## إقـــــرار

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

**The Effectiveness of Using Smart Boards in Developing Tenth Graders' Vocabulary Achievement, Retention, and Attitudes towards English in Gaza**

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# The Effectiveness of Using Smart Boards in Developing Tenth Graders' Vocabulary Achievement, Retention, and Attitudes towards English in Gaza

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# نتيجة الحكم على أطروحة ماجستير

بناءً على موافقة شئون البحث العلمي والدراسات العليا بالجامعة الإسلامية بغزة على تشكيل لجنة الحكم على أطروحة الباحث/ **رياض سليمان محمد الفرا** لنيل درجة الماجستير في **كلية *التربية*/ قسم مناهج وطرق تدريس** وموضوعها:

**"فاعلية استخدام السبورة الذكية في تنمية تحصيل مفردات طلاب الصف العاشر في غزة والاحتفاظ بها واتجاهاتهم نحو اللغة الإنجليزية"**

**The effectiveness of using smart boards in developing tenth graders' vocabulary achievement, retention and attitudes towards English in Gaza**

وبعد المناقشة العلنية التي تمت اليوم الأحد 02 شعبان 1435هـ، الموافق 2014/06/01م الساعة الحادية عشرة والنّصف صباحاً بفرع الجنوب، اجتمعت لجنة الحكم على الأطروحة والمكونة من:

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**واللجنة إذ تمنحه هذه الدرجة فإنها توصيه بتقوى الله ولزوم طاعته وأن يسخر علمه في خدمة دينه ووطنه.**

والله ولي التوفيق،،،

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﴿وَمِنْ ءَايَـٰتِهِۦ خَلْقُ ٱلسَّمَـٰوَٰتِ وَٱلْأَرْضِ وَٱخْتِلَـٰفُ أَلْسِنَتِكُمْ

وَأَلْوَٰنِكُمْ إِنَّ فِى ذَٰلِكَ لَءَايَـٰتٍ لِّلْعَـٰلِمِينَ﴾

. . . . . .

***سورة الروم آية رقم ٢٢***

# *Dedication*

***I would like to dedicate this work to:***

- *The soul of all martyrs of freedom……*
- *My mother, who dedicated her life for us……*
- *My father, who sacrificed his life for our happiness……*
- *My beloved wife, sons and daughters, Suliman, Walaa', Mohammed, AlShaima, Asia and Ammar whose love, continual support, and patience encouraged me to reach my goal…….*
- *My dear brothers and sisters who supported me with their prayers to achieve my dream ……*
- *All those who gave me love, strength and patience……*
- *All my friends and colleagues……*

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# Abstract

**The Effectiveness of Using Smart Boards in Developing Tenth Graders' Vocabulary Achievement, Retention and Attitudes towards English in Gaza.**

This study aimed at investigating the effectiveness of using Smart Boards in developing tenth graders' vocabulary achievement, retention and attitudes towards English. To achieve the study aims, the researcher adopted the experimental approach with two groups' pre-post test design (experimental and control). To collect data, the researcher prepared these tools: 1) An achievement test (pre, post & delayed) 2) An attitude scale (pre & post) to determine the students' attitudes towards English language 3) A teacher's guide using the Smart Board. After examining the validity and reliability of the tools, the tools were implemented on the study sample represented in (85) male students from Khalid EL-Hassan School who were randomly selected from the original population of (1743) students in West Khanyounis Directorate of Education 2013-2014. The sample was divided into two groups: the experimental group consisting of (44) students and the control one consisting of (41) students. The two groups were similar in their age, previous learning, achievement in general and achievement in English language. The Smart Board was used in teaching the experimental group, while the traditional method was used with the control one in the second term of the scholastic year (2013-2014). The experiment lasted for five weeks (2 lessons per week). After three weeks, a delayed test was administrated to the experimental group and control group to test retention. After the data had been analyzed using SPSS program, the study revealed that there were significant differences at ($\alpha = 0.05$) in the scores of the control and the experimental groups in favor of the experimental group on the vocabulary post- test which was attributed to the effectiveness of the Smart Board. The findings also pointed out that there were statistically significant differences at ($\alpha = 0.01$) in the students' post attitudes towards English before and after implementing the Smart Board in favor of the experimental group. Additionally, there were statistically significant differences at ($\alpha = 0.01$) in the students' achievement level of the control and the experimental groups (in the retention test) in favor of the experimental group. It also showed that there were no significant differences in mean scores between the post-test and delayed (retention) test of the experimental group.

Based upon the previous findings, the study recommended that teachers are advised to use the Smart Board in teaching English, training courses and workshops for teachers in general and for teachers of English in particular on employing the Smart Board should be held to enrich the teaching learning process and develop students' achievement level. It also suggested that further research should be conducted on the effect of interactive Whiteboards (IWB) on other English language skills, school subjects, students' creative thinking skills as well as in the treatment of learning difficulties in English.

## ملخص البحث

### فاعلية استخدام السبورة الذكية في تنمية تحصيل مفردات اللغة الانجليزية واستبقائها والاتجاهات نحو اللغة لدى طلاب الصف العاشر الأساسي في غزة

هدفت هذه الدراسة الى التعرف على فاعلية السبورة الذكية في تنمية تحصيل مفردات اللغة الانجليزية واستبقائها لدى طلاب الصف العاشر في غزة واتجاهاتهم نحو اللغة ولهذا استخدم الباحث المنهج التجريبي القائم على مجموعتين: قبلي وبعدي ( تجريبية وضابطة) ولجمع البيانات صمم الباحث الأدوات والمواد التالية: ١- اختبار تحصيل للمفردات ( قبلي – بعدي – مؤجل) ٢- مقياس اتجاهات (قبلي وبعدي) لتحديد اتجاهات الطلاب نحو اللغة الانجليزية ٣- دليل معلم قائم على السبورة الذكية.

وبعد التأكد من صدق وثبات الأدوات والمواد، تم تطبيقها على عينة الدراسة الممثلة في(٨٥) طالب من مدرسة خالد الحسن الثانوية للبنين التي تم اختيارها عشوائياً من أصل مجتمع يبلغ حوالي (١٧٤٣) طالباً في مديرية غرب خان يونس للعام الدراسي ٢٠١٣- ٢٠١٤ م. وقسمت العينة إلى مجموعتين: التجريبية وتتكون من (٤٤) طالباً والضابطة مكونة من (٤١) طالباً وتشابهت المجموعتان في: متغير العمر، التعلم القبلي والتحصيل. ولقد استخدمت السبورة الذكية في تعليم المجموعة التجريبية بينما تعلمت المجموعة الضابطة بالطريقة التقليدية وذلك في الفصل الثاني من العام الدراسي ٢٠١٣ – ٢٠١٤م. واستغرقت الدراسة خمسة أسابيع بمعدل درسين في الأسبوع. فتم تطبيق الاختبار المؤجل بعد ثلاثة أسابيع على المجموعة التجريبية والضابطة لقياس أثر استبقاء المفردات وبعد استخدام برنامج SPSS في تحليل النتائج كشفت الدراسة عن النتائج التالية: وجود فروق ذات دلالة إحصائية عند مستوى دلالة (٠,٠٥) في مستوى تحصيل طلاب المجموعتين التجريبية والضابطة على القياس البعدي لاختبار التحصيل لصالح المجموعة التجريبية ويعزى الى فاعلية السبورة الذكية. كما أظهرت النتائج وجود فروق دالة احصائياً لصالح المجموعة التجريبية في التطبيق البعدي لمقياس الاتجاهات ويعزى ذلك لاستخدام السبورة الذكية بالإضافة لوجود فروق دالة احصائياً لصالح المجموعة التجريبية في الاختبار المؤجل، كما أظهرت النتائج عدم وجود فروق دالة احصائياً بين الاختبار البعدي والمؤجل للمجموعة التجريبية.

وبناءً على النتائج السابقة، أوصت الدراسة بضرورة: تبني معلمي اللغة الانجليزية للسبورة الذكية في تعليم اللغة الإنجليزية، عقد دورات تربوية و ورشات عمل للمعلمين بشكل عام ولمعلمي اللغة الانجليزية بشكل خاص في توظيف السبورة الذكية لإثراء عمليتي التعليم والتعلم وزيادة تحصيل الطلاب و اقترحت الدراسة أيضاً إجراء دراسات علمية لفاعلية السبورة الذكية على مهارات أخرى للغة الإنجليزية، و المواد الدراسية الأخرى و مهارات التفكير الإبداعي للطلاب بالإضافة لمعالجة صعوبات اللغة الانجليزية.

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## List of Abbreviations

| Abbreviations | Stands for |
|---|---|
| ICT | Information and Communication technology |
| IWB | Interactive whiteboard |
| ESL | English as a second language |
| L2 | Second language |
| UNRWA | United Nations Relief and Works Agency |
| EFL | English as a foreign language |
| SPSS | Statistical Package for Social Sciences |
| CAI | Computer-Assisted Instruction |

# Chapter I

# INTRODUCTION

# Chapter I
# Introduction

English has become the language of international business, diplomacy and professions, as well as the most dominate language in the world. As time passes, more people are learning English. Nowadays, the whole world seems to speak English. As David (2009) asserts, it is the language of travel, tourism, science and technology. It has become a universal language that covered all aspects of life, where people of different nationalities use it to communicate with each other and it has become the language of science, technology, politics, economy and education. This universal acknowledgment of English as the language of today and the need for good communication skill in English has created a huge demand for teaching English around the world. This has put a tremendous pressure on scholars to cope with this demand and to contribute to the development of a new and different teaching methodology for teaching English as a foreign language (Hamdona2007:1). Consequently, English as a language has proved to be an essential demand for all levels and in different fields. That's why in Palestine, English is being taught to all students as a foreign language from the first grade to the twelfth and this is due to its great importance.

Keshta (2000:4) clarifies that English language through the years has become increasingly important, not only in the West but also in the Middle East and the rest of the world. It has become the common language between people from different backgrounds. In the Middle East, governments provide programs for English language in almost every school and university.

In order to achieve a successful process of learning English, one must acquire its: vocabulary, grammar, pronunciation and skills, namely listening, reading, speaking, and writing. Accurate and adequate use of vocabulary influences language comprehension more than grammatical correctness in effective communication. In this concern, Wilkins (1972:111) emphasizes that "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed". This clarifies the importance and the essential role of vocabulary in learning a foreign language.

Vocabulary can be a key factor for success, central to a language, and paramount to a language learner. In such a situation, the lexicon may be the most important component for learners (Grass & Selinker, 1994).

Nowadays, due to the same reasons, it is widely accepted that vocabulary acquisition should be part of the syllabus design. For example, Schmitt (2008:329) believes that vocabulary is an essential part in language mastery. Similarly, Knight (1994:1) proposes that acquisition of words can be considered the most important aspect of second language acquisition. Vocabulary has a crucial role in English language achievement. Literature mentions that there is a great link between vocabulary and reading comprehension of EFL learners. This direct link greatly impacts academic growth and performance. (Chang, 2006; Glowacki, et al. 2001)

Vocabulary teaching and learning is considered one of the major challenges that face ESL/EFL teachers and learners. Most EFL learners have difficulties in communicating in English language because of their limited amount of vocabulary. In order to overcome these challenges they should use effective strategies which enhance vocabulary achievement and retention (Al-Zahrani, 2011:2).

There are several problems facing learning English vocabulary. These include forgetting new vocabularies because learners do not use them in their daily life since they are not surrounded by English speakers (Lin, 2002, 65 cited in Al-Zahrani 2011). This requires looking for effective methods and strategies in order to improve achievement level to acquire vocabulary and motivate learning.

Richards & Renandya (2002:255) emphasize that vocabulary is a core component of language proficiency and provides much of the basis for how well learners speak, listen, read and write. Vocabulary is an important factor in all language teaching (Allen &Valette, 1977:149). It is very important to learn vocabulary when learning a foreign language since vocabulary plays a major role in language comprehension and production (Read, 2000). It is "central to language and of critical importance to the typical language learner" (Zimmerman, 1997:5).

Educators are often faced with the challenge of how to teach vocabulary to learners comprehensively making them able to recall the words they learned when the situation calls for it (Sökmen, 2001).

Since it is clear that most of our students have difficulties with learning vocabulary at schools, we have to find solutions for this great problem by means of making learning vocabulary and its retention more interesting for them. And this can be possible by employing new technologies such as Smart Boards, which facilitate teaching and learning for both teachers and students.

Current studies show that the successful integration of technologies into classroom instruction not only increases students' test scores but also encourages students' personal autonomy and enhances teachers' proficiency with their technology skills (Bates, Hopkins, & Kratcoski, 2012; Marzano, 2012, O'Connor, 2012; Picciotto, 2012). Students today are more advanced in technology than the previous generations of students. That means they use these new technologies a lot in their daily life. Cell phones, video games, iPods and SMART Boards are common items in the daily lives of today's youth who by chance, use English language through these new technologies and which in turn lead to learning some new English words unconsciously as the researcher noticed.

Educational institutions have tried to provide students with better learning environments by equipping them with the latest technology. This effort has encouraged instructors to use various assistive technologies such as computers and the Internet in their classrooms especially over the last decade; this process is called integration of information and communication technologies (ICT) (Hsu, 2010). As a part of the ICT integration process, the interactive whiteboard (IWB) has been one technology most invested especially in England, Spain, and Turkey (Holmes, 2009; Türel, 2010). As of 2010, England has the highest IWB penetration rate (73%) in the world. Denmark (50%) and the USA (35%) whhic substantially increased in classrooms; however, the average rate for Asia is still lower than 2% according to a recent research report (McIntyre-Brown, 2011). Smart boards are white boards with projectors and computers that reflect everything easily on this big screen which saves a lot of time, efforts and money and which will be elaborated more in the coming chapter.

So teachers need to be proficient in the use of the latest technologies in classroom instruction such as the Smart Board (O'Connor, 2012). Teachers must be comfortable with technology, able to apply it appropriately, and familiar with new

technological tools, resources, and approaches. If all the pieces are put into place, teachers find that they are empowered to advance their own professional skills through technology tools. Teachers must embrace advanced technologies and use them to make the learning environment come alive. This prompted the researcher to conduct this study which investigates the effectiveness of Smart Boards in developing tenth graders vocabulary achievement, retention and attitudes towards English language.

## 1.1 The Need and Rationale for the study

The need for this study emerged from the main aim of the Palestinian syllabus which is to develop students' competence in the four skills, and to encourage students to become confident users of English language. And the researcher thinks that one means of developing competence is through its vocabulary, which forms the flesh and blood of the whole language. So new technologies like the Smart Board can be used to stimulate and develop students' vocabulary through the use of a more authentic learning environment. The activities are combined with sounds, pictures, video clips and movements just like in the real world.

## 1.2 Statement of the problem

Through the researcher's modest experience in the field of teaching English language, he has observed that students face great difficulties in English vocabulary achievement and retention. This difficulty might be as a result of ineffective vocabulary teaching methods which affect their vocabulary achievement and retention. Thus, the students' low achievement level in vocabulary requires serious research for alternative and effective techniques that may increase students' achievement and motivation. This research comes in this context.

***The problem of the study can be stated in the following main question:***

What is the effectiveness of using Smart Boards in developing tenth graders' vocabulary achievement, retention, and attitudes towards English in Gaza?

## 1.3 Research questions

***The research sub-questions are:***

1- What is the framework of using the Smart Board in the development and retention of English vocabulary of Palestinian tenth graders in Khanyounis governorate?

2- Are there statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary post- test?

3- Are there statistically significant differences at ($\alpha \leq 0.05$) in the total mean score of the post attitude scale between the experimental group and the control group?

4- Are there statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary delayed (retention) test?

5- Are there statistically significant differences at ($\alpha \leq 0.05$) in the total mean score between the post-test and the delayed (retention) test of the experimental group?

## 1.3 Research Hypotheses:

1- There are no statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary post- test.

2- There are no statistically significant differences at ($\alpha \leq 0.05$) in the total mean score of the post attitude scale between the experimental and the control group.

3- There are no statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary delayed (retention) test.

4- There are no statistically significant differences at ($\alpha \leq 0.05$) in the total mean score between the post-test and delayed (retention) test of the experimental group.

## 1.5 Purpose of the study

The study aims at achieving the following purposes:

1. Investigating the effectiveness of Smart Boards in developing English vocabulary achievement.
2. Familiarizing English language teachers with basic principles of using Smart Boards in teaching English vocabulary.
3. Teaching English language vocabulary in an interactive and interesting way.
4. Identifying more efficient and meaningful ways of teaching English vocabulary.
5. Examining the students' retention of English language vocabulary as a result of using Smart Boards.

## 1.6 Significance

This study may:

1. Help English language teachers in organizing an effective teaching-learning environment through using Smart Boards.
2. Benefit supervisors to conduct training courses for English teachers to raise their awareness of the importance of using Smart Boards in teaching vocabulary.
3. Encourage researchers in conducting more studies about using Smart Boards in developing other skills such as reading, speaking and writing.
4. Motivate administrators and those in charge to equip our schools with more Smart Boards since they are very beneficial.

## 1.7 Limitations

The current study was applied in accordance with these limitations:

1. The sample of the study consisted of male tenth graders in the governmental schools in Khanyounis West - Directorate.
2. The study was carried out in the second term of the scholastic year (2013-2014).
3. The study was limited to practice English vocabulary on the text book of "*English for Palestine 10*" units (6-7-8) from the student's book.

## 1.8 Operational Definition of Terms

### 1.8.1 Smart board

A smart board is a digital whiteboard that allows the use of touch screen capabilities to manipulate information, as it is connected to a computer. The screen can act as a regular whiteboard, but when used together with an overhead projector, which is also hooked up to a classroom computer, the instructor can play multimedia on it, as well as project documents and make notes on them for the class to see. It is also very easy to save these notes for future use. It has the ability to write on it by special markers which in turn was used to develop the tenth graders' vocabulary.

### 1.8.2 Vocabulary

Vocabulary is the group of words that a person or group of people know how to use. Your vocabulary is all the words you know and use regularly. Here the vocabulary, are the words that are highlighted in the students' book of tenth grade units (6-7-8).

### 1.8.3 Vocabulary achievement

The researcher defines vocabulary achievement as the students' scores which are gained in the vocabulary achievement test that measures their skills in recognizing, understanding and applying English vocabulary.

### 1.8.4 Vocabulary Retention

It is the ability to acquire some words and keep them for a long time, then recall them again in other situations, to be used in contexts.

### 1.8.5 Attitude

Eagly and Chaiken (1993) define attitude as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”.

The researcher adopts this definition which refers to the students' tendency towards English language

# Chapter II

# LITERATURE REVIEW

# Chapter II
# Literature Review

In the light of the purpose of this study, which aimed at investigating the effectiveness of using Smart Boards in developing tenth graders' vocabulary achievement, retention, and attitudes towards English in Gaza this chapter is divided into two sections. The first section consists of three domains. The first domain is a theoretical framework which discusses vocabulary achievement and retention; the second domain discusses students' attitudes towards English language, whereas the third domain is about the Smart Board. The second section investigates the findings of previous studies related to the topic of the current study.

## Section I
## Theoretical Framework

### 2.1. Vocabulary

Vocabulary is now a current focus in ESL pedagogy and research and has been increasingly recognized as essential to language use because inadequate vocabulary can lead to the learners' difficulty in language reception and production (Wei, 2007). Vocabulary knowledge is important because it encompasses all the words we must know to access our background knowledge, express our ideas, communicate effectively, and learn about new concept. Vocabulary is the glue that holds stories, ideas, and context together, making comprehension accessible for the readers. In addition, vocabulary knowledge is essential to reading comprehension and determines how well the readers will be able to comprehend the texts they read in middle and high school. If the readers do not know the meaning of a sufficient proportion of the words in the text, comprehension is impossible. Knowing at least 90 percent of the words enables the readers to get the main idea from the reading and guess correctly what many of unfamiliar words mean. In other words, the students will not be able to comprehend the text that has too many unfamiliar words that exceed more than 10 percent (Sedita, 2005).

## 2.2 Historical Overview

Vocabulary has not always been considered as an important part in second language teaching and much more attention has been paid to teaching grammatical and phonological structures.

"No matter how well the student learns grammar, no matter how successfully the sounds L2 are mastered, without words to express a wide range of meanings, communication in a L2 just cannot happen in any meaningful way." (McCarthy, 1990:1)

### 2.2.1. The History of Vocabulary Teaching in the Twentieth Century

In the late 20th century, interest in vocabulary grew, as revealed by the appearance of lexicographical research in the 1980s (Zimmerman, 1997). Later there has been a great interest in the acquisition of vocabulary. After many decades of being neglected and receiving little importance, teaching and learning second language (L2) vocabulary has now markedly become into the focus of interest of many applied linguistic researchers and language teachers (Barcroft, 2004; Decaricco, 2001; Read, 2000). Moreover, lexical competence is currently acknowledged to be a core component of communicative competence by many vocabulary specialists, which provides much of the basis for how well learners speak, listen, read and write (Coady & Huckin, 1997; Richards & Renandya, 2002). In the past, it was thought that vocabulary could simply be learned effortlessly, and received only incidental attention in many textbooks and language programs. However, mastering vocabulary is one of the most challenging tasks that any learner faces when learning a foreign language and, thus, many language learners devote a great deal of time to memorize lists of L2 words and rely on their bilingual dictionaries as a basic communicative resource. Furthermore, they consider L2 acquisition as essentially a matter of learning vocabulary.

### 2.2.2. The current status of vocabulary teaching

Since the last three decades, the outlook on vocabulary has radically changed and researchers have shown outpouring interests towards this area. Therefore, the movement toward effective methodologies for teaching vocabulary has emerged and researchers and language teachers have also suggested many strategies and

techniques for vocabulary learning, which are dependent on the efforts of each learner (Cohen & Macaro, 2007; Mizumoto & Takeuchi, 2009).

Two major directions towards vocabulary teaching and learning have been the cause of debate among vocabulary researchers: (1) Explicit instruction which involves diagnosing the words learners need to know, presenting the words for the first time, elaborating word knowledge, and developing fluency with known words; and (2) Incidental learning which is acquiring vocabulary through other communicative skills such as listening, reading, speaking, or writing. Nation (2002) argues for a systematic rather than an incidental approach to the teaching of vocabulary and asserts that such a focus is an essential part of a language course. On the other hand, Hunt and Beglar (2002) recommend the combination of these two approaches and also acknowledge the need for strategy training. They suggest that learners need to be taught strategies for inferring words from contexts as well as those which can help them retain the words they have encountered. Since the onset of learning strategy research three decades ago, there is a consensus in this field that strategy training warrants time and effort both in and out of the classroom (Fan, 2003; Macaro, 2001; Takeuchi et al, 2007). There are not yet clear insights from research studies to inform teachers what they should do to best help their learners improve their foreign language vocabulary knowledge.

Throughout this brief history of vocabulary teaching, the researcher concludes that there is an urgent need to think deeply of this problem which is how to teach vocabulary properly for our students in order to acquire the second language easily which of course touches the core of this study. For that the researcher suggests through this study to use the Smart Board as an interactive tool to teach the new vocabulary because most students are crazy about new technologies.

## 2.3 What is vocabulary?

According to the (Cambridge Advanced Learner's Dictionary, 2003) a noun "vocabulary" has two definitions:

- All the words known and used by a particular person.
- All the words which exist in a particular language or subject.

We divide the knowledge of vocabulary known by a particular person into two groups:

- **Receptive / passive** vocabulary which is defined as the set of all words that are understood at reading or listening but not used in the spoken or written expressions.
- **Productive / active** vocabulary which is the set of all words that are not only understood, but also used meaningfully when creating new sentences (Cambridge Advanced Learner's Dictionary, 2003).

