew both English and Swedish well and helped to interpret the Swedish meaning to the pupils. After her explanation, the pupils seemed to be clearer about the meaning. Two of the pupils were not confident in speaking English but could write the words on the whiteboard.

All of the pupils could learn the words because if they forgot the words temporally, they could look at the picture-word chart on the white board to recognize the word's form and to understand its meaning. "The chart is used throughout the sequence of lessons and is a source of curriculum content" (Calhoun, 1999:23). As the teacher wrote words on the paper surrounding the picture, the chart became an illustrated dictionary. The pupils tried to work out the meaning of words with the aid of the picture-word chart and with this illustrated dictionary. After the 40-minutes' teaching, and after the "shake out" procedure, 10 new words were produced, they were as follows: *polar bear, sad, huge, pillar, lonely, snowflake, crown, fur, paw, and castle*[3]. Pupils were required to read it aloud and to spell each word and to read it and think about their meaning. Then the teacher asked then if they were ready to memorize its meaning and to recognize its form, the pupils said yes .

Concerning the classroom performance of the two groups, as compared with teaching by the word-list, firstly, the PWIM encouraged higher motivation of the pupils. The "shake out" procedure motivated the pupils to work out words both learned and unlearned more actively and happily. Meanwhile, the picture-word chart enabled the pupils to recall and to recognize the word in written form and the meaning of the word. Even if they forgot the word temporarily, they consulted the picture-word chart dictionary. Secondly, only 10 new words were produced by the word-list teaching, while there were 13 other words produced in addition to the 10 new words by the PWIM teaching through which the pupils' inductive abilities of producing new words, of classifying word structure and of generating sentences were strengthened. Thirdly, through the PWIM, the inquisitiveness of knowing the word forms of spelling and pronunciation enabled the the pupils in the classroom to learn how to learn. Some pupils were very absorbed in asking the

teacher the word form and meaning and in consulting the word in the picture-word chart dictionary and in communicating the ideas with their classmates.

Learn how to learn relates to the aspect of motivation and inquisitiveness (Joyce, et al., 1999). The teaching process demonstrates authentically how the pupils learn to learn which is one aspect to evaluate the effectiveness of using the PWIM in this study. The pleasant inquiry process, the pupils' motivaitons, and satisfaction were demonstrated during the teaching procedure and were also reflected in the answers to the questionnaires. The results show that the group taught by the PWIM performed more actively and happily in the classroom as compared to the other group.

In addition, after the testing scores were collected, and the researcher compared the testing results of the pupils with their performance in the classroom, the researcher found that some of the pupils who performed actively in the classroom and rushed to the whiteboard to "shake out" the words finished the test more quickly. The pupils who did not attend actively finished the test more slowly. This phenomenon shows that the ones actively particpates in the PWIM lesson performed more confidently than the ones who did not participate actively. The results of the test show that the most active pupil was a boy who got the full score in the post-test despite the fact that he did not get highest score in the pre-test which was to test the pupils' previous English vocabulary level. The great progress, to a certain degree, demonstrates the efficacy of the PWIM in making immediate progress as compared to teaching by the word-list method.

However, these results are similar but not significent when compared with previous research conducted by Calhoun, et al. (2001) in North America. The Pupils taught by the PWIM performed a little bit better than the pupils taught without the picture. But the discrepancy is less than 1 point, which is a minor discrepancy. One possible reason that the efficacy is inapparent, as compared to previous research, is caused by the difference in the length of time of implementation and number of cycles of inquiry. The span of time of the research covered only three days; there was only one day of actual implementation. On the contrary, Calhoun utilized the PWIM in multiple cycles of inquiry, with each cycle lasting approximately 2 to 6 weeks. Furthermore, the PWIM implementation of Calhoun spanned an entire school year in Calhoun et al. (2001)'s study.

The length of the implementation of the PWIM is another possible reason for the small difference in the results. For this lesson, the PWIM was not a part of the reading instruction, whereas Calhoun used the PWIM to teach in the first stage of reading and writing as a major component of the English language arts curriculum and even to teach concepts in social studies and science (Caulhoun, et al., 2009: 143). Nevertheless, the researcher did not teach the reading comprehension but for 10 new words, and the long-term memory was not considered. Furthermore, while the researcher generally followed the basic lesson structure of the PWIM as described by Calhoun (1999) and Joyce and Weil (2004), the teaching only covered 10 new words related to one picture, and the generation of sentences or paragraphs were not classified in the same way as Calhoun (2001) did.