But of course, as the researcher notices through his long experience in teaching that the passive vocabulary is naturally bigger than the active one. The more often we meet a particular word and the more often we use it, the sooner it becomes an item in our active vocabulary.

## 2.3. Knowledge of a word

There are several aspects of a new lexical item that learners need to be aware of. Generally, many linguists point out the same components of word knowledge, only the diagrams used by them are a little bit different. The researcher has chosen the one set up by Harmer because it is the most comprehensive and distinguishes four main areas of word knowledge.

| | | |
|---|---|---|
| | Meaning | Meaning in context |
| | | Sense relations |
| | Word use | Metaphor |
| | | Collocations |
| | | Style and register |
| **Word** | Word formation | Parts of speech |
| | | Prefixes & suffixes |
| | | Spelling& pronunciation |
| | Word grammar | Nouns: Countable and uncountable |
| | | Verb comprehension and phrasal verb |
| | | Adjectives, adverbs and prepositions |

**Figure (1)** Knowledge of a word (Harmer 1991, 158)

Evidently, it is always essential to know the meaning of a new word and learners should also bear in mind that words usually have more than one meaning. For instance, the word book refers to a thing to be read, but also it means to reserve in advance and it can also stand for a number of other things. Besides, learners need to understand the importance of meaning in context because it helps them to discover the right meaning and they also need to know about sense relations, such as synonyms, antonyms, homonyms. (Harmer, 156)

The next aspect to consider according to Harmer's diagram is the use of a word. Learners should be informed that meaning can be created and extended by means of metaphors and idioms and they need to know how words collocate that is how words go with each other. Last but not least, learners need to be aware of the fact that some words are used only in certain social and typical contexts which means that what we say is governed by the style and register we are in. (Harmer, 157)

The knowledge of a word also includes the area of word formation which means that learners need to know how a word is created and how to change it to fit different grammatical contexts. It is also important to find out how prefixes and suffixes work, in other words, how learners can make opposites or different word classes. Lastly, word formation also means how words are spelt and how they sound. (Harmer, 157)

Finally, learners should be aware of a word grammar. Teachers should inform learners whether, for example, the noun is countable or uncountable, that modals are followed by bare infinitive without to, or teacher comments on the position of adverbs in a sentence (Gairns and Redman 1986, 45). To conclude, "knowing a word means far more than just understanding (one of) its meaning(s)." (Harmer, 158) Thus, from the above mentioned, the researcher asserts that, the teacher should bear in mind the above mentioned components of the word knowledge and while teaching new words, he should introduce such information about the word appropriately to his students.

## 2.5 Importance of Vocabulary

“Without grammar very little can be conveyed, without vocabulary nothing can be conveyed.” This is how the famous linguist David Wilkins summarizes the

importance of learning vocabulary in the book "How to Teach vocabulary" written by S. Tornbury. (David Wilkins in Thornbury 2002, 13) Such a significant statement is supported by other experts on vocabulary.

To exemplify, McCarthy in his book "Vocabulary" claims that, even if learners manage to master grammar and sounds of the second language, without words to express a wide range of meanings, communication in the second language just cannot happen in any meaningful way. (McCarthy 1990, VIII)

Scrivener (1994, 73) also agrees with Wilkins (1972). He professes that "Vocabulary is a powerful carrier of meaning." He demonstrates his claim on beginner learners. They often communicate in English by using the accumulative effect of individual words avoiding grammar and they are successful. The meaning is conveyed by vocabulary itself. On the other hand, a good knowledge of grammar is not such a powerful tool if the key word is missing.

Unfortunately, vocabulary is neglected in some English language courses (Davies and Pearse 2000, 59) and it often seems to be the least systematized and the least well catered for of all the aspects of learning a foreign language (McCarthy 1990, VIII). Moreover, vocabulary often arises in the classroom regardless of the chosen activity, and in spite of any conscious design on the teacher's part. (Gairns and Redman 1986, 1)

However, words are more complex than they appear to be on the surface and they also behave differently in different languages. While grammar at least seems to be finite, vocabulary is virtually infinite. This means that some words have more than one meaning in different situations such as the word "***book***" which sometimes means the book we read, but other times it means to get a place somewhere in a hotel for example or to book a place on a plane and so on. (Davies and Pearse 2000, 59) Moreover, vocabulary errors are potentially more misleading in communication than those of grammar. (Hedge 2000, 11) Therefore, Nation emphasizes the importance of systematic and principled approach to vocabulary by both the teacher and the learners. He advises teachers to select vocabulary carefully in order to be sure that high priority items are included, provide varied opportunities to practice them and use a wide variety of ways for dealing with them. (Nation 1990, 1-2)

The researcher concludes that vocabulary is crucial for getting meaning from a written or oral text. Without knowledge of key vocabulary in a text, a learner may have serious trouble understanding the message. Therefore, this sub skill deserves remarkable attention and should be taught systematically.

## 2.4. What helps to remember words?

"I would like to offer a few principles in this subchapter that can help to move the required word into permanent long-term memory". This is an extract from Thornbury's summary of the principles (2002, p.24 – 26) that were found out by researches:

_ **Repetition**: only repetition has not any long-term effect; but there is one exception - the repetition of encounters with a word. If words have been met at least for seven times over spaced intervals, for example, when reading, they are on good way to long-term memory.

- **Retrieval practice effect**: a kind of repetition that means the retrieval of word from memory, which helps the learner to recall it again later.

- **Spacing**: means not to teach too many vocabulary items together, but in small groups and with pauses between them.

- **Pacing**: means to provide the pupils enough time for particular work because each of them has his or her own pace and to enable them to work silently and individually.

- **Use**: means to put words to use in some interesting ways. The learners work together in pairs or small groups to list collocates for a given word.

The researcher used throughout the experiment two of these techniques such as: spacing which means giving some words for the students to learn and retrieving practice effect through warming up exercises on The IWB to recall the learnt words.

## 2.7. Intentional and Incidental Vocabulary Learning

Lexical skills are one of the most fundamental components of second language reading, listening, speaking and writing. Lexical skills extend over a broad area with many dimensions as Nation (2001) and Schmitt (2002) point out. As a result, vocabulary learning is a demanding task for language learners. One goal of

research on vocabulary acquisition is to find the most effective ways for language learners to learn and use the target vocabulary.

Two central positions exist in the field on second language vocabulary learning: incidental vocabulary learning and intentional vocabulary learning. Incidental vocabulary learning refers to reading-based vocabulary enlargement while intentional vocabulary learning refers to provision of support to learners by teachers, dictionaries, and some exercise types that allow students to manipulate vocabulary items. Besides these two central positions on vocabulary learning, some scholars (Hulstijn, Hollander, Greidanus 1996; Coady 1998; Wesche, Paribakht 2000) argue that intentional and incidental vocabulary learning should be used at the same time as they both have an important place in language learners' vocabulary development. Krashen (1989) argues that vocabulary acquisition occurs when learners read extensively for meaning in the target language. He opposes explicit presentation of vocabulary items because "linguistic competence developed this way is highly limited" (Krashen 1989,p. 440) in terms of quantity, usability and quality of learned vocabulary.

According to incidental vocabulary learning, the most salient incidental vocabulary learning strategy is inferring meaning of words by using contextual clues during reading for meaning. The active derivation of meaning from context makes the vocabulary more memorable and therefore results in better vocabulary retention (Hulstijn, 1993).

However, two questions in the literature remain unresolved about incidental vocabulary learning through reading. One concerns how many encounters to a word are needed to acquire it. Lack of conclusive results regarding this question is due to the incremental nature of the vocabulary acquisition process (Zahar, Cobb, Spada 2001).

Since aspects of a word such as its pronunciation, spelling, meaning, collocations, grammatical category, and appropriate use cannot be learned by language learners at one time, learners need to encounter a particular word several times in different contexts to acquire it completely (Schmitt, 2002).

The review of the literature by Zahar, Cobb, Spada (2001) seem to suggest that at least six encounters of a particular word in reading texts may result in its

acquisition. However, they also suggest that this number of encounters to a particular word may not be adequate for full acquisition.

The second question concerns the kinds of contexts that facilitate acquisition of a new word. Natural texts may contain contexts with unsupportive or misleading clues for incidental word learning purposes (Zahar, Cobb, Spada 2001, Hulstijn, Hollander, Greidanus 1996; Coady 1998; Wesche, Paribakht 2000).

For some words in unsupportive and misleading contexts, learners might need to wait for other contexts that are clear for them; otherwise they may learn the words incorrectly (Zahar, Cobb, Spada 2001).

Intentional vocabulary instruction holds that learners' acquisition of new vocabulary can be facilitated by the provision of support to learners by teachers, dictionaries, and some exercise types that promote consolidation and retention of the vocabulary items (Nation,2001; Schmitt,1995; Wesche, Paribackht, 2000; Zahar, Cobb, Spada, 2001). In an intentional vocabulary instruction environment, learners are encouraged to notice the words that are unfamiliar; they consult dictionaries, their teachers and friends in order to learn the unknown words in a text. Learners involve in these intentional vocabulary teaching activities in addition to inferring meaning of unknown words from context. Furthermore, learners consolidate the newly learned words by repetition and vocabulary learning exercises. According to this view, learners are active processors of vocabulary knowledge since the process of vocabulary learning is a complex task and requires varied mental processing (Wesche & Paribackht, 2000). To provide that kind of processing, Wesche and Paribackht (2000) argue that besides inferring meaning from context, learners should be engaged in vocabulary exercises such as *definition,* that to give elaborating sentences for a word *matching* means to match words with their equivalents or opposites *multiple choice* means to choose from four choices, *open cloze* in which students use one word to fill each space in a short text. The required words are usually grammatical, such as pronouns, articles, prepositions, auxiliary verbs and so on, *negotiating meaning with peers* means that students work together to discuss the meaning of new words.

These exercises help learners process vocabulary knowledge in depth and can lead to successful retention (Wesche, Paribakht 2000).

According to the intentional vocabulary instruction view, an overemphasis on incidental vocabulary learning by teachers may prevent learners from checking the correctness of inferred meaning of words. Learners may not look up words in the dictionary to check if their inferred meaning is correct or not (Hulstijn, 1993). As a result, students may learn and remember some word meanings incorrectly. Moreover, unless eighty percent of words in a reading text are known, it is difficult to infer the meaning of the unknown words from context (Nation,2001; Sökmen 2001), and students may then make incorrect inferences because they may think all unknown words can be inferred by using contextual clues (Hulsjtin, 1993). Additionally, an overemphasis on incidental vocabulary instruction may encourage students to ignore some unknown words in a text; thus students may not learn very many words from a reading text (Hulstijn, Hollander, Greidanus 1996).

Based on these findings, some researchers (Lyman-Hager & Davis 1996; Schmitt 2002; Maera 2001; Sökmen 2001) argue that incidental vocabulary learning alone does not answer the needs of the students in an EFL context where learners do not have the chance to meet the target vocabulary as frequently as needed to reach optimal vocabulary size and quality. Another problem in an EFL context is the limited time available for learning large and quality vocabulary (Cobb, 1999). Thus, according to Cobb (1999) the vocabulary learning process should be accelerated to meet the EFL learners' needs. Because of time limitations and the low rate of incidental vocabulary learning, there seems to be a consensus on providing learners both with incidental and intentional vocabulary learning opportunities.

In this section of the literature review, incidental and intentional vocabulary learning procedures were discussed. As each vocabulary learning type has both benefits and challenges for language learning vocabulary, it was concluded that both instructional types should be used at the same time.

## 2.8. Teaching Vocabulary with the Smart board

Building up valuable vocabulary is central to foreign language learning, but it is difficult to achieve. To recognize words, we need to associate meaning, sound and spelling and use new words correctly. The best way to learn new words is to learn them in context and use the items frequently in a variety of ways, including oral and

written production and perception, which should occur receptively and productively. Especially for young learners it is helpful to group words, for example, zoo animals, location expressions (in the house, at the table, on the floor), likes /dislikes. By vocabulary we mean nouns, verbs, adjective and adverbs such as, (content words) and not 'function words' which are treated as grammar words. So teachers have to find a mix of explicit vocabulary teaching activities and those activities in which incidental learning can take place. (Interactive Technologies in Language Teaching 2011: 31).

Schmitt (2000: 146) mentions that " most computers include multimedia capability (they have sound as well as pictures), they are ideal for language practice that requires a variety of written and spoken contexts."

### 2.8.1. Learning the meaning of new words

Vocabulary input has to be well organized and adapted to the age and developmental point of the learners. The meaning of new words can be explained through verbal expressions or by demonstration or pictures in a visual approach. The IWB is especially helpful in supporting meaning through visual input.

### 2.8.2. Associating words with images

Using visual techniques for teaching vocabulary is a traditional approach used in the presentation of new vocabulary items. Visuals include flashcards, photographs, drawings and real objects. Those visuals are widely used for conveying meaning and are particularly valuable for teaching concrete items of vocabulary such as body parts or furniture.

The drag and drop tool allows the teacher or the learners to move objects or textboxes on the IWB screen. You click on an object or textbox to drag it to the matching partner where you can drop it by removing the pen or finger from the board. (Interactive Technologies in Language Teaching 2011, 31)

### 2.8.3. Matching words to pictures

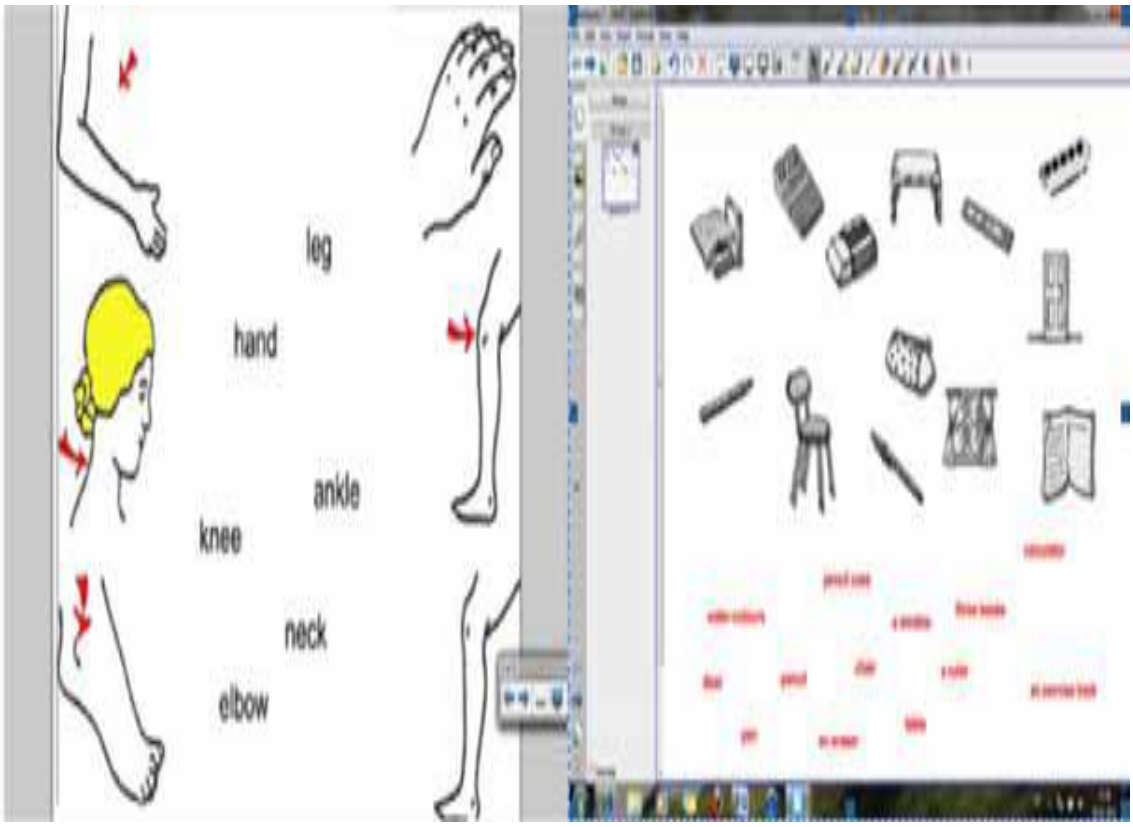


**Figure (2)** - ©Danny Nicholson think-bank.com**.** Pictures from unterrichtsmaterial-schule.de.

### 2.8.4. Semantic mapping

"Semantic mapping is an activity that helps bring into consciousness relationships among words in a text and helps deepen understanding by creating associative networks for words." (Celce-Murcia 2001: 288)

For semantic mapping activities words have to be matched in pairs that have a clear associative link. Closely related synonyms or antonyms should be avoided with beginners.

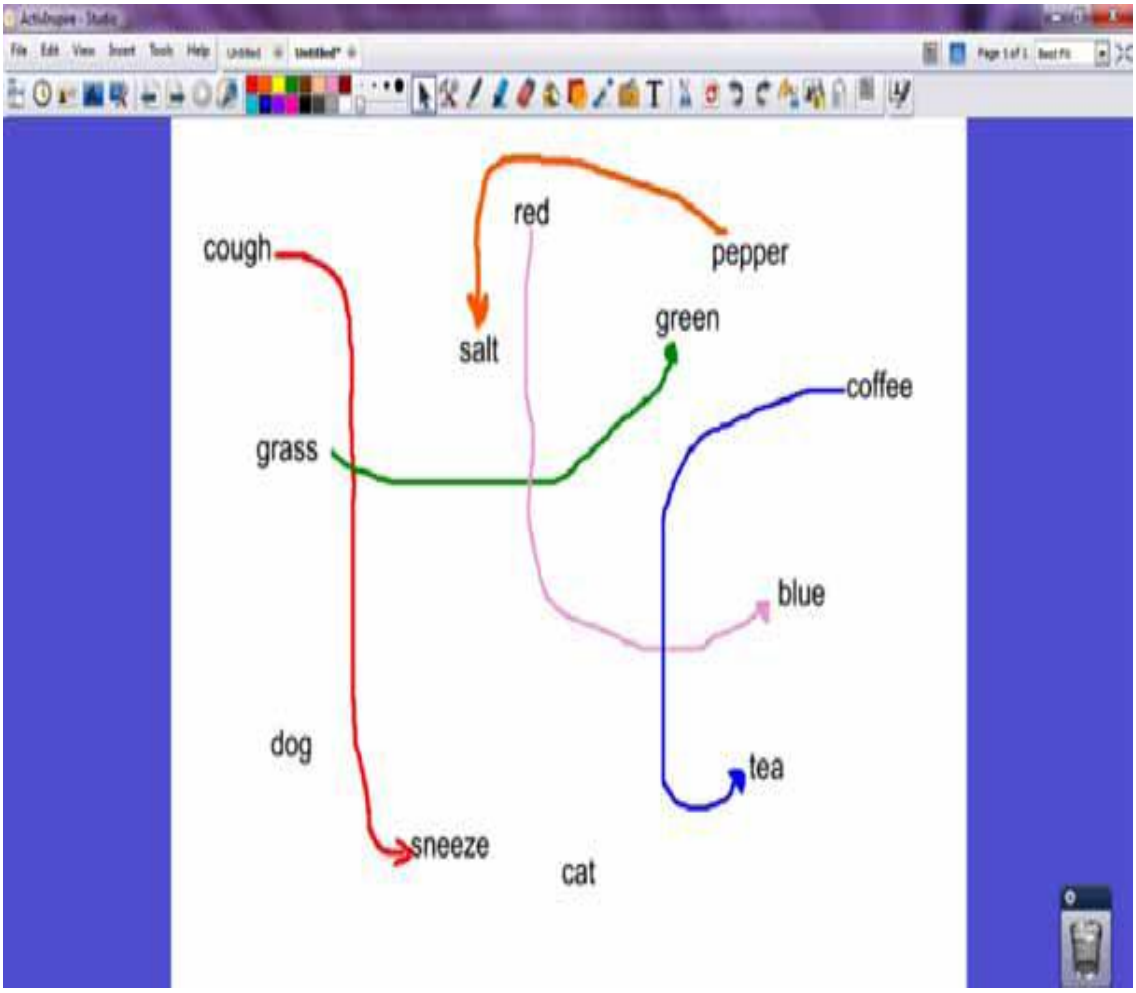


**Figure (3):** Semantic mapping with the help of the pen tool and different colours.

### 2.8.5. Presenting word families

Word families can either be introduced by giving the definition of the words or the focus of the word family construction can be on rhyming. The IWB can then help to highlight the rimes (all letters from the first vowel to the end of the syllable) in different colours with the help of the pen/ highlighter tool.

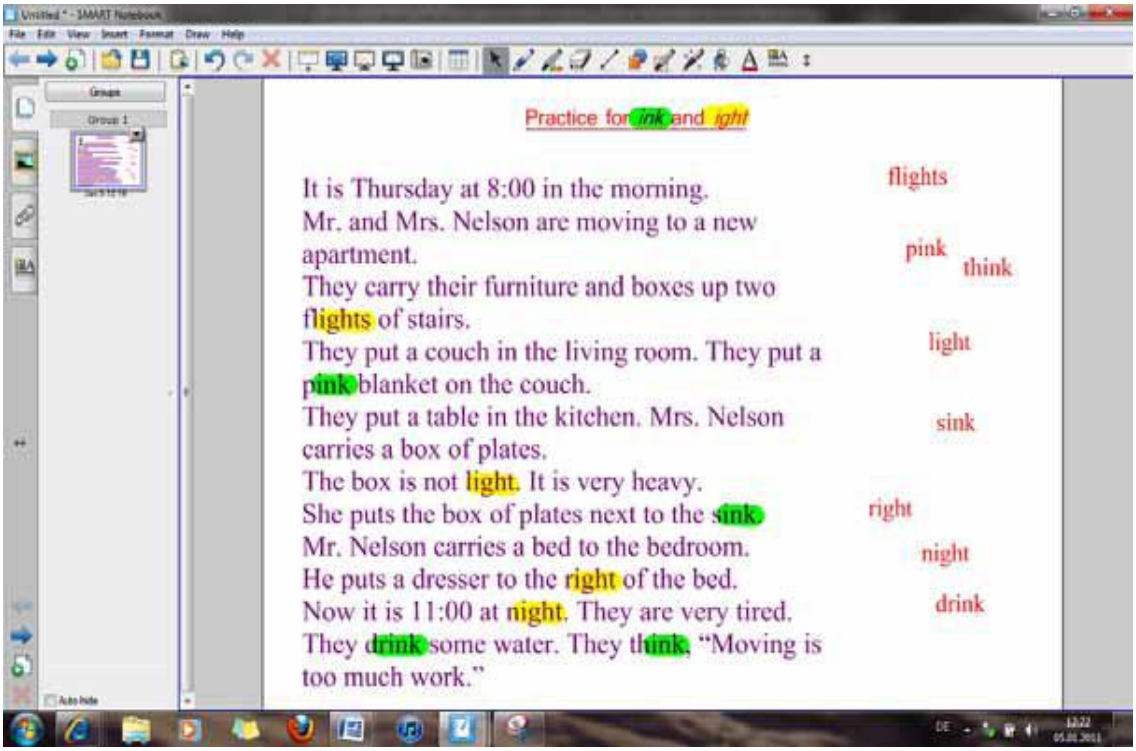


**Figure (4):** Text from: www.processresearchmethods.org.

### 2.8.6. Word-formation

Teaching languages with an IWB offers a great opportunity to pay more attention to language learning skills. The following example demonstrates the training of heuristics involved in guessing unfamiliar words and the related use of knowledge about word-formation.

Derivation as the process of forming a new word on the basis of an existing word uses affixes in order to change the existing form of the word. In the activity, the students are asked to drag and drop possible prefixes or suffixes to the stem in order to create new words. The affixes can also be cloned or duplicated with the software. (Interactive Technologies in Language Teaching 2011, 34)

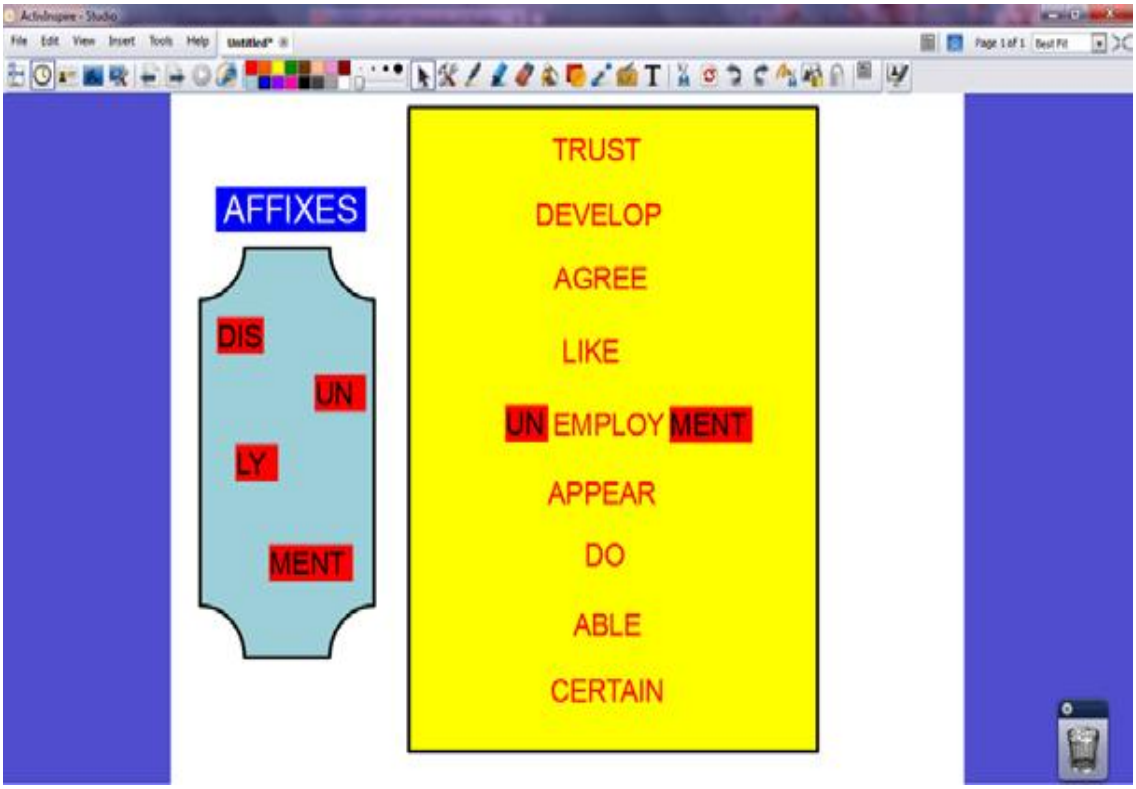


**Figure (5)** – Word-formation process visualisation with the drag and drop tool.

### 2.8.7. Organizing Vocabulary

McCarthy (1990) suggests organizing vocabulary by topic, meaning, form or in contextual relations like registers or discourse.

Gairns and Redman (1986) list several approaches and techniques used in the presentation of new vocabulary. All these presentation techniques can be easily implemented in the IWB classroom.

Once students have learned contrasting or related gradable items, scales can be used to repeat and add new items. For example, the contrasts of **never** and **always** can be added with **hardly ever**, **occasionally**, **sometimes**, and **often**. These words can be randomly arranged on the IWB screen to be then put into the right order while building sentences**.**

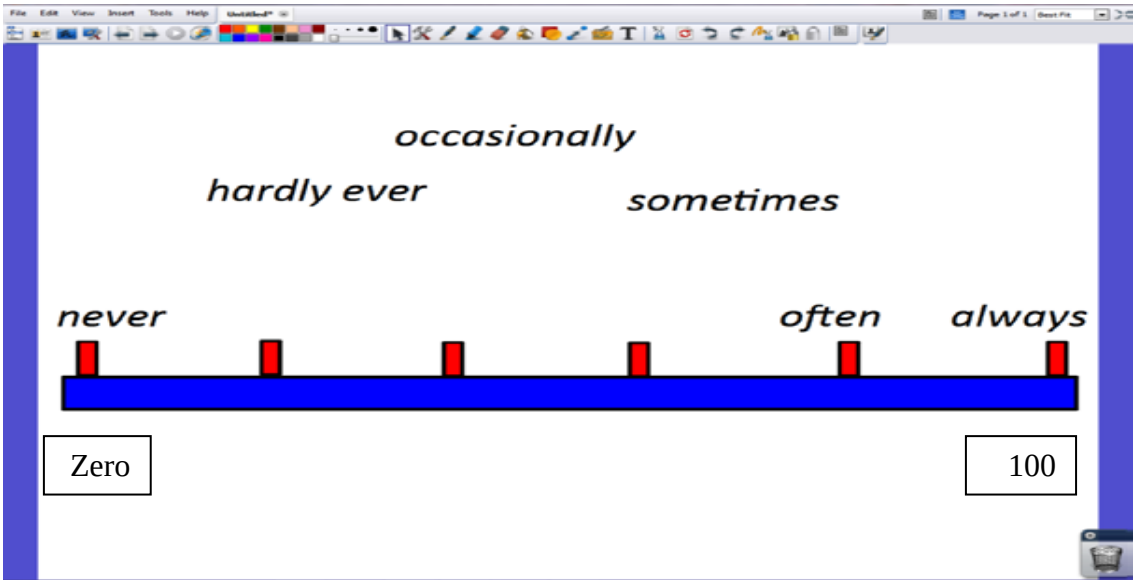


**Figure (6):** Scales – bring the adverbs of frequency into the right order.

### 2.8.8. Organizing in semantic fields

Vocabulary can also be organized through contrast or similarity or sense relations like hyponymy, which means that the meaning of one word is included in that of another, for example, bananas, apples, cherries which are kinds of fruit. After the presentation of the words they have to be repeated with a motivating approach for the learner. The organization of words through hyponymy can be done with the help of mind maps or graphs, which can also include pictures. The drag and drop function of the IWB software is especially helpful for these kinds of activities.

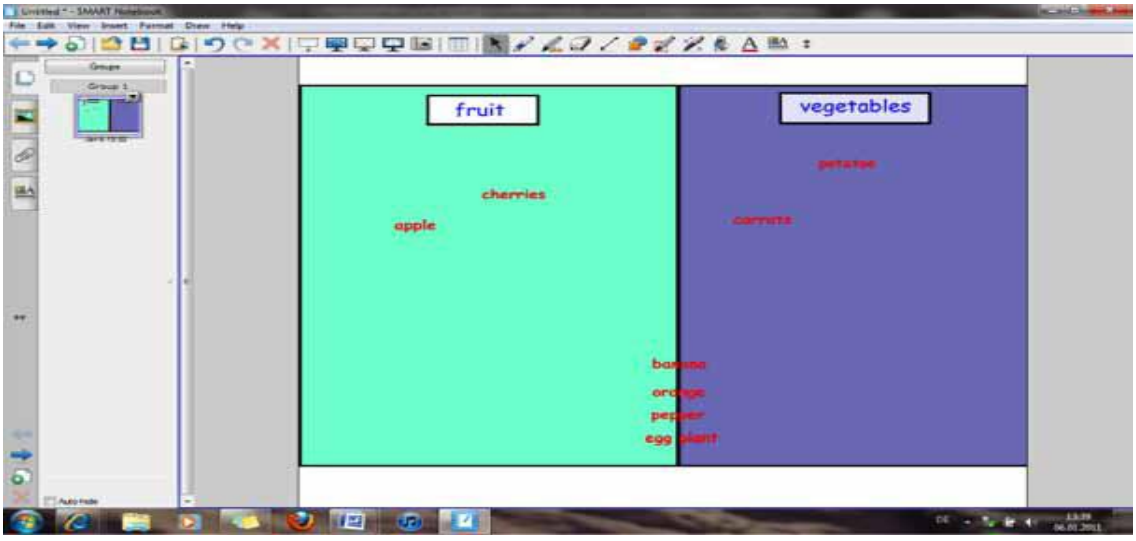


**Figure (7)** - Placing words into different categories.

The Shape tool can be used to create two different shape objects to split the page in half. The fill tool is then used to fill the two rectangles with different colours. The rectangles should be on the back layer and the words on the top layer. The words are placed in the middle of the flipchart in the beginning and can then be dragged and dropped to either side of the flipchart. (Interactive Technologies in Language Teaching 2011, 35-36)

From this, the researcher can conclude that computers in connection with IWBs ease the integration of multimodal sources to support the learning process of new words and store the material for uncomplicated repetition and reuse.

# 2. Retention

## 2.2.1 Definition

Merriam Webster Dictionary (2014) defines the word retention as "an ability to retain things in mind; *specifically*: a preservation of the aftereffects of experience and learning that makes recall or recognition possible". The free Dictionary (2014) also defines retention as "An ability to recall or recognize what has been learned or experienced; memory".

## 2.2.2 Vocabulary Retention

Vocabulary retention has been defined as "the ability to recall or remember words after an interval of time. In language teaching, retention of what has been taught (for example, grammar rules and vocabulary) may depend on the quality of teaching, the interest of the learners, or the meaningfulness of the materials" (Richards & Schmitt, 2002, p. 457).

As it is obvious in the domain of vocabulary learning, the problem is not just in learning second language words; rather in remembering them. Bahrick (1984) states that how well people remember something depends on how deeply they process it. Therefore, various procedures have been recommended to facilitate vocabulary retention.

Concentration on features of the new word and its textual environment is supposed to facilitate retention. Learning in context depends on repeating, re-cycling, and re-presenting vocabularies as well as re-noticing them by the learner. It has been suggested (Mondria & Wit-de Boer, 1991, as cited in Hedge, 2000) that retention is related to the condition in which the meaning is inferred and the more analysis involved, the better the retention. There is, yet, another aspect to the condition of inferring meaning of the word which enhances vocabulary retention. That is, retention depends in some way on the amount of mental and emotional energy used in processing a word and readers have developed certain strategies that could assist emotional and mental processing.

According to Celce-Murcia (2001:363-365), six major learning strategies have been identified by Oxford (1990). These strategies are of two kinds, the direct

strategies and the direct strategies. The direct strategies are divided into three categories; Cognitive strategies, Memory strategies, and Compensation strategies. The indirect strategies include: Metacognitive strategies, Affective strategies and Social strategies.

Cognitive strategies enable the learner to manipulate the language material in direct ways, through reasoning, analysis, synthesizing, recognizing information to develop stronger schemas (knowledge structures), practicing in naturalistic settings, and practicing structures and sounds formally. Memory strategies help learners link one's L2 element or concept with another, but do not necessarily involve deep understanding. Various memory strategies enable learners to learn and retrieve information in an orderly string (for example, acronyms), while other techniques create learning and retrieval via sounds (such as, rhyming), images (like, a mental picture of the word itself or the meaning of the word), a combination of sounds and images (for instance, keyword method), body movement on a page or a blackboard.

Compensation strategies help the learner make up for the missing knowledge. Compensation strategies that are used for speaking and writing often known as one form of communication strategies.

Metacognitive strategies used information of processing theory to indicate an "executive" functions, they involve planning and organizing written discourse or monitoring. They are behaviours used for centering, arranging, planning and evaluating one's learning. Metacognitive strategies permit students to know themselves better by identifying their own progresses, interests and needs. Affective strategies, such as identifying one's moods and anxiety level, talking about feelings, rewarding oneself for good performance, and using deep breathing or positive self-talk, have been shown to be significantly related to L2 proficiency.

Social strategies (such as, asking questions to get verification, asking for clarification of a confusing point, asking for help in doing a language task, talking with a native speaking conversation partner, and exploring cultural and social norms) help the learners work with others and understand the target culture as well as the language. Oxford (1990) argues that these strategies provide an immediate opportunity for incidental learning. However, affective strategies are related to learners' feelings of anxiety, anger or contentment about the learning process itself.

Such strategies can have positive or negative impact on the learning process because of fear of failure, while activities and games may relax the atmosphere and make learning enjoyable.

So the researcher agrees completely with the above mentioned idea that students need an interesting and relaxing atmosphere inside the classroom to raise their motivation towards learning and this can be done by using new technologies such as the Smart Board.

Schouten-Van Parreren (1989) concentrating on reading with the primary goal of vocabulary acquisition, argues that a combination of three actions of inferring, verifying, and analyzing the meaning of each new word is very effective for this purpose. She defines guessing as inferring meaning of an unknown word from the context. The second action, which is the action of verifying the guess, is looking up words in a dictionary. The third action according to Schouten-Van Parreren comprises the recognition of the relationship between new words and already known words in the target language or the mother tongue.

In spite of the fact that learners are recommended to learn words through reading texts, retention should not be confused with comprehension. Learning the word's meaning implies more than comprehending it in a particular text during a reading activity. The meaning of a word has to be retained in the long-term memory. As stated by Haycraft (1978), the words which are related to each other can be easily retained because using the meaning of words together with the whole meaning of the sentences in which they are embedded is the deepest level of processing and ensures the best retention.

To fulfill this aim, the researcher tried in his current study to facilitate learning by actively involving the learner in conscious efforts and deep mental processing through interacting with the Smart board to remember new words effectively and for a long time possible in the long – term memory by using different techniques of presenting new vocabulary, which were sometimes by relating words with pictures, videos and sounds.

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### 2.2.3 The Role of Memory in Vocabulary Acquisition

Students do not necessarily learn what teachers teach them because memory has a great influence on language learning. Teachers should recognize that teaching does not necessarily cause learning. They should know that teaching can be a linear and step-by-step; however, learning is not necessarily linear, with only incremental advancement without rehearsal. Students might learn a word many weeks, months, or even years later, after he or she has met it a great number of times. Therefore, teachers should provide opportunities in which the students can frequently meet the target words. Schmitt (2000), states that students forget most of the new words after the end of the learning session, so it is important to have a review session soon after the learning session. The expanding of rehearsal could help to transfer the new words from the short-term memory to the long-term memory.

There are two different types of memory: short-term memory and long-term memory. Short-term memory is used to hold a small amount of information while it is being processed. Long-term memory stores unlimited amount of information to be used in the future. Thus, the goal of learning vocabulary is to transfer the lexical information from short-term memory to long-term memory during the process of learning. This can be done by various ways, such as the Keyword Approach, grouping the new words with already known words that are similar, relating these words with pictures for example ( video clips, realia and so on) to transfer the words to the long term memory.

Language learners need all the information of the language to be learnt transferred into long-term memory (LTM). It has therefore been of interest to the cognitivists how this ‘encoding’ process could be achieved, how LTM operates and how information can be retrieved from this store, reversing the path and transferring information from LTM to STM. To this end learners need appropriate strategies to achieve success (Mayer, 1998). The main way of transferring from WM to LTM is by finding some pre-existing information in the LTM to attach the new information to. In the case of vocabulary, it means finding some element already in the mental lexicon to relate the new lexical information to (Schmitt, 2000: 132). The native keyword is such an element. LTM should also be divided into active memory for

information to be retrieved and inactive memory for information only to be recognized (Rohrer, 1984: 16-17). This has some relevance for language learning since we distinguish between the active and passive lexicon. Tulving (1972) proposed two kinds of LTM, semantic and episodic memory, building on Quillian (1967). Both are part of the declarative memory which is assumed to depend on propositional representations that can be contemplated introspectively and questioned about veridicality (Neuropsychologia 2003: Editorial). However, Tulving did not see these two categories as strictly independent short and long-term ones. The semantic memory is for meaning (Reber, 1995: 449). Tulving defines it thus: a system for receiving, retaining, and transmitting information about the meaning of words, concepts, and classification of concepts (Tulving, 1972). In other words, it is something that one has learnt consciously – such as foreign languages. Episodic memory is responsible for information which is stored with 'mental tags', about when, where, and how the information was picked up (Reber, 1995:447), for example, feelings and events like first love or a recent holiday. Two other categories – the procedural memory, which is responsible for the gradual acquisition of sensory, motor and cognitive skills that have become automatic, such as riding a bike, and priming, the (subconscious) triggering of specific memories by a specific cue, such as 'river' will prime one meaning of 'bank' (Reber, 1995: 597), the facilitation in the processing of an item due to prior exposure to the same item - are also part of the memory system.

Weltens and Grendel (1993, as cited in Schmitt, 2000) argue that lexical knowledge is more apt to attrition that other linguistic aspects, such as phonology and grammar. This is because vocabulary is made up of individual units rather than a series of rules, such as grammar.

Cohen and Olshtain (1989, as cited in Schmitt, 2000) have also shown that receptive knowledge does not decline dramatically, and when it does, it usually affects unimportant words, such as low-frequency non-cognates. On the other hand, productive knowledge is more apt to be forgotten. The rate of attrition is also independent of proficiency level; that is, learners who have high proficiency level will lose about the same amount of knowledge as those who have low proficiency level.

This long-term attrition is similar to short-term forgetting. For instance, when learners learn new information, they forget most of this information immediately at the end of the learning session. After the major loss, the rate of forgetting decreases. By understanding the nature of forgetting, teachers can organize better review sessions that will help their students. They also can indicate the importance of having a review session soon after the learning session. Learners can also understand how important it is to review new material soon after the initial exposure.

The researcher concluded that since the known words are already fixed in mind, relating the new words to them provides a hook to remember them, so they are not forgotten easily. New words that do not have this connection are easily forgotten. Words can also be forgotten even if a word is well known, as when a learner does not use a second language for a long time or stops a course of language study. In this case, it is called attrition. So the researcher in his study used the Smart Board which a very important factor in retaining the words in the long term memory.

# 3. Attitudes

## 2.3.1. Historical Background

Scholarly research focusing on attitudes began less than a century ago. Initially, an attitude was the term used to describe a physical posture or pose that a person adopted when he or she had their portrait painted (Baker, 1992). During the second decade of the twentieth century, researchers and theorists started to realize, for the first time, that an attitude was related to a mental state, rather than physical posture. Behaviorists from that time were inclined to believe that an attitude could not be measured (Reid, 2006). Thurstone (1929), however, published an article claiming that an attitude, or several attitudes, could be measured, and, shortly, Likert (1932) suggested a method for actually doing so. From that point on, several researchers from different academic disciplines have studied attitudes.

Initially, these studies were restricted only to the discipline of social psychology and later the idea spread to other disciplines, such as education. In the field of education, studies of attitudes were mostly concerned with student attitudes toward school, school subjects, teachers, and other students. Among the studies of school subjects, students' attitudes toward learning a foreign language were explored by researchers such as Baker (1992), and Gardner and Lambert (1972). These researchers presented the most innovative and ground-breaking findings concerning students' attitudes toward second languages.

The researcher concluded that attitudes were neglected for a long time ago, but these days only, they were floating again on the surface to be seen clearly, especially the students' attitudes towards languages such as English.

## 2.3.2 Definition

Attitude has been a difficult concept to define adequately, primarily because it has been defined by so many, but also because of the word's differing lay uses and connotations. One of the earliest definitions of attitude was proposed by Thomas and Znaniecki (1918). They defined attitude as: "A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related."

More recently, Zimbardo, and Leippe (1991) defined attitude as:"An evaluative disposition towards some object based upon cognitions, affective reactions, behavioral intentions, and past behaviors , that can influence cognitions, affective responses, and future intentions and behaviors." Attitudes are latent and not directly observable in themselves, but they act to organize or provide direction to actions and behaviors that are observable.

Many refer to attitudes as "predispositions to respond" (Zimbardo & Leippe, 1991). Attitudes are related to how people perceive the situations in which they find themselves. Also, attitudes vary in direction (either positive or negative), in degree (the amount of positiveness or negativeness), and in intensity.

Allport (1935) defined attitude as a mental state of readiness, based on past experience that influences behavior towards an object.

Ajzen (1988, p. 4) defined attitudes as: “a disposition to respond favorably or unfavorably to an object, person institution or event”. Kiesler, Collins and Miller (1969, p.4) tried to make a distinction between opinions and attitudes and suggested that ‘opinions should be defined as an overt expression of a covert attitude”.

Eagly and Chaiken (1993, p.1), defined attitudes as: “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”.

The researcher found this definition as the most suitable concerning the concept of an attitude in this study which tackled students' attitudes towards English language.

### 2.3.3 Language Attitudes

In the field of foreign language learning, it is a fact that both motivation and attitudes have impact on students’ success in learning a foreign language. It is also claimed that attitudes have a strong connection to motivation. If a language learner has negative attitudes towards a language, they cannot be motivated. Gardner (1985) also comments that attitudes towards the second language may affect the learners’

motivation to learn. There are many studies conducted on motivation and attitudes from a variety of perspectives, some researchers investigated the effect of attitudes on success, some others conducted studies on how students' attitudes changed due to direct contact with the native speakers of the target language, and some worked on identifying whether attitudes could change thanks to instruction.

### 2.3.4 The Roles of Attitudes

In second language acquisition, Gardner and Lambert (1972) identified two main roles of attitudes:

**1. Instrumental attitudes** which are related with the desire to receive social-status recognition or profitable benefits.

**2. Integrative attitudes** that are related to the desire to be integrated into another language community.

These roles describe the position of students with respect to their language learning situation. Instrumental attitudes are when the student is learning the language for personal interest, and integrative attitudes are when the student is learning a language with the desire to be integrated into a specific community that speaks that language. Students learning a second language may report both instrumental and integrative attitudes in response to instruments measuring these attitudes (Gardner, 1985).

### 2.3.5 Attitude Systems

Attitude positions are of four components:

(a) Affective responses, (b) Cognitions, (c) Behaviors, d) Behavioral intentions (Zimbardo & Leippe, 1991). The *affective* component of an attitude is said to consist of a person's evaluation of liking or emotional response to some situations, object or person. Affective responses reflect one's attitude with sensations of pleasure, sadness, or other levels of physical arousal, for example, the attitude towards languages, a topic of current interest, and the affective component would be a person's liking of the language and his feeling of excitement, or dread, when he or she used it. The cognitive component of an attitude is conceptualized as a person's

factual knowledge of the situation, object, or person, including oneself. In other words, the cognitive component refers to how much a person knows about a topic, such as English language and its vocabulary.

The behavioral component of an attitude involves the person's overt behavior directed toward a situation, object or person. For example, the behavioral component of language anxiety would be related to how often a person had used the language, and what kind of experience he had. People, who practice English language daily, especially if they choose to use it freely, would be more likely to have positive attitudes toward it, and be less anxious, than would others who do not practice it.

Finally, the behavioral intention component involves the person's plans to perform in a certain way, even if sometimes these plans are never acted upon. An example, once again, is the language anxiety. In other words, if people knew that they were going to have to use the language in an upcoming class, this would partially shape their level of language anxiety. If the class was to be a difficult one, then language anxiety would likely to be increased.

### 2.3.6 Attitudes and Instructional Media

Simonson (1980) states that if mediated instruction was broadly defined to include the entire learning process of which television, film, or still pictures were a part, then mediated instruction did seem to contribute to attitude formation and change. When only the media were evaluated, then conclusions were much less conclusive. Simonson stated that only one, broad, general conclusion about the relationship between media and attitudes was apparent and that this conclusion was an obvious one. Instructional media are primarily carriers of information and play their greatest role in the attitude change process as delivery vehicles. Characteristics of media such as flexibility of use, accessibility of information, and ability to encode ideas were more important than any inherent communication-related characteristics of a medium, which probably were of secondary importance to any development of attitudes or attitude changes (Simonson, 1980).