4. Summary and Conclusion

The quantitive analysis of the data in testing (see 3.2 Group Performance in Tests) demonstrates that the experimental group performed a little better in the post-test which aims to test the pupils' learning of the new English vocabulary taught by the PWIM and the control group performed less well in the post-test. The quanlitative analysis of their classroom performance (see 3.3 Group Performance in the Classroom) and the comprehensive analysis of their answers in the questionnaires sheds light on the different effects of English vocabulary acquisition for different groups through different teaching methods. According to Joyce, et al.(2009), using the PWIM effectively requires a research frame of reference, for the teacher does not just adopt the PWIM, the teacher inquires into its effects on the learners, including their learning how to learn. This study combines the PWIM with classroom performance and with the post-testing scores in English vocabulary acquistion for the Swedish young learners. The teaching process demonstrates authentically how the pupils learn to learn which is one aspect to evaluate the effectiveness of using the PWIM in this study. The pleasant inquiry process, the pupils' motivaitions, and satisfaction were demonstrated during the teaching procedure and were reflected in the questionnaires. The results show that the group taught by the PWIM gained relatively higher test scores and performed more actively and happyly in the classroom as compared to the other group. Therefore, the PWIM has gained efficacy in promoting the

children's acquisition of new English vocabulary as SLA learners comparing with the method of teaching with the word-list.

Nonetheless, these results are similar but not significent when compared with previous research conducted by Calhoun, et al. (2001) in North America. Firstly, one possible reason that the efficacy is inapparent, as compared to previous research, is caused by the number of cycles of inquiry. Secondly, the length of the implementation of the PWIM is another possible reason for the small difference in the results. Thirdly, the researcher did not teach the reading comprehension but for 10 new words, and the long-term memory was not considered. Furthermore, while the researcher generally followed the basic lesson structure of the PWIM as described by Calhoun (1999) and Joyce and Weil (2004), the teaching only covered 10 new words related to one picture, and the generation of sentences or paragraphs were not classified in the same way as Calhoun (2001) did.

In conclusion, the results demonstrate that, in this study, the PWIM has efficacy in promoting children's acquiring of new English vocabulary as SLA learners comparing with the method of teaching with the word-list while this efficacy is not prominent for the above-mentioned reasons. Therefore, further research might incorporate a study of wider research questions such as the efficacy of the PWIM to the reading comprehension or sentence generating apart from simple English vocabulary acquisition for the ESL learners. Additionally, a greater length of time for implementation of the PWIM cycle should be considered. Last but not least, a larger sample size and longer length of the cycles for the teaching of the PWIM would increase precision and will probably provide stronger support for the efficacy of the PWIM in English vocabulary acquisition for young SLA learners in Sweden.

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Appendices

Appendix 1

The Pre-test:

Pre-test (10 minutes)

Name:_____ Age:_____ Sex:_____

1. Choose the word that does not have the same property.

Sample item:

(B) A. bird B. pen C. elephant D. dog (bird, elephant and dog are all animals, but a pen is not an animal.)

( ) 1 .A. listen B. computer C. read D. write
( ) 2. A. sister B radio C. son D. daughter
( ) 3 .A .plane B. bike C. car D. window
( ) 4. A. woman B.man C. tall D. girl
( ) 5. A. horse B. tiger C. egg D. bear
( ) 6. A. Monday B. Friday C. birthday D. Saturday
( ) 7. A.the moon B. the sun C. the earth D. dark
( ) 8. A. nose B. eye C. mouth D. hat
( ) 9. A. fat B. Swedish C. big D. small
( ) 10. A. telephone B. sofa C. chair D. T-shirt

2. Write under the picture what it is.





_____ _____ _____ _____ _____

Appendix 2

The Post-test:

Test (15minutes)

Name:_____ Age:_____ Sex:_____

1. Blank Filling. Fill the blank with the correct letter.

Polar _ear
Crow_
Cast_e
The _ky
P_w
Fu_
S_owflake
Sa_
_uge
L_nely
Pilla_
Blu_

2. Word Match. Draw lines between words and their corresponding meaning.

Fur	a kind of bear
Polar bear	a column which is used for supporting a house/castle
Sad	a shape of snow
Huge	alone
Crown	a very large building
Castle	the king's hat
Paw	unhappy
Pillar	animal's hand or foot
Lonely	hair on animals' skin
Blue	color of the sky
Snowflake	big