From the above mentioned, the researcher reached a conclusion that attitudes of students will change positively towards language learning if new means of instruction were used such as, media and the Smart board which includes all types of media.

# 4. The Smart Board

## 4.1. Smart Board: An Interactive Whiteboard (IWB)

A Smart Board refers to an electronic white board used in classrooms (Preston & Mowbray, 2008). It serves as a tool to implement instruction using various modes, such as touching, moving, and working on the screen. As indicated by Giles and Shaw (2011), the Smart Board is a valuable device to engage learners through the use of interactive instruction with hands on activities. This tool bridges different learning styles, interests of learners, abilities, along with their prior knowledge to review and practice on this electronic board with teacher and students. So it is called some times, the interactive white board (IWB).

## 4.2. Definition of the Smart Board

An interactive whiteboard is a large, touch-sensitive board which is connected to a digital projector and a computer. The projector displays the image from the computer screen on the board. The computer can then be controlled by touching the board, either directly or with a special pen.

The potential applications are: using web-based resources in whole-class teaching, showing video clips to help explain concepts, presenting students' work to the rest of the classroom, creating digital flipcharts, manipulating text and practicing handwriting, and saving notes on the board for future use (BECTA, 2003b, p. 1).

Thus, the researcher adopts this definition since all the definitions mean the same and agree nearly on the same use of this Smart board. These Smart Boards are available in most of the governmental and UNRWA schools in Gaza Strip.

## 4.3. The History of the Smart Board

The smart board or as it is sometimes called the interactive whiteboard (IWB) is a branch of ICT that has played a huge part in transforming today's classrooms. The IWB is a large touch-sensitive board that controls a computer which is connected to a digital projector (Smith, Higgins, Wall, & Miller, 2005). The IWB is sometimes referred to as an electronic whiteboard or SMART Board. In 1991, a pioneer company called SMART Technologies produced the first SMART Board

interactive whiteboards. Since then, IWBs have come a long way and many schools have these special whiteboards in their classrooms (SMART Technologies, 2006).

The IWB is a technological tool that has great potential. Smith et al. (2005) researched IWBs and came to the following conclusion: The IWB is not only a tool to enhance teaching, but it is also a tool to support learning. Beeland (2002) stated that the IWB is a tool for delivering instruction in a variety of ways that fall into one of three modalities of learning: visual learning, auditory learning, and tactile learning. The IWB helps students who are visual learners by providing them with a variety of visuals ranging from text and pictures to the use of animation and videos. Auditory learners also benefit from using the IWB through activities such as listening to sounds or music as part of a classroom presentation. Even tactile learners find the IWB helpful as they physically interact with the whiteboard by touching and moving things on the screen (Beeland, 2002).

Generally speaking, you can perform a variety of different functions with the IWB. For example, you can write, erase, and perform mouse functions with your finger, a pen or any other object that has a firm maneuverable surface. You can write in digital ink over websites and other applications. You can save your work or your notes and move them into a different software application. In the latest version of the IWB, you can even download software onto a personal computer. This is a great advantage for teachers because it allows them to create lessons from home. Furthermore, it allows students to review lessons and complete their work at home, provided that they have access to the Internet (Starkman, 2006).

Beyond the three different learning modalities that the IWB promotes, there is a variety of other more specific ways that the IWB can be used in the classroom setting. According to Reardon (2002), the IWB can be used to record class notes and homework assignments; prerecord a daily lesson; connect a whiteboard to a computer and the Internet; and integrate software programs into instruction.

Ziolkowski (2004) surveyed some teachers in his local high school and found some creative ways that the teachers implemented the IWB in their classrooms. Ziolkowski used the “notebook feature” of the SMART Board to import images into his physics class. Other teachers made lessons ahead of time, saved them, and then used them repeatedly to demonstrate skills that the students needed to know and

understand. A language arts teacher imbedded a variety of images, sound clips, and movie clips into his lessons, which were mostly downloaded from Internet searches. Gillen et al. (2008) researched the use of the IWB as a resource in a primary science classroom. They found that the teachers in their study used the IWB to present their objectives at the beginning of the lesson.

Shenton and Pagett (2007) found that language arts teachers made pre-prepared screens so that they could scaffold and modify writing, using the IWB's tools to highlight texts in color and magnify them for closer perusal. Teachers also saved work only to return to it later and review it with their students.

As previously mentioned, sometimes they also downloaded resources from the Internet to use with their lessons. Multimodal texts such as hyperlinks to other websites were commonly used as well. Villano (2006) found that teachers can manipulate a variety of tools that enable them to present slides, take notes, write in digital ink, control applications on a computer, and save work to share at a later time.

Beyond the classroom, Fletcher (2006) states that while teachers can use the IWB for demonstrations and introductions to specific units, they can also capture that same information and present it on their websites so that students can view it at their leisure. The IWB is ever evolving. One of the emerging forms of the IWB is the wireless tablet.

This portable wireless tablet functions similarly to the IWB. Wireless tablets allow teachers to stand at a distance from the IWB and yet control what is displayed on the whiteboard for the students to see (Landis, 2005).

The term "e-teaching" is a unique term used to describe the new pedagogy that is evolving with the use of the IWB. E-teaching involves the use of ICT to enhance the art of teaching students. E-teaching allows teachers to make use of a wide variety of resources through one simple piece of equipment – the IWB (Kent, 2006).

Throughout the above mentioned history of the Smart board, the researcher found this tool as a very interesting and interactive one, where all students are involved at the same time of teaching and learning with the teacher on the IWB paying all their attention and eager to share and get out to write and participate.

## 4.4. Types of Smart Boards

There are three types of interactive whiteboards (Harris, 2005). The first type consists of an infrared/ultrasound kit that can be fixed to an existing traditional whiteboard. This system does not have the same number of functions as an active whiteboard. The second type is a passive whiteboard that is sensitive to finger manipulations and has more functions than an infrared kit. The last one is the active whiteboard, which can be used with both a special pen and a human finger. This kind of interactive whiteboard has the most functions (Harris, 2005).

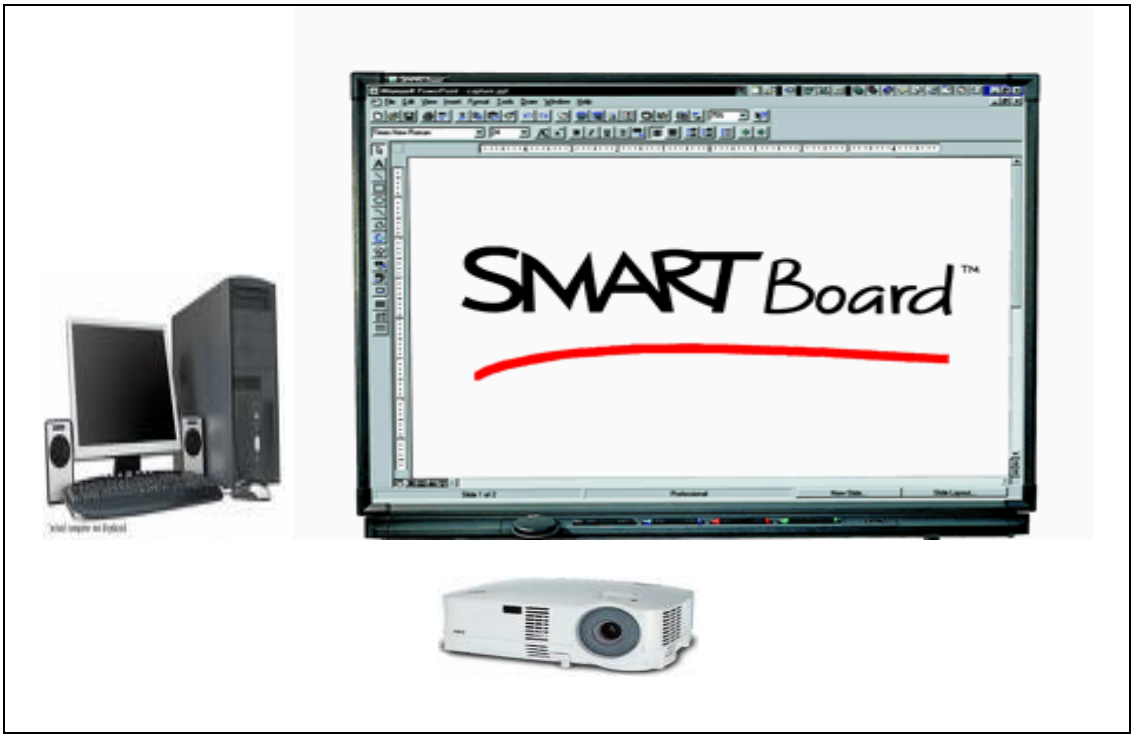
Interactive whiteboards are available in two forms: front projection and rear projection (Summet, Abowd, Corso, Rehg, 2005). Front-projection interactive whiteboards have a video projector in front of the whiteboard. The disadvantage of these IWBs is that the presenter must stand in front of the screen and his/her body will cast a shadow. In contrast, rear-projection interactive whiteboards have the projector behind the whiteboard so that no shadows occur. Rear-projection boards are also advantageous because the presenter does not have to look into the projector light while speaking to the audience. The disadvantages of these systems are that they are generally more expensive than front-projection boards, are often large, and cannot be mounted flush on a wall (Summet et al., 2005).

There are also some other optional features of IWBs. Interactive whiteboards come in different sizes, but the most common one is 190 centimeters in width. The size of the board is important because students at the back of the classroom should be able to see the images and texts clearly (Smith, 2001). In this study the researcher used the front projection Smart Board version (9.5) as it is available in our schools.

## 4.5. The components of the Smart Board

### 4.5.1 The Hard Ware

- The Smart Board
- LCD projector
- Computer




(SMART Technologies, 2006)

### 4.5.2 The Soft ware

#### 4.5.2.1. The components of the Notebook software

The Notebook software toolbar gives you access to a number of tools to help you work with your Notebook file. By default, the toolbar appears at the top of the Notebook page. When you are working at the SMART Board interactive whiteboard and you prefer to sit, or are working with young students, it may be more convenient to move the toolbar to the bottom of the page. To do this, press the double-ended, vertical arrow on the far right of the toolbar. (SMART Technologies, 2008)

#### 4.5.2.2 The Toolbar

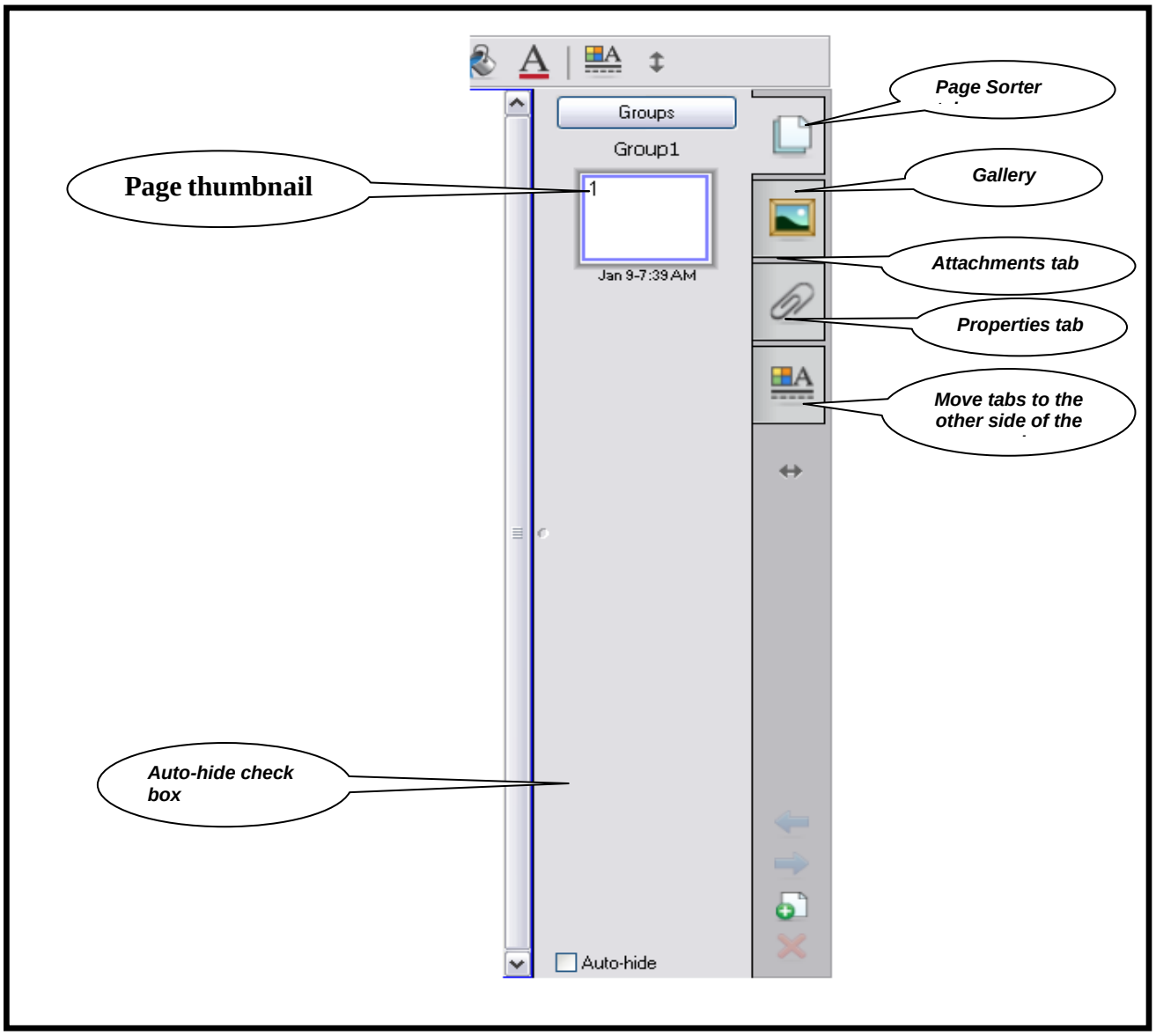
The toolbar as the researcher noticed through using the Smart Board, is very easy to use by both teachers and students. Also it is very similar to the office toolbar used in any windows program.

***Toggle move toolbar***

| | | | |
|---|---|---|---|
| | **Display the previous Notebook page** | **Display the next Notebook page** | |
| | Insert a blank page directly after the active Notebook page | Open an existing Notebook file | |
| | Save your Notebook file | Paste | |
| | Undo the last action you performed | Redo the action you last performed | |
| | Delete any selected object | Show or Hide the Screen Shade on the current Notebook page | |
| | Open Full Screen view | Toggle dual page mode | |
| | Launch the Screen Capture toolbar | Activate SMART Document Camera | |
| | Insert Question | Create a table | |
| | Select any object on the page with your mouse | Write or draw on the Notebook page with the pen tool | |
| | Write or draw on the Notebook page with the creative pen tool | Erase digital ink on the Notebook page | |
| | Draw a line | Create a shape | |
| | Draw a perfect shape (e.g., circle, square, rectangle, etc.) | Write or draw with the Magic Pen tool in disappearing ink, zoom and spotlight | |
| | Fill an object or shape | Create a text-entry box for typing | |
| | Adjust volume | Move the toolbar to the bottom of the Notebook page | |
| | Launch the Properties side tab | Instant conferencing | |

### 4.5.2.3. Side Tabs

There are four tabs on the side of the Notebook interface (shown below on the right-hand side of the work area). Click the double-ended horizontal arrow to move the tabs from one side of the work area to the other. (SMART Technologies, 2008)




## 4.5 Implementing the IWB

Implementing the IWB into the classroom setting will no doubt change the classroom culture. Glover and Miller (2007) researched the effects of implementing IWBs into all mathematic classrooms in secondary schools. After implementing this change, many other changes took place in these classrooms. Some of these changes included classroom organization; pupil-pupil interaction; teacher-pupil interaction; selection of software and other resources; the IWB as the focus for the activities; rapport between learners and the subject being taught; and pair, collaborative and group learning. According to these researchers, all of these changes appeared to generate a culture of learning within each classroom.

While implementing the IWB tends to change the classroom culture, it is just as true that the classroom culture plays a huge role in how well the IWB will be implemented into the daily routine of instruction. If the classroom culture is not supportive and fails to create an environment where both students and teachers feel safe to explore the IWB without fearing failure, successful implementation of the IWB will be hindered (Kennewell & Beauchamp, 2007).

In order to use the IWB effectively, Glover and Miller (2007) made the following suggestions: the classroom should be arranged in a way that the equipment complements rather than intrudes upon the learning environment; the lesson should include stimulating software in a stepped learning process with plenty of opportunities for pupil activity; and the teacher should be demonstrative, embracing, and aware of all students so as to present a lesson that engages and captures the students' full attention.

Research has shown that the IWB can have a positive impact on learning. For example, the IWB engages students; promotes a longer attention span and better focus; provides visual and dynamic representations; improves student motivation; encourages the pace and flow of a lesson; and provides multimodality (Kennewell & Beauchamp, 2007; Smith et al., 2005). Other positive results of using the IWB include differentiation; reflection; collaboration; retention and transfer of knowledge learned (Kennewell & Beauchamp, 2007).

If the IWB is properly implemented and perceived as more than a mere presentation tool, it can promote interaction in the classroom. The classroom teacher needs to recognize that the IWB can be used in this way and then use appropriate software that affords that positive interaction between teachers and students and between students and their classmates. An IWB can afford interactivity by encouraging students to make use of the different ways of manipulating the applications that are running on the screen. Interactivity can also be increased as students and teachers both interact with the IWB through the use of the keyboard, the electronic pens, or from digital control devices from other parts of the room (Armstrong et al., 2005).

The researcher here agrees strongly with all what was mentioned earlier, that IWB give opportunity to all kinds of students. As we know some students are visuals

others are auditory and the rest are tactile. For that, all kinds of students get benefit, but also the most important factor is retention of learning for a long time and this is very important in this study.

## 4.6 Benefits of Using the IWB

The IWB is a unique piece of technology that allows both teachers and students to perform a variety of techniques as well as tap into a wealth of resources. Kennewell and Beauchamp (2007) found that teachers felt that the IWB was especially effective in gaining and then keeping their students' attention for longer periods of time. They also felt that the IWB's large display helped their students to focus on the content being taught rather than on the teacher or on their classmates. On a more practical level, teachers found the IWB to be a great advantage because it allowed them to make their resources and then save them for the actual lesson. Kennewell et al. (2008) also found that this technology made it easier for teachers to prepare materials in advance, quickly retrieve it for classroom display, and then manipulate the items directly on the whiteboard. According to Kennewell and Beauchamp's (2007) study, teachers also felt that their students were more apt to get involved when they taught with the IWB. While at first it may have been overwhelming to develop lessons for the IWB, teachers found it much easier to navigate the IWB and prepare lessons over time as they had more opportunities to practice and familiarize themselves with this particular technology. Furthermore, by preparing and loading lessons in advance, teachers felt that the IWB helped to create smoothness to their organizational activities and overall classroom management. Ultimately, the greatest benefit perceived by these teachers was the notable increase in the students' level of engagement in the lessons. The IWB has a variety of features that makes teaching and learning more effective. For example, as primary teachers taught science lessons, they presented the vocabulary words on the IWB and then highlighted key terms in red to carry high-sensory modality and capture the students' attention. Another common feature implemented by these teachers was that of the 'block reveal' technique. This allowed the teacher to cover up parts of the IWB so that the students could only see parts of the information at a time. The 'block reveal'

technique is a great way to manage the pace of the movement throughout the lesson (Gillen et al., 2007).

The IWB makes it possible for students to see not only what is portrayed on the IWB but also any changes or additions that are made with the electronic pens. The IWB is very similar to a chalkboard, but it carries the possibility of using colours, images and even moving images.

The IWB also makes it very easy for teachers to access a wide range of resources and materials to support instruction. According to Kelley et al. (2007), a genuine advantage of using the IWB is the ability of the teacher to face the class for longer periods of time for each lesson since PowerPoint and other software programs allow the teachers to prepare a few extra visuals.

Other benefits for using the IWB include the following: much clearer images and sounds; flexibility; and upward compatibility. Schweder et al. (2008) found that the IWB is also very mobile, making it more accommodating to students with special needs. The height of the IWB is easily adjusted so that it can accommodate those in wheelchairs or those who have other disabilities. Even students with hearing and visual losses are able to participate in various interactive whiteboard activities.

While the use of the IWB does not guarantee that a higher focus is being placed on learning, the benefits of the IWB do seem to support more effective teaching. For example, the IWB is reported to enable smooth transitions between activities; quicken the pace of the lesson; provide "seamless flow" from one teaching point to another; reduce the time spent on managing resources; and prepare the lesson for classroom presentation (Smith et al., 2005). Ultimately the IWB does add value to the classroom, but the value added focuses mainly on teaching more efficiently.

One of the major benefits of using the IWB is that this technology makes it extremely easy and convenient for educators to employ multiple modes of representation with one simple resource, the IWB. It could be argued that teachers could find the individual resources needed and implement them separately, but the IWB makes it possible to accomplish all of those goals with just one piece of technology. As teachers make wide use of the many different forms of representation on the IWB, students generally become more engaged in the lesson being taught. The

IWB itself does not accomplish this feat. Teachers ultimately have to take advantage of their students' interests and then engage them multi-modally so that they can create cohesion and continuity that might not be achieved in a more traditional setting where there seems to be more of a disconnect between disparate events.

The IWB also helps to quicken the pace of lessons. Less time is spent moving from one idea to the next when the IWB is implemented because such a plethora of resources are found in this one piece of technology.

The use of the IWB has the potential to increase interaction between teachers and their pupils, but this interactivity depends on the skill of the teacher (Jones, 2004). According to Knight, Pennant, and Piggott (2004), the interactivity of the IWB comes more into play as teachers move down the following continuum of teaching contexts: 1) teacher as demonstrator, 2) teacher as modeler, 3) teacher in control, 4) pupils in control with the teacher advising, and 5) pupils working independently. Gillen et al. (2007) discussed classroom interactivity, but they made a distinction between technical interactivity and pedagogical interactivity.

In terms of technical interactivity, the IWB seems to make a much smoother presentation from one technology to another. Pedagogical interactivity, on the other hand, is a little more complex. Teachers who use the IWB often find themselves standing at the front of the room near the whiteboard, which often means that the teacher is more apt to lead to a more traditional style of teaching. However, a truly effective teacher will use the IWB in order to produce a lively, varied and complex interactive lesson where the students are actively involved in the manipulation of information.

So the researcher can summarize the benefits and advantages of the Smart Board as follows:

- The IWB allows both teachers and students to perform a variety of techniques as well as tap into many resources.
- The IWB is effective in gaining and then keeping students' attention for longer periods of time.
- Helps students to focus on the content being taught rather than on the teacher or their classmates.

- It allows teachers to make their resources and then save them for the actual lesson.
- This technology makes it easier for teachers to prepare material in advance, quickly retrieve and manipulate the items directly on the whiteboard.
- Students are more apt to get involved when they are taught with the IWB.
- Teachers present the vocabulary words on the IWB and can highlight key terms in red to capture the students' attention.
- IWB has the possibility of using colours, images and even moving images.
- The ability of the teacher to face the class for longer periods of time for each lesson, not like other tools.
- Much clearer images, sounds, flexibility, and increasing compatibility.
- The IWB is also very mobile, making it more suitable for students with special needs.
- IWBs enable smooth transitions between activities and quicken the pace of the lesson.
- The use of the IWB increases interaction between teachers and their pupils.
- The IWB produces a lively, varied and complex interactive lesson where the students are actively involved in the manipulation of information.

## 4.8 Disadvantages and Limitations of the IWB

It is evident that any new technology has disadvantages and limitations that hinder its use. One of the disadvantages of the IWB is that only one person can use the board at any given moment, which limits the amount of interaction that the teachers can have with their students at any particular time (Shenton & Pagett, 2007). Another disadvantage from using the IWB is that oftentimes the student's active involvement with the IWB during whole-class instruction slows down the pace of the lesson and can cause boredom for the other students (Smith et al., 2005). If the IWB is to be used effectively in the classroom, teachers must be properly trained and then provided with the necessary support to continue implementing the technology available at their fingertips. As Shenton and Pagett (2007) note practical issues such

as technical support and installation of new equipment, could prove to be very troubling if these issues cannot be acknowledged in a reasonable fashion. In order for the IWB to make positive changes in today's classrooms, there is sufficient evidence that professional development support must be provided frequently (Glover & Miller, 2007).

The researcher spotted some limitations of the IWB as follows:

- Only one student can use the board at any given moment, which limits the amount of interaction.
- The student's active involvement with the IWB during whole-class instruction slows down the pace of the lesson and can cause sometimes boredom for the other students.
- Using the IWB needs hard training sometimes from teachers to use it effectively.

The researcher also noticed other limitation such as:

- The electricity cut off which represents a main problem in our schools in Gaza.
- It is difficult to equip all schools and classes with Smart Boards.
- The noise that occurs when all students fight to share with the teacher on the IWB hinders learning.

## Section II

## Previous studies

This section investigates the findings of previous studies relevant to the topic of the current study. These studies can be classified under three domains:

-**The first domain** tackles studies related to vocabulary achievement and retention.

-**The second domain** investigates studies related to students' attitudes towards English language.

-**The third domain** includes studies that examined the effect of Smart Boards (IWB) on teaching.

### 1. Studies related to vocabulary achievement and retention.

**AlFaleet (2013)**

This study aimed to investigate the effectiveness of using puzzles in developing tenth graders vocabulary achievement. It also examined the long-term effect of the puzzles on the retention of the vocabulary. The sample was 80 tenth graders from Abdul Kareem Al-Aklook Secondary School for Boys in Dair Al Balah for the experiment. They were equally divided into two groups, experimental and control. Both groups were pre-tested to assure that they both were equivalent. Educational Puzzles were used in teaching the experimental group, while the traditional method was used with the control one in the second term of the school year (2012-2013). The experiment lasted for six weeks. Two weeks later, a delayed test was administrated to the experimental group to measure retention. The results of the study revealed that there were significant differences in mean scores of vocabulary test in favor of the experimental group in the post application. It also showed that there were no significant differences in mean scores between the posttest and delayed test of the experimental group, which indicates that puzzles have great effect on word retention.

**Awad (2013)**

The study aimed to examine the effectiveness of using animation in teaching English Vocabulary for the third graders in governmental schools. The sample of the study consisted of (58) female students from Awni El- Hertanie Primary School for Girls in North Gaza governorate. The researcher divided the sample of the study into two groups, experimental and control group. Animation was used with the experimental group only, while the ordinary method was used with the control one in the first term of the academic school year (2012 – 2013). A vocabulary test of eight questions with (22) items was designed to be used as a pre - post test. The results indicated that there were statistically significant differences in mean scores of vocabulary test in favor of the experimental group in the post application.

**Demir (2013)**

This study aimed to provide insight into the understanding of teaching and learning vocabulary and explored if the vocabulary instruction through In-class vocabulary strategies developed by the researcher were helpful for Turkish 8$^{th}$ grade EFL students' English vocabulary retention in comparison to traditional vocabulary instruction. The experimental group consisted of 66 students from two different classes and the control group was comprised of 63 students from two classes. From the data collected through the post-test and retention-test design, it was concluded that both in the short and medium term, there was a significant difference between the vocabulary retention scores of the students who were instructed with in class vocabulary strategies (Experimental Group) and those of the students who were given traditional instruction (Control Group) in favour of the experimental group.

**Wafi (2013)**

The study aimed to investigate the effectiveness of using animated pictures program in learning English vocabulary among the fifth graders in Gaza. The sample of the study consisted of (64) students distributed into two groups. One of the groups represented the control group of (32) students, and the other represented the experimental one of (32) students. The groups were randomly chosen from a purposive sample from Haifa Primary School for Girls in the second term of the

school year (2012-2013). The animated pictures program was used in teaching the experimental group while the traditional method was used with the control one. An achievement vocabulary test was designed and validated to be used as a pre and post test in acquiring English vocabulary for the fifth graders. The results indicated that there were statistically significant differences between both groups in favor the experimental one, in receptive, productive vocabulary and the total score due to the animated pictures program.

**Al- Nassir (2012)**

This study compared the effectiveness of translation method and pictorial method in teaching English vocabulary for EFL learners at the elementary level. The total number of participants was 36. All participants were from a secondary school in Saihat, Saudi Arabia. A repeated measures 'ANOVA' was used to compare the effectiveness of both methods. The results indicated that there was a significant difference between the translation method group and pictorial method group for the pictorial method participants on all the immediate recall tests and the delayed post-test. The results showed that the pictorial method is more effective than the translation method for EFL learners at elementary level. The author of this study suggests the use of several methods for teaching EFL and ESL learners at elementary level instead of using one method.

**Khairi & Pakzad (2012)**

This study aimed to investigate whether teaching critical reading strategies had any significant effect on intermediate EFL learners' vocabulary retention. To fulfill the purpose of this study, 72 male and female students within the age range of 17 to 32 years studying from Farzanegan language schools in Tehran. They were selected from a total number of 114 participants based on their performance on a piloted PET and piloted teacher-made vocabulary recognition test and assigned to the experimental and control groups of 36 participants each. The same content was taught to both groups throughout the 19-session treatment with the only difference that the experimental group was taught critical reading strategies while in the control

group the common comprehension-based approach was applied. At the end of the instruction, the piloted vocabulary retention post-test was administered to the participants of both groups after an interval of two weeks. Finally, the mean scores of both groups on the post-test were compared through an independent samples t-test which led to the rejection of the null hypothesis. Thus, teaching critical reading strategies proved to have a significant effect on intermediate EFL learners' vocabulary retention.

**Lin, Chang and Hslao (2011)**

The present study was intended to explore EFL students' perceptions of learning vocabulary collaboratively with computers. The study recruited 91 eighth-graders from three intact classes in a junior high school in Taiwan, assigning one class to learning individually without computers, one learning collaboratively without computers and the last learning collaboratively with computers. All participants took pre-post and delayed tests of vocabulary exercises in three periods. The computer group also completed a questionnaire and six students were interviewed. The quantitative data showed that students, learning collaboratively with computers, did not outperform in vocabulary tests designed for individual study; however, they showed better retention, outperforming the others in the delayed posttest. From the qualitative data, more than 70% of the participants in the computer group reported a positive attitude and anticipation to learning vocabulary in such an environment. A further analysis found the nature of tasks, sharing of computers and grouping effective to their approaches to learning. Finally this study agrees that success is not guaranteed but deliberate design needs to be considered before learners are engaged in a computer-supported collaborative learning environment.

**Al-Zahrani (2011)**

The current study aims at investigating the effectiveness of keyword-based instruction in enhancing English vocabulary achievement and retention of intermediate stage pupils with different working memory capacities. The researcher's instrument was an achievement test. The sample of the study consisted of 3rd intermediate grade pupils from two intermediate schools in Taif (n = 96). The pupils

were divided into two groups experimental and control. The experimental group (n = 47) was taught the vocabulary of the first term of English language book of 3rd intermediate grade through keyword method. The control group (n = 49) was taught the same vocabulary through traditional method. Results revealed that keyword method had a positive effect on the learners' vocabulary achievement and retention. Also, results showed that pupils with high WMC were better than pupils with medium and low WMC in both vocabulary achievement and retention.

**Huang and Chen (2010)**

For Taiwanese senior high school EFL learners, one of their major complaints is that the vocabulary they learned is always in the vicious circle of remembering and then forgetting. In other words, they are unable to retain the vocabulary words for a long period of time. This study aims to help Taiwanese senior high school EFL learners retain vocabulary through three different exercise types. In the experiment, the participants of this experimental study come from two classes of the second grade (11th grade) in Da-tung Senior High School in Pingtung County, Taiwan. Altogether 78 students took part in this experiment to enhance their vocabulary acquisition as well as retention. The participants were divided into three groups. Group one was required to use six new words to write a short article. Group two was demanded to make six meaningful sentences with these words. Group three had to fill out the blanks with the target six words in a vocabulary exercise sheet. After the exercise, tests were given to all the participants to examine the vocabulary retention. The result showed that group one had the best retention.

**Zhang (2009)**

In the present study of language learning, three presentation modes (varying from providing or not providing example sentences by the teacher and by the students themselves) were utilized to examine the effectiveness of using example sentences in vocabulary presentation and learning activities. The study consists of 58 English majors as the subjects and two tests were performed one hour and one week after the relevant presentations, utilizing one of three presentation modes.

Supported by the two major findings from data analysis, the study reached the conclusions that: 1) using example sentences in vocabulary learning promoted learners' vocabulary learning and retention; 2) the ways of using example sentences influenced learners' vocabulary learning and retention effects as well. Generally, the effect was better when learners made their own example sentences than when the sentences were randomly provided by the teacher. The conclusions indicated that example sentences did work in direct vocabulary learning in ESL and EFL contexts.

## Commentary

The researcher recognized clearly from the previous studies that all of them concentrated on the great importance of vocabulary learning as the root of learning any second language. Moreover, there was emphasis in all these studies that the retention of the vocabulary is very important which concurs well with the aim of this study.

### 2. Studies related to students' attitudes towards English language.

#### Alkaff (2013)

This paper studies the attitudes and perceptions of Foundation Year (FY) students towards learning English, at the English Language Institute (ELI) of King Abdulaziz University (KAU) in Jeddah, Saudi Arabia. English is one of the required courses, the rest of which are primarily taught in Arabic. The researcher attempted to find out the students' opinions regarding the importance of English, whether they thought it was difficult or not, and where the difficulty lied. After the selection of a random sample of 47 female students of levels 3 and 4 (pre-intermediate and intermediate levels), who represented the majority of the students during the time of the study, a questionnaire was developed and students' responses were statistically treated. The study showed that most students had a positive attitude towards learning English and that they tried to improve their English and to use the language even though there were a lot of demands on their time and few opportunities to practice their English.

**Lakshmi (2013)**

The study attempted to investigate the 9th -standard students' attitudes towards learning English language. A standardized questionnaire of attitudes' scale was administered in the form of normative survey to 600 9th standard students (selected randomly from various high and higher secondary schools in Puducherry region) to collect their attitude towards learning English language. The collected data was statistically analyzed by SPSS. The results revealed that there was a significant difference based on the gender, locality of the school, type of school, type of management. Hence it was concluded that more classroom activities in the study of English enhance pupils' attitude to learn English.

**Abbaspour and Nia (2012)**

This study investigated Iranian junior high school students' overall attitude towards learning English as a foreign language. As well as, the possible difference that existed between boys' and girls' attitude towards learning English as a foreign language. The sample consisted of 116 third grade junior high school students in Tehran 60 female and 56 male. The researcher used an attitude scale for this study of 20 items. The findings indicated that Iranian junior high school students generally had a positive view of using and learning English. It was also observed that there was no significant difference between female and male learners' attitudes, although that of the girls' was slightly more positive.

**Al-Mamun et al. (2012)**

This study aimed at investigating the attitude of the undergraduate students of Life Science School of Khulna University towards English language. The data of this study were collected through a questionnaire survey administered upon total of (79) randomly selected samples. Upon the completion of the collection of data, these were analyzed, computed and tabulated using SPSS. The findings suggest that the respondents were found to be positive towards English language and this could be attributed to the fact that respondents were instrumentally motivated towards English.

**Bhaskar and Soundiraraj (2012)**

The purpose of this paper was to find out whether there was any change in the attitude of students towards English Language Learning (ELL) when they came for college education after completing the school education. The transformation in the attitude of students from school to college was examined in terms of marks, interest towards English language, self- motivation to learn the language, participation in the class, understanding the importance of English in securing a job and learner-centred language teaching methods that ensured more freedom to the learners. About 52 first year Mechanical Engineering students from Tamil medium stream took part in this research. To examine their shift in attitude towards ELL, an attitude questionnaire was administered and a semi-structured interview was conducted. The findings of the study indicated that there was a positive significant shift in their attitude towards ELL at their college level.

**Zafarghandi and Jodai (2012)**

This study intended to represent attitudes toward English and English learning at an Iranian military university. Iranian military staff was required to study English in a social environment where there was little immediate need or opportunity to use the language for real communicative purposes. The subjects included 34 of Iranian military personnel who took part in 4 different English classes at Iranian Military University Foreign Language Center. The present study employed a questionnaire based on the Attitude/Motivation Test Battery incorporating some new concepts in (SLA) research that had come to light since the time of previous surveys. Quantitative treatment of qualitative data was the method of this study. After collecting the qualitative data through questionnaires and using Likert -5 scale, the data converted to the quantitative data for analysis. Overall non –negative attitude toward English and English learning was the most important result of this study.

**Chalak and Kassaian (2010)**

This paper investigated the various socio-psychological orientations of Iranian undergraduates towards learning English. It focused on the motivation orientations of the students and their attitudes towards the target language and its

community. A group of (108) students majoring in English translation at Islamic Azad University, Khorasgan Branch in Isfahan, Iran was surveyed using the AMTB (Attitude, Motivation Test Battery). The domains used for the purposes of the study were: a) interest in English, b) parental encouragement, c) motivational intensity, d) attitudes towards learning English, e) attitudes towards English-speaking people, f) integrative orientation, g) desire to learn English, and h) instrumental orientation. The results revealed that these Iranian Nonnative speakers of English learned the language for both 'instrumental' and 'integrative' reasons and their attitudes towards the target language community and its members were generally found to be highly positive.

**Shah (2008)**

This empirical study investigates of attitudes towards the English curriculum in Pakistan. This study seeks to explore the attitudes of (292) students and (20) teachers towards the learning of English in different higher-secondary schools in Pakistan. English is often thought of as a subject that is difficult to learn especially in secondary schools and colleges. Undoubtedly, many acknowledge that English is an important subject to learn. However, due to the poor image and, possibly, the way it is being taught, the majority of students failed to pass the subject and they approach the learning of English or taking it as an optional subject with caution or even with trepidation. The research study for this thesis was carried out with the help of a detailed questionnaire, asking students about different teaching methods, mediums of instructions, evaluations, textbooks, students' participation, audio-visual aids and their effect on the teaching and learning of the English language. The study shows that students learning English in the complex socio-political and cultural context of the Pakistani educational system have mixed attitudes towards the subject. While some of them admire the qualities of English literary classics, on which English teaching is based, others are of the opinion that English should not be studied at all, as it is an imperial language. Most students can see the usefulness of learning English, however, and stress the importance of the spoken skills. These skills and audiovisual approaches are often neglected in English classrooms in Pakistan. Female students and those from poorer backgrounds, in particular, showed the most

positive attitudes towards learning English. Some recommendations are made for developing new approaches to teaching and learning the subject and suggestions for future studies in the field.

**Karahan (2007)**

This study examines the relationship between language attitudes towards the English language and its use in Turkey. The sample included 190 eighth grade students of a private primary school in Adana, Turkey, where English is intensively taught. The questionnaire consisted of two parts: The first part required personal information such as gender, the age when they started to learn English, the place where they started to learn English. The second part asked them about their attitudes towards the English language and their attitudes towards the use of English in Turkish context. It is found out that although these students are exposed to English in a school environment more frequently than other students at public schools, they have only mildly positive attitudes; especially female students have higher rates. They recognize the importance of the English language but interestingly do not reveal high level orientation towards learning the language. On the other hand, they have mildly positive attitudes towards the English based culture but they are not tolerant to Turkish people speaking English among themselves.

**Ateş, Altunay and Altun (2006)**

The aim of this research was to investigate the effects of computer assisted English instruction on English language preparatory students' attitudes towards computers and English in a Turkish-medium high school with an intensive English program. A quasi-experimental time series research design, also called "before-after" or "repeated measures" design, was used in this research. As a sample, one group of students (20 female and 10 male) was randomly assigned. The research had two phases: traditional English instruction and computer assisted English instruction (CAEI). The instruments for data collection were a scale for attitudes towards English and a scale for attitudes towards computers, which were given three times at intervals of two weeks. According to the findings, the students' scores of attitude towards computers and English after (CAEI) increased significantly.

## Commentary

The researcher noticed from the above mentioned studies that they all agree on that most students were not feeling well towards English language and this is due to different reasons such as the boring teaching methods and techniques used by teachers or the country's policy as well as the lack of motivation towards teaching and learning of English language. So the researcher finds so much similarity with his current study that students need more active and exciting environment of teaching and learning to motivate students towards English language which can be achieved by using the Smart Board.

## 3- Studies that examined the effect of Smart Boards (IWB) on teaching

### Minor et al. (2013)

The purpose of the study was to investigate a teacher technology integration professional development model. The model focused on using SMART Board to improve pre-algebra achievement. The importance of the study was that the pre-algebra students at Southeastern Virginia urban middle school which had a lower passing rate on the pre-algebra standard of learning (SOL) assessment for the past 3 years compared with other middle school students within the district and state.

The methodology was guided by the single group pretest and posttest research design. Data were collected from four pre-algebra teachers and their combined 240 students using the pre-algebra SOL strand test and the SMART Board Technology Proficiency Survey.

Results from the descriptive and inferential statistics showed the intervention increased students' mathematics scores and teachers' SMART Board proficiency scores from pretest to posttest.

### Phillips (2013)

The purpose of this study was to examine the use of the Keyword Method and the Smart Board presentation in vocabulary instruction for students with Learning Disabilities (LD). The study was conducted in a 3rd grade inclusion

classroom in a regional Catholic School. A total of five students, ages 8-10 participated in this ten week study. Students were taught using traditional instructional strategies in Reading and Social Studies vocabulary lessons during the baseline. During the intervention, weekly instruction was provided with a Smart Board presentation to demonstrate each vocabulary word with the Keyword Method presented on a Smart Board, such as a mnemonic "catch word", and a visual picture to demonstrate the meaning followed by practice and review to reinforce their learning. All students showed an increase of their quiz scores of vocabulary acquisition in both Reading and Social Studies.

**Keshta and Al- Udaini (2012)**

This study aimed at investigating the effect of using interactive whiteboards on developing ninth grader's English reading comprehension skills. The sample consisted of (60) students from Deir El Balah Prep school for Boys in Gaza. The researcher used a pre-post achievement test besides a computer program via the IWB. After analyzing the data of the test statistically, it showed that there were significant differences in developing the reading comprehension skills between the experimental group and the control one in favour of the experimental who was taught by the IWB.

**Türel and Johnson (2012)**

While the impacts of IWBs in classroom settings have been examined recently in a number of studies, this study not only looks at the perception but also examines the actual usage and behaviors associated with promising IWB features in practical settings. The main goal of this paper is to evaluate both teachers' perceptions and their use of IWBs. A questionnaire was developed based on an extensive literature review as well as related instructional theories and models. The questionnaire consisted of questions about demographics, usage, and teachers' perceptions related to IWBs. The sample for this study consisted of 174 Turkish teachers, ranging from grades six to twelve, who have actively used IWBs for at least

six months in their schools. The results show that teachers believe that IWBs can be used for different subject domains. Also, teachers believe that IWBs can be used to facilitate learning and instruction under the following conditions: 1) Collaboration with colleagues, 2) training about effective instructional strategies using IWB, and 3) more frequent teacher use of IWBs to improve IWB competency.

**Brown (2011)**

The purpose of this study is to improve literacy among inner-city students by the introduction of Computer-Assisted Instruction (CAI). Interactive whiteboards are a form of CAI allowing for greater versatility in literacy instruction. The problem is that there is minimal research exploring the potential of interactive white board usage in closing the achievement gap. The study took place in an urban elementary school in Westchester County, New York. The study participants included six classroom teachers and six itinerant teachers. In three months, the itinerant teachers observed six different first- and second-grade classes during which interactive whiteboards were used for literacy instruction. At the completion of the observations, interviews were conducted with all participants. Teachers were asked about their own levels of professional preparation for using interactive whiteboards. Interviews were transcribed and coded, and major themes were categorized and analyzed. The outcome revealed that positive perceptions validated the interactive white board as an effective tool for improving literacy skills; classroom teachers felt that interactive whiteboard training was minimal and sporadic, and that itinerant teachers concluded a classroom teacher's proficiency level in using the white board plays an important factor on how the lesson is taught and conveyed by students.

**Norbert (2011)**

This research focused on the difference between teaching using an ordinary whiteboard and using the interactive whiteboard and compares students' achievements in physics. During this study the students were both control and experimental group as the groups were swapped during two successive interventions. The interventions comprised 7 lessons on mechanics and 7 lessons on electricity in the 9th grade (student age 15-16) of the Dutch secondary level. After the

interventions, the students were tested and also asked to give feedback on the difference between IWB lessons and "common" white board lessons. Before the interventions, students answered a pre- test and their achievements were measured with a post test on both mechanics and electricity. Only one of the interventions showed a significant difference in physics achievement, but the students were very positive in their feedback on the use of IWB to aid physics teaching. Measured higher student achievement, enabled by IWB, would provide a solid argument for using IWB as an asset in physics classrooms.

**Terreni (2011)**

The research investigated the use of an ActivBoard (Promethean) IWB that a New Zealand kindergarten had introduced into their programme. Data were collected through participant observations, which were important for gathering descriptions of teachers' and children's use of the IWB; through focus group interviews, which were essential for capturing the points of view of teachers and parents; and finally, by examining teachers' learning stories, a form of narrative assessment which gave further insights into the children's use of the IWB. A focus group of nine children was determined to create a purposive and quota sample. The group comprised two four-year-old boys, three four-year-old girls, two three-year-old boys and two three-year-old girls. However, other children who actively used the IWB were also observed and included in this study. The findings of the research indicated that when an IWB was integrated into a kindergarten visual art programme it was a useful tool for motivating and assisting children with visual art learning experiences.

**Riska (2010)**

This study aimed to examine whether the Smart Board technology increased growth in mathematics performance of fourth grade gifted students. Gifted students in North Carolina were studied to determine if the use of Smart Board technology during mathematics instruction impacted their growth on standardized state tests. The sample consisted of (175) students from six elementary schools with similar populations. Three of the schools used Smart Boards during mathematics instruction,

and three schools did not use Smart Board technology. All students were taught the mathematics curriculum according to the North Carolina Standard Course of Study. The instrument for evaluating growth was the state End-of-Grade mathematics test. A formula developed by the state's Accountability Department was used to compare third grade mathematics results to fourth grade mathematics results to determine the degree of growth for each student. The results did not indicate significant growth among gifted students who received instruction using Smart Board technology. This study was limited by the small sample of gifted students who did not receive instruction with a Smart Board. Schools, in this district, matching the specific demographics of the sample are equipped with Smart Boards and utilize them during instruction. Due to this limitation, further research regarding the use of creative technologies to stimulate and challenge the brightest learners is warranted.

**Wuerzer (2010)**

The purpose of this study was to investigate the progress of limited English proficient (LEP) second graders achievement in literacy using the interactive SMART Board daily over the course of an eight month period in Hillandale Elementary East Flat Rock, North Carolina. The objective of this study was to add another method of teaching spelling words as well as their meanings, through the interaction of the SMART Board. Two second grade classes were used for this research design. One contained the SMART Board which was used daily primarily for spelling and writing activities. There were nine LEP students in the classroom with the SMART Board. Both classes were given a pretest of reading and writing the required 100 words for second grade within the first two weeks of the school year. The results were significant increase for those using the SMART Board compared to those who did not.