3. Write under the picture what it is. (Use the new words you have learned today.)



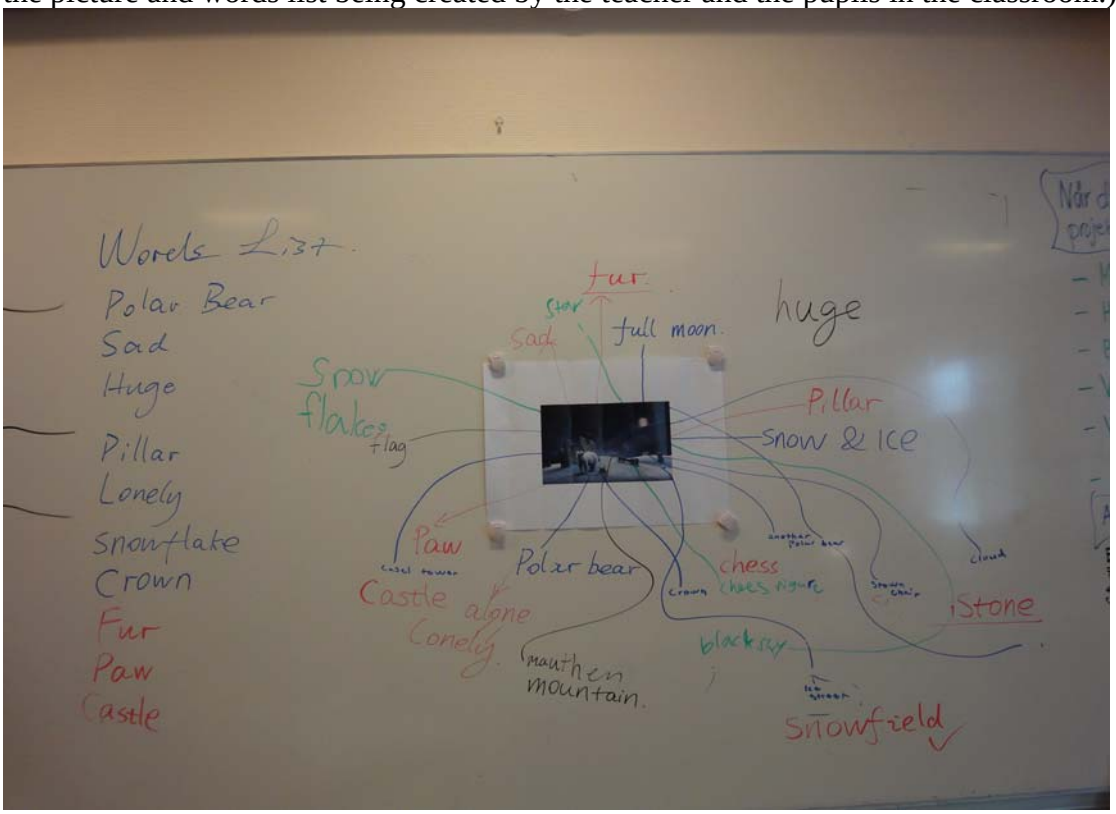


_____ _____ _____ _____ _____


_____ _____

Appendix 3

The PWIM Picture-word Chart: (Apart from the picture, there are words being "shaken out" of the picture and words list being created by the teacher and the pupils in the classroom.).



The following picture is the orginal picture before being shaken out words.

Source :< http://www.wallcoo.com> (accessed on 20th March, 2011)

Appendix 4

The Questionnaire for Group A:

Questionnaire

Age:___. Sex:___. Grade:____.Name:_____.
Please tick off your choices and answer the following questions. Your information will be kept as secret and the data will be collected anonymously. Thanks for your cooperation.

1. Do you like the method of teaching new words with word-list to you?
   A. YES. B. NO.

2. Do you enjoy today's lesson?
   A. YES. B. NO.

3. If you do not like my way of teaching, Why? You can use Swedish to answer.
   A. Boring. B. difficult to learn. C. other reasons _____.

4. If the teacher teaches you by pictures, do you think you can learn the new words more easily?
   A.YES. B. NO.

5. Any comment:_____.

Appendix 5

The Questionnaire for Group B:

Questionnaire

Age:___. Sex:___. Name:_____.
Please tick off your choices and answer the following questions. Your information will be kept as secret and the data will be collected anonymously. Thanks for your cooperation. For the answers, You can use Swedish to answer.

1. Do you like the method of teaching new words with a picture to you?
   a) YES. B. NO.

2. If you like it, why do you like it?
   a) interesting. B. easy to learn words. C. all of the above. D. other reasons_____.
   If you do not like it, please tell me why.
   _____.

3. Do you enjoy today's lesson?
   a) YES. B. NO. Why ?_____.

4. Do you think you can learn the new words more easily than teaching you through word-list (teaching without picture)?
   A.YES. B. NO.

5. Any comment:_____.