**Holmes (2009)**

This study examined the lesson activities developed by a group (n=13) of final year undergraduate secondary mathematics pre-service teachers. The study revealed that the pre-service teachers were able to plan effectively to integrate IWB

features within their mathematical lessons and demonstrated developing TPCK as a result. They found that the primary benefits of the technology related to its potential to engage students with varied visual representations and virtual manipulative which could aid conceptual understanding.

**Pickens (2008)**

The purpose of this research was to create a constructivist based learning environment for 7th grade math students that will address this question. Progression graphs, created with data from Success Maker data, will identify the speed of advancement before and during the integration of the SMART Board interactive whiteboard. It is expected that the SMART Board, combined with a constructivist approach to learning, will increase the rate at which the students progress in their understanding of mathematical problem solving. This will be due to large part of the ability to collaborate with their peers, review their work with a more critical eye and make the concepts relevant to their lives. All of the students, at all learning levels, enjoyed using the SMART Board, but it appears to be of most benefit to the lower level learners in regard to the Success Maker grade equivalent data. While the middle and higher level learners eagerly participated in class and the small group problem solving, there was not recognizable gain in the learning curve for these classes.

**Morgan (2008)**

This study examined the impact of interactive whiteboard use on student engagement and appropriate at-task behaviors of junior high school students. Two hundred twenty-six students at two public schools in northeast Florida were observed during the second quarter of the school year. Data were collected using an at-task checklist, and students completed an attitude survey regarding their perception of their own engagement and enjoyment with interactive whiteboard use. Significant differences were noted in student behavior between instruction without interactive whiteboard use and instruction with interactive whiteboard use. No significant correlations were found between the variables gender and ethnicity and improved

student behavior. Results indicated that use of the interactive whiteboard as an instructional tool has a beneficial effect on student engagement in classroom lessons and leads to improved student behavior.

## Commentary

It is obvious that nearly all the previous studies have examined the effectiveness of Smart Boards on the teaching learning process. Nearly all of them have displayed the Smart Board as a significant method in sustaining students' achievement, attitudes and perceptions in various subjects.

In addition, the majority of the studies have pointed to the positive effect of Smart Boards on learning in general such as Minor et al.(2013), Brown (2011), Norbert (2011), Terreni (2011), Riska (2010), Holmes (2009), Pickens (2008).

On the other hand, the following studies examined the effectiveness of Smart Boards on English in particular like Phillips (2013), Keshta and AlUdaini (2012) and Wuerzer (2010).

The pre-mentioned studies were conducted in various environments such as the USA – Palestine – Turkey – North Carolina – New Zealand – Florida – Holland – New York.

Concerning the methodology implemented, most of the previous studies used the experimental approach while some adopted the descriptive one.

Also, samples of the previous studies were different in number, gender and age. However, it is worth mentioning that these studies varied between large and small groups of participants.

Finally, the varied instrumentation used in the previous studies has shown clear insights to conduct the present study efficiently. The most commonly used tools to conduct these studies included pre-post test, survey questionnaires, interviews and observations, but this study used pre-post and delayed vocabulary test and pre- post attitude scale to measure the effectiveness of using Smart Boards on developing tenth graders' vocabulary achievement, retention, and attitudes towards English language in Gaza.

To sum up, the previous studies were a guide for the researcher as they helped him to design the procedures and steps of the study, and it especially helped in preparing the teacher's guide, tools as well as the theoretical framework.

## Summary

Throughout this chapter the researcher presented the theoretical framework related to the study variables like vocabulary achievement and its history throughout the previous decades and all subjects related to the vocabulary that may benefit both the researcher and the reader as well, besides how to teach the vocabulary via the Smart Board which concurs well with this study . Also the researcher collected some related subjects about vocabulary retention. He also presented some topics about attitudes especially towards language. Finally, the researcher showed the literature related to the Smart Board and its history.

The researcher also reviewed the previous studies relevant to the subject of the current study which expanded the researchers' background and broadened the subject of the study. Those were divided into three domains. The first tackled studies related to vocabulary achievement and retention. The second handled the studies related to students' attitudes towards English language. The third displayed those studies which were connected with the effect of Smart Boards on teaching in general.

In fact, from the previous studies the researcher concluded that most of the studies focused on the positive effect of Smart Boards on teaching and learning in general and on different subjects as follows:

- Implementing IWBs on English language and its skills as well as other school subjects showed positive results on the students' achievement and attitudes towards the teaching-learning process.
- Most previous studies revealed the existence of a general weakness in the achievement of English language students and especially in the vocabulary at all levels, which support the need for this study.
- Most of the previous studies indicated that using Smart Boards created a positive and effective atmosphere for all students at all levels.

- The previous studies stated that using IWBs draw the attention of students who are less attentive and less motivated.
- The previous studies were helpful for the researcher to determine the tools of the study such as: the achievement test (pre, post & delayed), and the attitudes scale, in addition, they helped the researcher to decide the statistical treatments of the results.
- They also helped the researcher in displaying the results, findings and recommendations.

To the best knowledge of the researcher, there was no Palestinian study in the field of English language that investigated the effect of Smart boards on vocabulary. This study concentrated not only on the correlation between Smart Boards and vocabulary achievement, but also on developing vocabulary retention and students' attitudes towards English.

This encouraged the researcher to conduct this study to investigate the effectiveness of using the Smart Board in developing tenth graders' vocabulary achievement, retention, and students' attitudes towards English.

# Chapter III

# METHODOLOGY

# Chapter III
# METHODOLOGY

This chapter covers the procedures followed throughout the study. It introduces a complete description of the methodology of the study in terms of the population, the sample, the instrumentation, the pilot study and the research design. Moreover, it introduces the statistical treatment of the study findings.

## 3.1 Type of Research Design

The study adopted the experimental approach which requires two groups, an experimental group and a control one. The Smart Board was used in teaching vocabulary to the experimental group while the traditional method was used with the control group.

The research includes four variables; the first variable is the Smart Board, the second variable is vocabulary achievement, the third variable is vocabulary retention, and the fourth is the students' attitudes towards English. The experimental group was taught vocabulary via the Smart Board, while the control group was taught through the traditional method. The experiment lasted for five weeks. Both groups were taught by the researcher.

## 3.2 Population

The population of the study consists of all male tenth graders at the governmental schools in Khanyounis Directorate enrolled in the second semester of the scholastic year (2013-2014). Those count (1743), according to the records of Khanyounis Directorate (2014).

## 3.3 Sample

The sample of the study consisted of (85) students distributed into two groups; the experimental group which consisted of (44) students and the control group which included (41) students. The sample of the study was chosen purposively from Khalid El-Hassan Secondary School for boys in Khanyounis- West Directorate. The sample of the study was randomly chosen from the tenth grade classes and equivalently divided into two groups: experimental and control.

**Table (1)**
**Distribution of the sample according to the groups**

| Group | Experimental | Control | Total |
|---|---|---|---|
| **No. of sample** | 44 | 41 | 85 |

Both groups were all in grade ten aged nearly 14-15years old. They were chosen from Khalid El- Hassan Secondary School and they were equivalent in their general achievement in accordance with the statistical treatment of their results in the first term exam of the school year (2013 - 2014) and so, naturally, all classes were equivalent in their achievement as they were distributed according to their achievement in equivalent classes by the school administration beforehand. A pre-test was used to check the equivalence of achievement between the two groups. Table (1) shows the distribution of the sample.

## 3.4 The Variables

The study included the following variables:

1. The independent variable represented by the Smart Board.

2. The dependent variables represented by the tenth graders' English vocabulary achievement, retention and their attitudes towards English language.

## 3.5 Instrumentation

The researcher used three different instruments to achieve the aims of the study:

1- Vocabulary test (Pre - post & delayed test).

2- Students' attitude scale towards English language.

3- Teacher's guide.

### 3.5.1 Vocabulary Test

The achievement test was prepared by the researcher himself to measure the students' achievement in vocabulary. It was used as a pre test applied before the

experiment, a post test also applied after the experiment and as a delayed test applied three weeks after the post test. Appendix (1)

### - General Aim of the Test

The test aimed at measuring the effectiveness of using Smart Boards in developing the tenth graders' vocabulary achievement and retention in English language.

### - Sources of Constructing the Test

The researcher depended on "*English for Palestine 10*" textbook to construct the vocabulary test. Furthermore, he depended on his experience as a teacher of English. Moreover, the researcher consulted the English supervisors in Khanyounis West Directorate governmental schools and some colleague teachers.

The test was designed according to the table of specifications in accordance with Bloom's taxonomy and it consisted of (32) varied items as presented in the following table.

**Table (2)**
**Table of Specification**

| Levels / Units | Knowledge 40% | Comprehension 20% | Application 30% | HOTS 10% | Total 100% |
|---|---|---|---|---|---|
| Unit 6 | 5 | 2 | 4 | 1 | 40% 12 |
| Unit 7 | 4 | 2 | 3 | 1 | 30% 10 |
| Unit 8 | 4 | 2 | 3 | 1 | 30% 10 |
| Total No. of items | 40% 13 | 20% 6 | 30% 10 | 10% 3 | 100% 32 |

**- Items of the Test**

Items of the test are distributed into six questions as follows:

1- Fill in the spaces with the right words from the box.

This question includes seven items which evaluate the pupils' ability in developing vocabulary. One mark is given for each correct answer. Students have to read the words from the box and then use them to complete the sentences.

2- Complete the sentences with a word from the same word family.

This question includes six items which evaluate the pupils' ability in developing vocabulary. One mark was given for each correct answer. Students have to read the words between brackets then derive a word from the same word family to complete the sentences.

3- Match the words on the left to the definitions on the right.

This question includes seven items which evaluate the pupils' ability in matching words with their definitions. Students have to read the words and the definitions to match them with the appropriate one. One mark is given for each correct answer.

4- Give the meaning of the following from the words in the box.

This question includes four items which evaluate the pupils' ability in matching words with their synonyms correctly, by writing a word from the box given next to its meaning below. A mark is given for each one.

5- Match pairs of words to make correct word pairs.

This question includes four items which evaluate the pupils' ability in forming pairs of words together. Here the students have to match pairs of words from two boxes together to make one meaningful pair. A mark is given for each one.

6- Give the opposites of the following from the words in the box.

This question includes four items which evaluate the pupils' ability in matching words with their opposites correctly, by writing a word from the box given next to its opposite meaning below. A mark is given for each one.

**Table (3)**

**Distribution of the Vocabulary Achievement Test**

| Question | Type | NO. of items | Marks |
|---|---|---|---|
| Question 1 | Fill in the spaces with the right words from the box. | 7 | 7 |
| Question 2 | Complete the sentences with a word from the same word family. | 6 | 6 |
| Question 3 | Match the words on the left to the definitions on the right. | 7 | 7 |
| Question 4 | Give the meaning of the following from the words in the box. | 4 | 4 |
| Question 5 | Match pairs of words to make correct word pairs. | 4 | 4 |
| Question 6 | Give the opposites of the following from the words in the box. | 4 | 4 |
| **Total** | | **32** | **32** |

### 3.5.1.1 The pilot study

The test was applied on a random sample of (70) tenth graders from Khalid El-Hassan School, who have the same characteristics of the sample of the study. Those were excluded from the experiment and the results were recorded and statistically analyzed to assess the validity and reliability of the test, as well as, the time needed. The items of the test were modified in the light of the statistic results.

### -Time Estimation

The trial application on the pilot study helped in estimating the time needed for answering the questions according to the following equation:

$$\frac{\text{Time of the first student + time of the last student}}{2} = 30 + 40 \div 2 = 35$$

Therefore, the time of test was (35) minutes.

### 3.5.1.2 The validity of the test

Al Agha (1996, p.118) states that "a valid test is the test that measures what it is designed to measure". The study used the referee validity and the internal consistency validity.

### 3.5.1.3 The referee validity

The test was introduced to a jury of specialists in English language and methodology in Gaza universities, Ministry of Education and experienced supervisors and teachers in governmental schools.

### .5.1.4 The Internal Consistency Validity

Al Agha (1996: 121) asserts that the internal consistency validity indicates the correlation of the score of each item with the total average of the test. It also indicates the correlation of the average of each domain with the total average. This validity was calculated by using Pearson Formula.

**Table (4)**
**Correlation coefficient for each item of the test**

| No. of items | Pearson Correlation | Sig. (2-tailed) | No. of items | Pearson Correlation | Sig. (2-tailed) |
|---|---|---|---|---|---|
| **1** | .721(**) | 0.000 | **17** | .684(**) | 0.000 |
| **2** | .352(**) | 0.003 | **18** | .535(**) | 0.000 |
| **3** | .572(**) | 0.000 | **19** | .244(*) | 0.042 |
| **4** | .619(**) | 0.000 | **20** | .545(**) | 0.000 |
| **5** | .673(**) | 0.000 | **21** | .480(**) | 0.000 |
| **6** | .536(**) | 0.000 | **22** | .637(**) | 0.000 |
| **7** | .581(**) | 0.000 | **23** | .665(**) | 0.000 |
| **8** | .463(**) | 0.000 | **24** | .657(**) | 0.000 |
| **9** | .645(**) | 0.000 | **25** | .726(**) | 0.000 |
| **10** | .388(**) | 0.001 | **26** | .363(**) | 0.002 |
| **11** | .403(**) | 0.001 | **27** | .572(**) | 0.000 |
| **12** | .578(**) | 0.000 | **28** | .543(**) | 0.000 |
| **13** | .477(**) | 0.000 | **29** | .578(**) | 0.000 |
| **14** | .408(**) | 0.000 | **30** | .445(**) | 0.000 |
| **15** | .351(**) | 0.003 | **31** | .605(**) | 0.000 |
| **16** | .555(**) | 0.000 | **32** | .587(**) | 0.000 |

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed)

The table shows that correlations of the test items were significant at (0.05) which indicates that there was a consistency between the items and this means that the test was highly valid for the study.

### 3.5.1.5 Reliability of the test

The test is regarded reliable when it gives the same results in case of applying it again for the same purpose in the same conditions (Al-Agha, 1996:120). The reliability of the test was measured by the Spilt- half technique.

### 3.5.1.6 Split - Half Method

It depended on splitting the test into two parts the (odd) questions counted (16) items and the (even) questions counted also (16) items and calculating the correlation between the parts, then making a correction for the correlation coefficient by Spearman–Brown Prophecy Formula.

**Table (5)**

**Spilt-half Coefficient of the Achievement Test**

| Test | No. of test items | Pre - Correction Coefficient | Post – Correction Coefficient |
|---|---|---|---|
| Vocabulary Test | 32 | 0.871 | 0.931 |

The results showed that the Spilt-half coefficient is (**0.931**) and this indicates that the reliability of the test was high and strong.

- **Scoring of the Test**

The test was scored by a simple traditional way. Each correct answer was given one point. The maximum average was (32) and the minimum was (zero). So the total points for the whole test were 32.

### 3.5.1.7Analysis of the Items of the Vocabulary Test

### 3.5.1.7.1 Difficulty Coefficient

Difficulty coefficient was assessed when the test was administered to the pilot study by finding out the percentage of the wrong answers of each item made by the students (Abu Nahia, 1994:308). The coefficient of difficulty of each item was calculated according to the following formula for the pilot study which counted (70):

$$\textbf{Co. of difficulty} = \frac{\textit{Number of students who gave wrong answers} \times 100}{\textit{Total number of student}}$$

Table (6) shows that the difficulty coefficient of the test items.

**3.5.1.7.2 Discrimination coefficient:**

Discrimination coefficient means that the test is able to differentiate between the high achievers and the low achievers. The discrimination coefficient was calculated according to the following formula:

$$\textbf{Discrimination Coefficient} = \frac{\textit{No. of correct items of high achievers} - \textit{No. of correct items of low achievers}}{\textit{No. of high achievers} + \textit{No. of low achievers}}$$

**Table (6)**
**Difficulty and Discrimination Coefficient of Items of the Test**

| No. of Items | Difficulty Coefficient | Discrimination Coefficient | No. of items | Difficulty Coefficient | Discrimination Coefficient |
|---|---|---|---|---|---|
| **1** | 0.61 | 0.65 | **17** | 0.55 | 0.74 |
| **2** | 0.69 | 0.48 | **18** | 0.69 | 0.65 |
| **3** | 0.60 | 0.65 | **19** | 0.73 | 0.52 |
| **4** | 0.58 | 0.65 | **20** | 0.68 | 0.65 |
| **5** | 0.69 | 0.70 | **21** | 0.40 | 0.78 |
| **6** | 0.75 | 0.43 | **22** | 0.49 | 0.83 |
| **7** | 0.73 | 0.57 | **23** | 0.54 | 0.83 |
| **8** | 0.73 | 0.57 | **24** | 0.53 | 0.83 |
| **9** | 0.58 | 0.70 | **25** | 0.59 | 0.83 |
| **10** | 0.71 | 0.48 | **26** | 0.62 | 0.61 |
| **11** | 0.71 | 0.52 | **27** | 0.73 | 0.61 |
| **12** | 0.71 | 0.61 | **28** | 0.64 | 0.61 |
| **13** | 0.56 | 0.70 | **29** | 0.48 | 0.70 |
| **14** | 0.65 | 0.48 | **30** | 0.34 | 0.83 |
| **15** | 0.64 | 0.70 | **31** | 0.49 | 0.78 |
| **16** | 0.72 | 0.52 | **32** | 0.54 | 0.65 |
| **Mean** | | | | **0.67** | **0.59** |

Results show that the difficulty coefficient wobbles between (34-73) with average (67%) that means each item is acceptable. Similarly the discrimination coefficient wobbles between (43-83) and that means the difficulty and discrimination coefficients were in the normal limit.

### 3.5.2 The Attitude Scale

An attitude scale was prepared by the researcher to measure the effect of Smart Boards on developing students' attitudes towards English language among the tenth graders. The questionnaire is considered an instrument in this study to get data and information. This scale was used before and after the experiment for the control and the experimental groups. Appendix (2)

#### 3.5.2.1 The aim of the scale

The attitude scale aimed at measuring the students' attitudes towards English language before and after the experiment for both control and experimental groups.

#### 3.5.2.2 Steps of constructing the scale

1. The researcher constructed this scale depending on: Reviewing related literature as : Alkaff (2013), AlFaleet (2013), Lakshmi (2013), Al-Mamun et al. (2012), Shah (2008), Kolak (2008), Karahan (2007.
2. All the previous related studies helped in forming the domains and the statements of the scale.
3. Consulting specialists about attitudes in general.
4. The scale includes positive and negative sentences.
5. The scale was presented to the referee committee in order to measure:

- Suitability of the number of the items for the tenth graders.
- Clarity of the meaning of the statement to the respondents.
- Language used in the scale.
- Extent to which each item of scale represents the intended domain.

6. The scale was refereed by university professors, specialists and experts, as well as some colleagues.

### 3.5.2.3 Description of the Scale

The scale consists of three domains (1) attitudes towards learning English language (2) attitudes towards the importance of English language (3) attitudes towards enjoying English language. The scale items were constructed to measure students' attitudes towards English language. The researcher took into consideration that:

- The scale items were specific and included one idea in order to express specific attitude.
- The items related to scale domains and attitude subject.
- The items were short as much as possible.
- The items were simple, easy and suit the students' level.

The five-point Likert scale was used to measure students' responses. The levels of the scale responses varied between strongly agree, agree, not sure, disagree and strongly disagree. The students were asked to put (✓) sign under their responses. Scores from 5 to 1 were assigned for positive responses and from 1 to 5 for the negative ones.

The final version of the scale after modification consisted of 29 items distributed into three domains after deleting seven items (3-5-8-20-27-31-36) as follows: Appendix (2)

**Table (7)**
**Attitudes' Scale Domains**

| Domain | Number of Items |
|---|---|
| 1- Attitudes towards learning English language**.** | 10 |
| 2- Attitudes towards the importance of English language. | 10 |
| 3- Attitudes towards enjoying English language**.** | 9 |
| **Total** | **29** |

**Table (8)**
**Likert Scale Type of Items**

| Type of items | Strongly Agree | Agree | Not sure | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| **Positive sentences** | 5 | 4 | 3 | 2 | 1 |
| **Negative sentences** | 1 | 2 | 3 | 4 | 5 |

### 3.5.2.4 Instructions of the scale (for students)

The instructions were given to the students by the researcher. To avoid ambiguity, the statements of the scale were translated into Arabic in order to get students understand the items easily and accurately. Appendix (2)

### 3.5.2.5 Pilot study

In February 2014, the scale was applied on a random pilot sample of (70) tenth graders from Khalid El-Hassan Secondary School for boys in Khanyounis. It was applied in order to emphasize the clarity of the scale items and instructions. It was also applied to identify the scale validity and reliability.

### 3.5.2.6 The scale validity

After applying the scale on a pilot sample of (70) students, the results were recorded and statistically analyzed. The researcher used the referee validity and the internal consistency validity.

### 3.5.2.6.1 The referee validity

The scale was introduced to a jury of specialists in English language, methodology and psychology, university professors in Gaza universities, Ministry of Education and experienced supervisors. The items of the attitude scale were modified according to their recommendations, Appendix (4).

### 3.5.2.6.2 The Internal Consistency Validity

The internal consistency validity indicates the correlation of the score of each item with the total score of the domains on the sample which was (70) students, by using Pearson Formula. Table (9) shows the internal consistency of the scale.

**Table (9)**
**Internal Consistency Validity**

| No. of items | Pearson Correlation | Sig. (2-tailed) | No. of items | Pearson Correlation | Sig. (2-tailed) |
|---|---|---|---|---|---|
| 1 | .220(*) | 0.043 | 19 | .504(**) | 0.000 |
| 2 | .310(**) | 0.004 | 20 | 0.077 | 0.481 |
| 3 | -0.136 | 0.215 | 21 | .771(**) | 0.000 |
| 4 | .311(**) | 0.004 | 22 | .772(**) | 0.000 |
| 5 | 0.064 | 0.561 | 23 | .590(**) | 0.000 |
| 6 | .424(**) | 0.000 | 24 | .628(**) | 0.000 |
| 7 | .553(**) | 0.000 | 25 | .550(**) | 0.000 |
| 8 | 0.155 | 0.157 | 26 | .437(**) | 0.000 |
| 9 | .324(**) | 0.002 | 27 | -0.104 | 0.345 |
| 10 | .334(**) | 0.002 | 28 | .628(**) | 0.000 |
| 11 | .380(**) | 0.000 | 29 | .518(**) | 0.000 |
| 12 | .478(**) | 0.000 | 30 | .525(**) | 0.000 |
| 13 | .365(**) | 0.001 | 31 | 0.115 | 0.296 |
| 14 | .570(**) | 0.000 | 32 | .705(**) | 0.000 |
| 15 | .611(**) | 0.000 | 33 | .739(**) | 0.000 |
| 16 | .620(**) | 0.000 | 34 | .689(**) | 0.000 |
| 17 | .612(**) | 0.000 | 35 | .635(**) | 0.000 |
| 18 | .628(**) | 0.000 | 36 | 0.062 | 0.573 |

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed)

The table shows that there was significant correlation in most of the items at (0.05) with their domains, except the following items (3, 5, 8, 20, 27, 31, and 36) which were not significant, so the researcher omitted these items, to get internal consistency.

### 3.5.2.6.3 Construct Validity

The construct validity of the scale was calculated by measuring the correlation between the score of each domain with the total score of the scale after omitting the items that were not significant with its domain as it is shown in table (10).

**Table (10)**
**Construct Validity**

| Domain | Pearson Correlation | Sig. (2-tailed) |
|---|---|---|
| Attitudes towards learning English. | .660(**) | 0.000 |
| Attitudes towards importance of English. | .852(**) | 0.000 |
| Attitudes towards enjoying English. | .887(**) | 0.000 |

The table shows that all the domains of the scale achieved statistical significant correlations with the total score of the scale which indicates the construct consistency of the scale as well as the validity of the scale.

### 3.5.2.7 Scale Reliability

The scale reliability was measured by Spilt- half and Alpha Cronbach techniques.

### 3.5.2.7.1 Spilt – Half Technique

It depended on splitting the scale into two parts the (odd) items and (even) items and calculating the correlation between the parts, then making a correction for the correlation coefficient by Spearman–Brown Formula for the even items and Guttman Formula for the odd items as shown in table (11).

**Table (11)**

**Spilt - Half Technique**

| Domain | No. of items | Pre-correction Reliability coefficient | Post-correction Reliability coefficient |
|---|---|---|---|
| Attitudes towards learning English. | 10 | 0.497 | 0.664 |
| Attitudes towards importance of English. | 10 | 0.734 | 0.846 |
| Attitudes towards enjoying English. | 9 | 0.800 | 0.879 |
| **Total score** | **29** | **0.805** | **0.892** |

The table shows that the reliability coefficient of the spilt - half technique was (**0.892**) which is highly significant and indicates the strength and reliability of the scale.

### 3.5.2.7.2 Alpha Cronbach

The scale reliability was measured by another way namely Alpha Cronbach technique as it is shown in table (12) below.

**Table (12)**

**Alpha Cronbach**

| Domain | No. of items | Reliability coefficient |
|---|---|---|
| Attitudes towards learning English | 10 | 0.412 |
| Attitudes towards importance of English. | 10 | 0.829 |
| Attitudes towards enjoying English. | 9 | 0.814 |
| **Total score** | **29** | **0.851** |

The table shows that the reliability coefficient of the Alpha Cronbach technique was (**0.851**) which is highly significant and indicates the strength and reliability of the scale.

From the above mentioned, the researcher concluded that the attitude scale towards English in this study was very reliable and valid, which reinforces the final results of this study.

### 3.5.3 Teacher's Guide

The researcher prepared the teacher's guide to help the teacher apply the experiment. The researcher used the following items to prepare the teacher's guide. Appendix (3)

#### 3.5.3.1 The aim of the teacher's guide and lesson plan

The teacher's guide included the general aim, the specific objectives and the lesson plan. The guide was prepared by the researcher to help teachers apply the experiment.

#### 3.5.3.2 The sources of designing the teacher's guide

The sources of the teacher's guide were the researcher's experience as a teacher of English. Moreover, English supervisors' experience and some English teachers' experience in the governmental and UNRWA schools.

#### 3.5.3.3 Description of the teacher's guide

The teacher's guide includes information about applying the experiment .It includes the objectives and procedures of the lessons.

It also includes procedures for employing the Smart Board in teaching the vocabulary step by step.

#### 3.5.3.4 The validity of the teacher's guide

Some of English supervisors and teachers shared in revising it. The researcher made the modifications to make the teacher's guide valid Appendix (3).

### 3.6 Controlling Variables:

The researcher tried to control some variables that might affect the results of the research, such as, the achievement test variable, the scale and age variables to ensure valid results and avoid any possible external interference,. Mackey and Gass (2005:128) emphasized that "it would be important that each group of students be

relatively homogeneous. Were they not homogeneous, one cannot be sure about the source of the results".

### 3.6.1 Controlling Vocabulary Achievement Test Variable

To make sure that the students of sample are equivalent in their previous learning of Vocabulary, the researcher applied the pre-achievement test. The results of the test were recorded and statistically analyzed using T-test. Table (13) shows the comparison between the two groups of the sample on the pretest.

**Table (13)**

**T-test results of controlling Vocabulary achievement variables**

| Domain | group | N | Mean | Std. Deviation | t | Sig. value | sig. level |
|---|---|---|---|---|---|---|---|
| **Vocabulary Achievement** | Experimental | 44 | 15.955 | 6.477 | -1.279 | 0.205 | not sig. |
| | control | 41 | 13.829 | 8.611 | | | |

Table (13) shows that the significance value was greater than (0.05) which means that there were no statistically significant differences at (0.05) between the experimental and the control groups due to the pre English achievement test variable and this indicates the equivalence of both the experimental and control groups .

### 3.6.2 Controlling the attitudes scale variable

To make sure that the sample subjects are equivalent in their previous attitudes towards English language, the pre-attitude scale was applied. The results were recorded and statistically analyzed using T-test.

Table (14) shows the comparison between the two groups of the sample in the pre attitudes scale.

**Table (14)**

**T-test results of controlling attitudes scale variables**

| Domain | Group | N | Mean | Std. Deviation | t value | Sig. value |
|---|---|---|---|---|---|---|
| -Attitudes towards learning English. | **Control** | 41 | 35.805 | 3.28 | −0.036 | 0.972 |
| | **Exp** | 44 | 35.841 | 5.746 | | |
| -Attitudes towards importance of English. | **Control** | 41 | 41.073 | 9.226 | 1.024 | 0.309 |
| | **Exp** | 44 | 39.273 | 6.886 | | |
| -Attitudes towards enjoying English. | **Control** | 41 | 32.781 | 7.492 | 1.402 | 0.165 |
| | **Exp** | 44 | 30.341 | 8.48 | | |
| **Total score** | **Control** | 41 | **109.659** | **16.905** | **1.121** | **0.265** |
| | **Exp** | 44 | **105.455** | **17.61** | | |

Table (14) shows that the significance value was greater than (0.05) which means that there were no statistically significant differences at (0.05) between the experimental and the control groups due to the pre attitudes scale variable and this indicates the equivalence of both the control and experimental groups .

### 3.6.3 Age variable

The researcher recorded the students' ages from the school's files for the scholastic year (2013-2014) and made sure that they were all of the same age ranging between [14 – 15] years old which in turn indicates that both the experimental and the control groups were equivalent in the age variable.

## 3.7 Procedures

***The study progressed according to the following steps:***

1. Reviewing literature and previous studies related to the effects of Smart Boards on learning. In addition, the researcher reviewed previous studies related to vocabulary achievement, retention, and students' attitudes towards English language.

2. Preparing a teacher's guide based on using the Smart Board in teaching the content of the specified units.
3. Presenting the teacher's guide to a number of specialists, including professors of teaching methodology, supervisors of English language and experienced teachers to benefit from their experience.
4. A pilot study was conducted to measure the test and the scale's suitability to the study.
5. The pre vocabulary - test and pre-attitude scale were applied to the control and the experimental groups in the second term of the scholastic year (2013- 2014). The results were recorded and statistically analyzed.
5. The researcher made sure that both groups were equivalent through the pre – test and then conducted the experiment.
6. The post vocabulary test and post attitude scale were applied on the experimental and the control groups. The results were recorded and statistically analyzed.
7. The delayed (retention) vocabulary test was administrated to the experimental and control groups after three weeks of the experiment. The results were recorded and statistically analyzed.
8. Presenting the summary, the suggestions and the recommendation in the light of the study conclusions.

## 3.8 Statistical Analysis Procedures:

***The data was collected and computed by using Statistical Package for Social Sciences (SPSS). The following statistical techniques were used:***

1. T. Test Independent Samples: to control the intervening variables and to measure the statistical differences in means between the two groups due to the study variables.
2. T. Test Paired Sample to measure the differences in the total average score between the post-test and the delayed test of the experimental group.
3. Spearman correlation: to determine the internal consistency validity of the test.
4. Pearson correlation coefficient to identify the correlation of the items of the test and the scale.

5. Guttman Formula was used for the odd items of the scale.
6. Split-half and Alpha Cronbach techniques were used to test the reliability of the test and the scale items.

## Summary

This chapter presented the procedures of designing and applying the instruments, the subjects and the statistical analysis that the researcher adopted in analyzing the results of the pre, post and delayed vocabulary test and pre, post attitudes scale. The next chapter presents the data analysis and results for the study hypotheses.

# Chapter IV

# DATA ANALYSIS

# Chapter IV

# Results: Data Analysis

The study aims at investigating the effectiveness of using Smart Boards in developing tenth graders ' vocabulary achievement and retention. In addition, it seeks to identify tenth graders' attitudes towards English. This chapter tackles the findings of the study in regard to the research questions. The researcher used different statistical methods in order to treat the collected data. The results were presented in a form of statistical tables.

## 4.1 Data Analysis

- **Examination of Research Questions**

### 4.1.1 Answer of the first Research Question

The first question is stated below:

**What is the framework of using the Smart Board in the development and retention of English vocabulary of Palestinian tenth graders in Khanyounis governorate?**

To answer this question, the researcher used the following:

**1- Teacher's Guide**

The teacher's guide provides information about the procedures that teachers can follow when applying the Smart Board. This guide contains detailed lesson plans of how to teach vocabulary via the IWB effectively.

The objectives of each lesson are clearly identified in the teacher's guide Appendix (3).

**2- Teaching Aids**

Several teaching aids were used in the teacher's guide such as pictures, sounds, different effects as movements, real experience and related video clips are

used in the design in order to arouse the students' interest, attention and interaction with the teachers.

### 3. Evaluation tools

The researcher used two tools to evaluate the Smart Board: the pre, post and delayed achievement test and the pre and post attitude scale in order to determine their attitudes towards English. Appendices (1-2)

### 4.1.2 Answer of the second Research Question

The second question inquired the following:

**-Are there statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary post- test?**

To answer this question, the researcher tested the following null hypothesis:

There are no statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary post- test.

To examine this hypothesis, the researcher used Independent Samples T-test to measure the significant differences between the experimental group (n = 44), who learned vocabulary via the Smart Board and the control group (n = 41), who learned in the traditional way on the post vocabulary achievement test. Table (15) describes the results of T- Test.

**Table (15)**
**T. Test Independent Sample Results of Differences between the Experimental and the Control Group in the Vocabulary Post Test**

| Domain | Group | N | Mean | Std. Deviation | t | Sig |
|---|---|---|---|---|---|---|
| English Vocabulary Test | Exp. | 44 | 22.772 | 8.873 | 2.174 | 0.033 |
| | Control | 41 | 17.926 | 11.420 | | |

"t" table value at ( **83**) df. At (0.05) Sig. level equals **1.98**

As shown in table (15) that the T. computed value is greater than T. tabulated in the test which means that there are significant differences at ($\alpha = 0.05$) in the total mean score of the post-test between the experimental and control group in favor of the experimental group, who learned via the Smart Board. This means we can reject the null hypothesis which says that there are no statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the control group and experimental group in the English vocabulary post- test.

The researcher attributes this result to the fact that using the Smart Board effectively in the teaching process with all its interesting tools and aids increases the students' motivation and attracts their attention, especially as they participate in learning eagerly when they touch the screen with their fingers which for them seems to be a magic aid; in turn this raises their curiosity and positiveness in the teaching learning process. Thus, the Smart Board developed the tenth graders' English vocabulary achievement.

To show the extent of the Smart Board's effect on the experimental group achievement in vocabulary, the researcher applied the "Effect Size" technique. The researcher computed "$^2\eta$" using the following formula: (Affana, 2000: 42)

$$\eta^2 = \frac{T^2}{T^2 + df}$$

**Table (16)**
**Level of Size Effect ($^2\eta$)**

| Test | Effect Size Criterion | | |
|---|---|---|---|
| $^2\eta$ | **Small** | **Medium** | **large** |
| | **0.01** | **0.6** | **0.14** |

**Table (17)**
**The Effect Size of Smart Boards on the Experimental Group Achievement in the Post-Test**

| Test | T | df | $^2\eta$ | Effect Size |
|---|---|---|---|---|
| Post Test | 2.174 | 83 | 0.054 | Small |

Table (17) shows that the effect size of Smart Boards on students' vocabulary achievement is small. This means that the effect of the Smart Board is significant and this is due to the fact that it left some impact on learning the new vocabulary better than the traditional method applied on the control group even though the effect was not so large.

### 4.1.3 Answer of the third Research Question

The third question is formulated as follows:

**-Are there statistically significant differences at ($\alpha \leq 0.05$) in the total mean score of the post attitude scale between the experimental group and the control group?**

To answer this question, the researcher examined the following null hypothesis, which assumes that there are no statistically significant differences at (**$\alpha \leq 0.05$**) in the total mean score of the post attitude scale between the experimental and the control group. To examine this hypothesis, the researcher used Independent Samples T-test to measure the differences between the experimental group (n= 44), who learned via the Smart Board and the control group (n= 41), who learned in the traditional way in the post attitude scale with its domains and total scores. Table (18) describes the results of T. Test.

**Table (18)**
**T. Test Results of Differences between the Experimental and the Control Groups in the Post Attitude Scale**

| Domain | Group | N | Mean | Std. Deviation | t | Sig |
|---|---|---|---|---|---|---|
| Attitudes towards learning English. | Exp. | 44 | 37.455 | 3.855 | 2.223 | 0.031 |
| | Control | 41 | 33.732 | 10.055 | | |
| Attitudes towards importance of English. | Exp | 44 | 43.727 | 4.839 | 2.471 | 0.016 |
| | Control | 41 | 40.049 | 8.309 | | |
| Attitudes towards enjoying English. | Exp | 44 | 35.296 | 4.911 | 2.652 | 0.010 |
| | Control | 41 | 30.976 | 9.288 | | |
| **Total scores** | Exp | 44 | 116.477 | 10.267 | 3.224 | 0.002 |
| | Control | 41 | 104.756 | 21.064 | | |

"t" table value at ( **83**) df. At (0.05) Sig. level equals **1.98**
"t" table value at ( **83**) df. At (0.01) Sig. level equals **2.66**

As shown in table (18) that the significance level for the total score of attitudes towards English and its domains was less than the acceptable significance of the study which is (0.05) and T. computed value is greater than T. table in the scale, which means that there are significant differences at ($\alpha = 0.01$) in the total mean scores of the post attitude scale between the experimental and control groups in favor of the experimental group and the null hypothesis is rejected accordingly.

The researcher attributes this result to the fact that using the Smart Board with the experimental group raised their interactivity and participation as well as their motivation to learn, which in turn raised their enjoyment and love of using the Smart board. This was also reflected positively on their attitudes towards English Language in general as it is said in an old saying, "Love me love my dog".

**Table (19)**
**The Effect Size of Smart Boards on the Experimental Group Post Attitudes Scale**

| Domain | T | df | $^2\eta$ | Effect Size |
|---|---|---|---|---|
| Attitudes towards learning English. | 2.223 | 83 | 0.056 | Small |
| Attitudes towards importance of English. | 2.471 | 83 | 0.068 | Medium |
| Attitudes towards enjoying English. | 2.652 | 83 | 0.078 | Medium |
| **Total Scores** | 3.224 | 83 | 0.111 | Medium |

It is from the results that the Smart Board has a medium effect on developing students' attitudes towards English language.

### 4.1.4 Answer of the fourth Research Question

The fourth question inquired the following:

**-Are there statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary delayed - test?**

To answer this question, the researcher examined the following null hypothesis which says that there are no statistically significant differences at ($\alpha \leq$

0.05) in the mean score between the experimental group and control group in the English vocabulary delayed – test.

To examine this hypothesis, the researcher used Independent Samples T-test to measure the significant differences between the experimental group (n= 44), who learned by the Smart Board and the control group (n= 41), who learned by the traditional way on the delayed vocabulary achievement test. Table (20) shows the results of T. Test.

**Table (20)**

**T. Test Independent Sample Results of Differences between the Experimental and the Control Group in the Delayed Test**

| Domain | Group | N | Mean | Std. Deviation | t | Sig |
|---|---|---|---|---|---|---|
| English Vocabulary Test | Exp. | 44 | 24.681 | 6.883 | 3.856 | 0.000 |
| | Control | 41 | 17.609 | 9.858 | | |

"t" table value at ( **83**) df. At (0.05) Sig. level equals **1.98**

As shown in table (20) that the significance level of the vocabulary achievement test is lesser than the acceptable value which is (0.05) and T. computed is greater than T. table which indicates that there are significant differences at ($\alpha$ = 0.01) in the total average score of the delayed -test between the experimental and control group in favor of the experimental group, which learned by the Smart Board, consequently this means we can reject the null hypothesis which assumes that there are no statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary delayed – test. Thus, the researcher attributes this result to the fact that using the Smart Board has a great effect on the experimental group, leaving the impact of learning for a longer time on the students, who still retain the vocabulary that they learned before three weeks via the Smart Board, whereas the control group shows little effect of the traditional way used in their teaching.

**Table (21)**
**The Effect Size of Smart Boards on the Experimental Group Delayed Test**

| Test | T | Df | $^2\eta$ | Effect Size |
|---|---|---|---|---|
| Delayed Test | 3.856 | 83 | 0.151 | Large |

Table (21) shows that the effect size of the Smart Board is large on students' vocabulary achievement. This means that the effect of Smart Board is significant and this is due to the fact that the Smart Board is an effective tool in teaching vocabulary and retaining it for longer time.

### 4.1.5 Answer of the fifth Research Question

The fifth question is stated as:

**-Are there statistically significant differences at ($\alpha \leq 0.05$) in the total mean score between the post-test and delayed test of the experimental group?**

To answer this question, the researcher investigated the following null hypothesis which says that there are no statistically significant differences at ($\alpha \leq 0.05$) in the total mean score between the post-test and delayed test of the experimental group. To examine this hypothesis, the researcher used Paired Samples T-test to measure the significant differences between the experimental group (n= 44), who learned via the Smart Board in the post – test and the same group in the delayed vocabulary achievement test. Table (22) shows the results of T. Test.

**Table (22)**

**T. Test Paired Sample Results of Differences between the Post test and Delayed Test of the Experimental Group**

| Domain | Group | N | Mean | Std. Deviation | t | Sig |
|---|---|---|---|---|---|---|
| English Vocabulary Test | **Exp.** Post test | 44 | 22.772 | 8.873 | −1.865 | 0.069 |
| | **Exp.** Delayed test | 44 | 24.681 | 6.883 | | |

"t" table value at ( 43) df. At (0.05) Sig. level equals 2.016

As shown in table (22) that the significance level of the vocabulary achievement post and delayed test is greater than the acceptable value which is (0.05) and computed T is less than tabulated T, which indicates that there are no significant differences at ($\alpha = 0.05$) in the total mean score of the delayed –test and post test of the experimental group, who learned by the Smart Board after three weeks of the experiment. Therefore, the null hypothesis which assumes that there are no statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the post-test and delayed test of the experimental group after three weeks of using the Smart Board is accepted. The researcher attributes this to the long term effect of the Smart Board on the vocabulary retention of the experimental group.

## Summary

This chapter showed the data analysis of the study hypotheses and their results. The results of each hypothesis were analyzed statistically using different statistical techniques. It is obvious that there are significant differences in developing vocabulary and the attitudes towards English language among students in the experimental group and their counterparts in the control one in favor of the experimental group.

The results were as follows:

- There are statistically significant differences at ($\alpha = 0.05$) in the mean score between the experimental group control and group in the English vocabulary post- test in favour of the experimental group, which was taught by the Smart Board.
- There are statistically significant differences at ($\alpha = 0.01$) in the total mean score of the post attitude scale between the experimental and the control group in favour of the experimental group which was taught by the Smart Board.
- There are statistically significant differences at ($\alpha = 0.01$) in the mean score between the experimental group and control group in the English vocabulary delayed - test in favour of the experimental group.

- There are no statistically significant differences at ($\alpha = 0.05$) in the total mean score between the post-test and delayed test of the experimental group.

The results of the post-test and delayed test indicated the significant role of Smart Boards related to the retention of vocabulary. According to the findings of the study, using Smart Boards had positive effects on developing vocabulary achievement, retention, and attitudes towards English language.

The next chapter presents findings, discussion, implications and recommendations.

# Chapter V

# FINDINGS, DISCUSSION, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

# Chapter V
# Findings, Discussion, Conclusion, Implications and Recommendations

This chapter discusses the results of the study. It summarizes the conclusions which will be deduced in the light of the study results and the pedagogical implications that the researcher has suggested. It also involves suggestions and recommendations for further studies. Such suggestions are expected to be beneficial for course designers, tenth grade's teachers of English, supervisors, students and educators. They could help improve teaching English language in general and vocabulary in particular.

## 5.1 Findings

Based on the findings of this study, the following results were observed:

1- There are statistically significant differences at ($\alpha = 0.05$) in the mean score between the experimental group and control group in the English vocabulary post- test in favor of the experimental group.

2- There are statistically significant differences at ($\alpha = 0.01$) in the total mean score of the post attitude scale between the experimental and the control group in favor of the experimental group.

3- There are statistically significant differences at ($\alpha = 0.01$) in the mean score between the experimental group and the control group in the English vocabulary delayed – test in favour of the experimental group.

4- There are no statistically significant differences at ($\alpha = 0.05$) in the total mean score between the post-test and the delayed test of the experimental group. This means that the students in the experimental group retained the words they learned via the Smart Board longer after three weeks of administering the post test.

## 5.2 Discussion

Most of our students in Palestine are struggling with vocabulary achievement and retention according to this study.

The experiment was designed to determine if these students would increase their vocabulary and retain them longer and positively change their attitudes towards English with the use of the Smart Board presentation.

All students of the experimental group showed an increase in their performance on vocabulary achievement post test. On the other hand, the experimental group showed obvious change towards English language on the post attitude scale after implementing the Smart board which of course was positive one after five weeks of the experiment and that was very clear through their responses on the scale.

Also the effect size of vocabulary retention was very large after administering the delayed test three weeks later, which was attributed to the intervention of the Smart Board. But some may consider this result as a contradiction to the fourth hypothesis assuming that there were no significant differences in the total mean score between the post-test and the delayed test of the experimental group. To make it clear, this large effect refers to the effect of repeating the same achievement test three times throughout this experiment and this resulted in the large effect size. This means that using new technologies such as the Smart Board was very effective because most if not all of the students nowadays prefer to learn via modern technologies that prevail largely all around the world and which is also the language of this era.

These findings of the present study agree with many previous studies results that proved an effective role and impact of the Smart Boards on teaching and learning process worldwide. These are: Mionr et al. (2013), Phillips (2013), Keshta and Aludaini (2012), Türel and Johnson (2012), Brown (2011), Norbert (2011), Terreni (2011), Riska (2010), Wuerzer (2010), Morgan (2008), Pickens (2008) and Holmes (2009).

The researcher will present and discuss the results drawn from the findings of data analysis in relationship to the existing literature on the IWBs' use and their incorporation into English classes. The findings will be presented and discussed in terms of:

- The framework of using the Smart Board in the development and retention of English vocabulary.
- If there were statistically significant differences in the mean score between the experimental group and the control group in the English vocabulary post- test.
- If there were statistically significant differences in the mean score of the post attitude scale between the experimental and the control group.
- If there were statistically significant differences in the mean score between the experimental group and the control group in the English vocabulary delayed – test.
- If there were statistically significant differences in the total mean score between the post-test and delayed test of the experimental group.

**First: Interpretation of results related to question number one.**

The researcher investigated the first question which was about the framework of the Smart Board to develop vocabulary achievement, retention, and attitudes of Palestinian tenth graders towards English.

The researcher designed a teacher's guide depending on the Smart Board notebook version 9.5 to teach the vocabulary included in the tenth grade students' book through series of lessons that were planned well to suit the students' level and also attract their attention and raise their participation and motivation to learn the new vocabulary in an interesting way using the IWB providing pictures, video clips and sounds. For more explanation, you can see Chapter four in detail pages (103 - 104) as well as the teacher's guide, Appendix (3-A).

**Second: Interpretation of results related to question number two.**

The researcher investigated the second question which examined if there were statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary post- test. The results indicated that the T. computed value (2.174) was greater than T. tabulated (1.98) in the post test which means that there are significant differences at ($\alpha = 0.05$) in the total mean score of the post-test between the experimental group and the control one in favor of the experimental group, which learned via the Smart Board.

There was also a significant difference between the means of both groups in favor of the experimental group. The mean of the experimental group was (22.772) whereas the mean of the control group was (17.926).

In addition, the researcher found that the effect size was small in the total scores of the post test. This small effect could be attributed to many different reasons which, of course, do not reduce the great importance of the Smart Board as follows:

- Students' carelessness in dealing with the tests as they are not recorded or affect their scores at school.
- The students' age characteristics which indicate their tough moods at this stage of life and need for full attention all the time which the teacher cannot afford for all at the same time which leads of course to laziness sometimes and this in turn, reflects negatively on their achievement.
- Students are different, some are visual learners, and others are auditory, but the rest are tactile. For that we find that they are not all the same in achievement.

The findings agreed with the findings of some the previous studies, namely: Phillips (2013), which showed that the IWB has a large effect on teaching vocabulary. Wuerzer (2010) also revealed the great influence of presenting the new words and its spelling via the Smart Board and which was very interesting. Morgan (2008) indicated the engagement and enjoyment with interactive whiteboards. The findings were also in agreement with those of previous studies in other school subjects, particularly: Minor et al. (2013), which investigated the intervention of the Smart board that increased the students' mathematics and teachers' Smart Board proficiency. Norbert (2011), showed in his study the significant effect of the IWB's use in physics. Riska (2010), the only study that did not show any significant change in the gifted students' achievement in mathematics. Holmes (2009) found that the primary benefit of the IWB is related to its potential to engage students with varied visual representation.

**Third: Interpretation of results related to question number three.**

The third research question seeks to test if there were statistically significant differences at ($\alpha \leq 0.05$) in the mean score of the post attitude scale between the experimental and the control group.

The findings indicated that the T. computed value, (3.224), was greater than the T. tabulated value, (1.98), in the post attitude scale. This means that there were statistically significant differences at ($\alpha = 0.01$) in the total mean score of the post attitude scale between the experimental group and the control one in favor of the experimental group, who learned via the Smart Board. Whereas the mean of the control group was (104.756), the mean of the experimental group was (116.477).

Regardless, the medium effect size of the post attitudes scale, which was close to be large the students showed great motivation while learning by the Smart Board which was clear to the researcher. It was also clear that the students did not deal seriously while answering the scale which of course led to this result, but in fact they were very eager to learn especially when dealing with the Smart Board as they were competing who will get first to the IWB to do an exercise , write or move a picture.

The findings agreed with the findings of some previous studies such as: AlKaff's (2013), which showed that most students had a positive attitude towards learning English. Lakshmi's (2013) revealed that more classroom activities in the study of English enhance pupils' attitude to learn English. Al-Mamun et al. (2012), suggest that the respondents were found to be positive toward English.

**Fourth: Interpretation of results related to question number four**

The fourth question tested if there were statistically significant differences at ($\alpha \leq 0.05$) in the mean score between the experimental group and the control group in the English vocabulary delayed (retention) – test. The findings indicated that the T. computed value, (3.856), was greater than the T. table value, (1.98), in the delayed test. This means that there were statistically significant differences at ($\alpha = 0.01$) in the total mean score of the delayed-test between the experimental group and the

control group in favor of the experimental group, who learned via the Smart Board. This of course means that learning via the Smart Board had a longer term effect than the traditional way in retaining the vocabulary for a long time. Moreover, it indicates that the vocabulary learning via the Smart Board transferred from the short term memory to the long term memory, which means that the Smart Board was an effective tool as indicated.

According to "$^{2}\eta$" value shown in Table (21), it was observed that the effect size of the Smart Board was large on the students' total achievement in the vocabulary achievement delayed test. This large effect indicated the real effectiveness of the Smart Board and the long effect left on students.

These findings also indicate that what students have learned via the Smart Board was transferred to the long term memory because of the different techniques, pictures, video clips and sound files used by the teacher to present the new vocabulary on the IWB, whereas the control group showed large drawback due to the traditional method of learning and this really reinforces the need to use such technology in our schools to increase the students' enthusiasm and motivation towards learning in all school subjects and towards English in particular.

**Fifth: Interpretation of results related to question number five**

Research question five sought to explore if there were statistically significant differences at ($\alpha \leq 0.05$) in the total mean score between the post-test and delayed test of the experimental group. The findings indicated that the T. computed value, ($-1.865$), was less than the tabulated T value, (2.016). This means that there were no statistically significant differences at ($\alpha = 0.05$) in the total average score between the post-test and delayed test of the experimental group. The mean of the post -test was (22.772) while the mean of the delayed test was (24.681). This result indicates the long-term effect of using the Smart Board on the experimental subjects' vocabulary retention although the mean of the delayed (retention) test was larger which could be due to the administering of the test three times and this also left some impact on the students. This could be attributed to the direct effect of students' use of the Smart

Board in writing, manipulating pictures, watching video clips which were much related to the vocabulary used.

## 5.3 Conclusion:

Based on the findings derived from the results of this study, the following was concluded:

- Students were clearly engaged in learning with the IWB than the traditional way as the IWB was more interesting and commanded their attention longer.
- The Smart Board increased the students' interaction in class as it was a new technology for them and very easy to use.
- It improved the teacher's instruction as the teacher could provide many pictures, clips and sounds easily.
- It saved a lot of time while presenting the new vocabulary.
- It increased variety of lessons when preparing lessons for instruction, which of course reduced the students' boredom of seeing the same things all the time.
- It also increased the students' motivation and involvement in the classroom.
- It was suitable for all types of students such as, visual, auditory and tactile learners.
- IWB technology appeared to offer teachers a considerable range of affordances that other technologies may not have done.
- The Smart Board was easy to use in presenting the lessons, saving them and retrieving them again several times.
- IWBs consider the individual differences among learners with its various activities and techniques that are suitable for all ages and different students.

## 5.4 Implications

In the light of the study results, the following suggestions are put forth:

- Using the Smart Board in the teaching learning process encourages the students to be active and motivated when doing an activity.

- Teachers should be aware of the importance of the Smart Board in developing students' vocabulary as it is rich with pictures, videos and sounds.
- Using IWBs enables students to develop their attitudes towards learning in particular and English language in general.
- The effectiveness of using Smart Boards in developing the eleventh graders' vocabulary achievement and their retention.
- IWBs help to create a fun atmosphere and reduce the gap between teachers and learners when interacting together.
- IWBs are suitable for normal and even disabled learners and also for all ages.
- IWB instruction provides students with immediate feedback and different types of reinforcement.

## 5.5 Recommendations

In the light of the results, the following recommendations which may be helpful are provided:

- The need to equip the Palestinian schools with Smart Boards to facilitate and enrich the teaching learning process.
- Conduct workshops that aim at familiarizing teachers with the use of IWBs.
- Training teachers on using the Smart Board effectively to benefit from this technology.
- Designing different lessons that can be presented by the IWB to raise the students' motivation.
- To benefit from the teacher's guide and distribute it among teachers.
- To adopt modern techniques to enhance students' participation and interaction.
- To give more attention to the vocabulary learning and how to teach it as it is the core of any language.

## 5.6 Recommendations for further studies

The researcher suggested the following recommendations for further studies:

- The effectiveness of Smart Boards on developing students' reading comprehension skills.
- The effectiveness of Smart Boards on developing the students' writing skills.

- The effect of Smart Boards on developing creative thinking.
- The effect of computer based programs on developing the students' vocabulary achievement.
- The effectiveness of Smart Boards on teaching stories.

# RESOURCES

Holy Quran

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# Appendices

# Appendix (1)

**The Islamic University-Gaza**

**Deanery of Graduate Studies**

**Faculty of Education**

**Department of Curriculum & Instruction Technology**

# Vocabulary Achievement Test

# "Tenth Grade"

***Prepared by***

**Riyad Suliman AlFarra**

***Supervised by***

**Prof. Awad Keshta** **Prof. Mohammed Asqule**

2014

# Refereeing Achievement Test

**Dear Professor, Supervisor, Expert teacher,**

The researcher is conducting a study entitled" **The Effectiveness of Using Smart Boards in Developing Tenth Graders' Vocabulary Achievement, Retention and Attitudes Towards English in Gaza** " to obtain a Master's Degree in Curriculum & English Teaching Methods.

One of the requirements of this study is to conduct vocabulary achievement test .Please, you are kindly requested to look carefully at the attached test and fill in the following form whether the items of the test are suitable or unsuitable.

**Your notes and responses will be highly appreciated and confidential.**

| Items | | High | Average | Low |
|---|---|---|---|---|
| 1 | The test items reflect the objectives. | | | |
| 2 | The test items suit tenth graders' level. | | | |
| 3 | The layout is acceptable. | | | |
| 4 | The time assigned is suitable. | | | |

**Any further comments are highly appreciated.**

……

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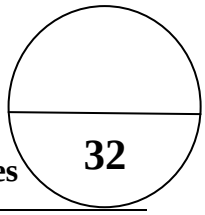
……

***Thanks a lot for your cooperation***

**Researcher**

**Riyad Suliman AL Farra**

# Vocabulary Achievement Test




**Grade: 10**

**Name: _____ Class: _____ Time: 35 minutes**

**1-<u>Fill in the spaces with the right words from the box</u>: (7 marks)**

| **pilgrims - sites - combination – responsible – enclosing – cyclones – leather** |
|---|

1. …… are huge storms that can destroy whole countries in just hours.
2. I'm ……..a photo of me at a place in the mountain near Inverness.
3. Water ($H_2O$) is a……. of hydrogen and oxygen.
4. There are many archaeological …….……in Palestine.
5. These shoes are made of natural ……..…….in Hebron.
6. Palestine is a wonderful destination for both tourists and……...
7. You should always be……...

**2-<u>Complete the sentences with a word from the same word family</u>: (6 marks)**

8. We stand …… against what is happening for the Palestinians in Syria. (**help**)
9. There was a …… avalanche in the mountains yesterday. (**danger**)
10. You should have high……for this job. (**qualify**)
11. I realize now that I made the wrong …… (**decide**)
12. The hurricane in East Pakistan was the most ……...hurricane. **(destroy**)
13. The owner of Microsoft company is a ……. man. (**wealth**)

**3-<u>Match the words on the left to the definitions on the right:</u> (7 marks)**

14.**____ accurate** **a-** a place where people go for relaxation or interesting.

15.**____ endless** **b-** a job that you do through your working life**.**

16.**____resort** **c-** a group of people who live together in one country or community.

17.**____ society** **d-** words that are written or cut on a coin, medal, stone, or currency.

18.**____ career** **e-** I can be changed easily. Whatever you want to do is fine with me.

19.**____** **f-** so long that there seems to be no end or limit.

**inscriptions** **g-** exact**.**

20.**____flexible**

**4- Give the opposites of the following from the words in the box: (4 marks)**

| include - approached – ancient – appear |
|---|

21-**moved away**_____ 22- **appear**_____

23- **modern** _____ 24- **exclude** _____

**5-Match pairs of words to make correct word pairs: (4 marks)**

| archaeological – personal — architectural – tidal |
|---|

| qualities – wave – treasures – sites |
|---|

25._____ 26. _____

27._____ 28. _____

**6- Give the meaning of the following from the words in the box: (4 marks)**

| only – route – choose – continue |
|---|

29**.pick** _____ 30**. just** _____

31**.go on**_____ 32**. direction**_____

*Thanks a lot*

# Appendix (2)

**The Islamic University-Gaza**

**Deanery of Graduate Studies**

**Faculty of Education**

**Department of Curriculum & Instruction Technology**

# Tenth Graders' Attitudes Scale towards English

# (English & Arabic)

***Prepared by***

**Riyad Suliman Al-Farra**

***Supervised by***

**Prof. Awad Keshta** **Prof. Mohammed Asqule**

2014

## Refereeing Attitudes Scale

## Tenth graders' attitudes towards English

**Dear Professor, Supervisor, Expert teacher,**

The researcher is conducting a study entitled " **The Effectiveness of Using Smart Boards in Developing Tenth Graders' Vocabulary Achievement, Retention and Attitudes towards English in Gaza**" to obtain a Master's Degree in Curriculum & English Teaching Methods. One of the requirements of this study is to conduct an attitudes scale. Please, you are kindly requested to look carefully at the attached scale and fill in the following form whether the items of the test are suitable or unsuitable.

Your notes and responses will be highly appreciated and confidential, so please have a look at the scale and note your opinion on:

1- The clear instructions of the scale.

2 -The scale items suit the tenth graders' level.

3 -The belonging of each item to its domain.

4 -The deletion or addition of items.

**Any further comments will be highly appreciated.**

…… …….

……..

……..

……..

**Thanks a lot for your cooperation**

**Researcher**

**Riyad Suliman AL Farra**

## Tenth graders' Attitudes Scale towards English

**Dear student,**

This scale measures your attitudes towards English and it is just for research purposes, so you will find some items related to the English subject which you may agree or disagree with.

So please read each item carefully and then decide which one to tick (√) from your point of view and here is an example:

| NO. | Items | Strongly Agree 5 | Agree 4 | Not Sure 3 | Disagree 2 | Strongly Disagree 1 |
|---|---|---|---|---|---|---|
| 1- | I enjoy English. | √ | | | | |

**Scale instructions:**

- There is no true or false answer as long as it expresses you own opinion.
- Make sure not to leave blank items without a tick.
- Gradation of your answer on the scale expresses the rate of your agreement on the item.
- If you want to change your answer make sure you deleted the first one completely.
- Your responses on the scale do not affect your school score at all.

**Abbreviations**:

1- **SD = Strongly disagree**
2- **D = Disagree**
3- **N = Not sure**
4- **A = Agree**
5- **SA = Strongly agree**

***Now, please read the items next page and answer them carefully.***

**With Best Regards**

**Researcher**
**Riyad Suliman AlFarra**

## First Draft

| No. | Items | SA 5 | A 4 | N 3 | D 2 | SD 1 |
|---|---|---|---|---|---|---|
| | **First Domain: Attitude towards learning English** | | | | | |
| **1-** | I really enjoy learning English. | | | | | |
| **2-** | I plan to learn as much English as possible. | | | | | |
| **3-** | I would rather spend my time on subjects other than English. | | | | | |
| **4-** | I like to learn English to know about the culture of the West. | | | | | |
| **5-** | I don't like English. | | | | | |
| **6-** | Studying English meets my desires and tendencies. | | | | | |
| **7-** | I think it is difficult to memorize the English vocabulary. | | | | | |
| **8-** | Learning English helps to broaden my outlook. | | | | | |
| **9-** | I prefer to excel on my colleagues in the English language. | | | | | |
| **10-** | I think English learning is a waste of time. | | | | | |
| **11-** | I prefer to learn English by the Smart Board. | | | | | |
| **12-** | I learn English because it is an international language. | | | | | |
| **13-** | I think English is difficult and complicated. | | | | | |
| | **Second Domain: Attitudes towards the importance of English** | | | | | |
| **14-** | I think to master English is important for any educated person. | | | | | |
| **15-** | Learning English facilitates searching on the internet. | | | | | |
| **16-** | Studying English can be important for me because I will learn more about what is going on in the world. | | | | | |
| **17-** | Learning English will develop my personality. | | | | | |
| **18-** | Learning English can help me to know people from other cultures. | | | | | |
| **19-** | I learn English to help me in studying abroad. | | | | | |
| **20-** | I just learn English to finish my study. | | | | | |
| **21-** | Learning English is important for my future study. | | | | | |
| **22-** | Learning English gives me a feeling of success in life. | | | | | |
| **23-** | I learn English because it is connected with technology. | | | | | |
| **24-** | Learning English will help me a lot in travel. | | | | | |
| | **Third Domain: Attitudes towards enjoying English** | | | | | |
| **25-** | I feel happy when I learn something new in English. | | | | | |
| **26-** | I am eager to read English stories. | | | | | |
| **27-** | I hope they delete the English subject. | | | | | |
| **28-** | I support establishing English language club at school. | | | | | |
| **29-** | I feel upset when the teacher doesn't ask me in class. | | | | | |
| **30-** | I hope to be a teacher of English in the future. | | | | | |
| **31-** | I feel stressed during English lessons. | | | | | |
| **32-** | I feel satisfied towards my performance in English. | | | | | |
| **33-** | I like to watch English programs on TV. | | | | | |
| **34-** | I look forward to English classes. | | | | | |
| **35-** | I enjoy participating in English classes. | | | | | |
| **36-** | Speaking English makes me feel worried. | | | | | |

## Last Draft

| No | Items | SA 5 | A 4 | N 3 | D 2 | SD 1 |
|---|---|---|---|---|---|---|
| | **First Domain: Attitudes towards learning English** | | | | | |
| **1-** | I really enjoy learning English. | | | | | |
| **2-** | I plan to learn as much English as possible. | | | | | |
| **3-** | I like to learn English to know about the culture of the West. | | | | | |
| **4-** | Studying English meets my desires and tendencies. | | | | | |
| **5-** | I think it is difficult to memorize the English vocabulary. | | | | | |
| **6-** | I prefer to excel on my colleagues in the English language. | | | | | |
| **7-** | I think English learning is a waste of time. | | | | | |
| **8-** | I prefer to learn English by the Smart Board. | | | | | |
| **9-** | I learn English because it is an international language. | | | | | |
| **10-** | I think English is difficult and complicated. | | | | | |
| | **Second Domain: Attitudes towards the importance of English** | | | | | |
| **11-** | I think to master English is important for any educated person. | | | | | |
| **12-** | Learning English facilitates searching on the internet. | | | | | |
| **13-** | Studying English can be important for me because I will learn more about what is going on in the world. | | | | | |
| **14-** | Learning English will develop my personality. | | | | | |
| **15-** | Learning English can help me to know people from other cultures. | | | | | |
| **16-** | I learn English to help me in studying abroad. | | | | | |
| **17-** | Learning English is important for my future study. | | | | | |
| **18-** | Learning English gives me a feeling of success in life. | | | | | |
| **19-** | I learn English because it is connected with technology. | | | | | |
| **20-** | Learning English will help me a lot in travel. | | | | | |
| | **Third Domain: Attitudes towards enjoying English** | | | | | |
| **21-** | I feel happy when I learn something new in English. | | | | | |
| **22-** | I am eager to read English stories. | | | | | |
| **23-** | I support establishing English language club at school. | | | | | |
| **24-** | I feel upset when the teacher doesn't ask me in class. | | | | | |
| **25-** | I hope to be a teacher of English in the future. | | | | | |
| **26-** | I feel satisfied towards my performance in English. | | | | | |
| **27-** | I like to watch English programs on TV. | | | | | |
| **28-** | I look forward to English classes. | | | | | |
| **29-** | I enjoy participating in English classes. | | | | | |

## مقياس اتجاهات طلاب الصف العاشر نحو اللغة الانجليزية

**تعليمات الاجابة للطالب على مقياس الاتجاه**

**عزيزي الطالب.....** **السلام عليكم ورحمة الله وبركاته**

يقيس هذا المقياس الذي وُضع من أجل البحث العلمي فقط اتجاهك الشخصي نحو مادة اللغة الانجليزية لذلك ستجد فيما يلي مجموعة من العبارات (الفقرات) التي تتعلق بالمادة والتي قد توافق على بعضها و قد لا توافق على البعض الآخر.

لذلك يُرجى منك قراءة كل عبارة بدقة ثم تقرر مدى موافقتك أو عدمها بوضع علامة (√) تحت الاجابة التي تراها مناسبة من وجهة نظرك وإليك المثال التالي:

| م | الفقرات | أوافق بشدة ٥ | أوافق ٤ | غير متأكد ٣ | أعارض ٢ | أعارض بشدة ١ |
|---|---|---|---|---|---|---|
| ١- | **أستمتع باللغة الانجليزية.** | √ | | | | |

**تعليمات المقياس:**

- لا توجد إجابة صحيحة وإجابة خطأ ما دام أنها تعبر عن رأيك بصدق وصراحة.
- تأكد من عدم ترك أي عبارة دون الاجابة عنها.
- تدرج الإجابة في المقياس يعبر عن نسبة موافقتك أو عدمها على العبارة.
- إذا أردت تغيير إجابتك فتأكد أنك محوت الأولى بشكل تام.
- درجاتك على هذا المقياس لا تؤثر بأي حال على درجاتك المدرسية.

**الآن اقرأ العبارات في الصفحات التالية وأجب عنها بعناية.**

***مع خالص الشكر والتقدير***

**الباحـــــث**

**رياض سليمـــــان الفـــــرا**

| م | الفقـــــرات | أوافق بشدة ٥ | أوافق ٤ | غير متأكد ٣ | أعارض ٢ | أعارض بشدة ١ |
|---|---|---|---|---|---|---|
| | **المجال الأول: الاتجاه نحو تعلم اللغة الانجليزية** | | | | | |
| ١- | تعلم اللغة الانجليزية ممتع. | | | | | |
| ٢- | أخطط لأتعلم الكثير من اللغة الانجليزية . | | | | | |
| ٣- | أحب تعلم اللغة الانجليزية لأتعرف على ثقافة الغرب. | | | | | |
| ٤- | تعلم اللغة الانجليزية يشبع رغباتي وميولي. | | | | | |
| ٥- | أرى أنه من الصعب حفظ مفردات اللغة الانجليزية. | | | | | |
| ٦- | أحب أن أتفوق على زملائي في اللغة الانجليزية. | | | | | |
| ٧- | أعتقد أن تعلم اللغة الانجليزية مضيعة للوقت. | | | | | |
| ٨- | أفضل أن أتعلم اللغة الانجليزية بواسطة السبورة الذكية. | | | | | |
| ٩- | أتعلم اللغة الانجليزية لأنها لغة عالمية. | | | | | |
| ١٠- | أعتقد أن اللغة الانجليزية صعبة ومعقدة. | | | | | |
| | **المجال الثاني: الاتجاه نحو أهمية اللغة الانجليزية.** | | | | | |
| ١١- | أعتقد أن إتقان اللغة الانجليزية من مقومات الشخص المثقف. | | | | | |
| ١٢- | تسهل اللغة الانجليزية البحث في مواقع الانترنت. | | | | | |
| ١٣- | تمكني معرفة اللغة الانجليزية من فهم مشكلات العالم من حولي. | | | | | |
| ١٤- | تلعب اللغة الانجليزية دوراً هاماً في تطوير شخصيتي. | | | | | |
| ١٥- | تساعدني اللغة الانجليزية من التعرف على أصدقاء من ثقافات أخرى. | | | | | |
| ١٦- | أدرس اللغة الانجليزية لتساعدني على الدراسة في الخارج. | | | | | |
| ١٧- | دراسة اللغة الانجليزية مهمة لدراستي في المستقبل. | | | | | |
| ١٨- | تشعرني دراسة اللغة الانجليزية بالنجاح في حياتي. | | | | | |
| ١٩- | ادرس اللغة الانجليزية لأنها مرتبطة بالتكنولوجيا. | | | | | |
| ٢٠- | ستساعدني اللغة الانجليزية أثناء السفر. | | | | | |
| | **المجال الثالث: الاتجاه نحو الاستمتاع باللغة الانجليزية** | | | | | |
| ٢١- | أكون سعيداً عندما أتعلم شيئاً جديداً في اللغة الانجليزية | | | | | |
| ٢٢- | أتشوق لقراءة قصص باللغة الانجليزية. | | | | | |
| ٢٣- | أؤيد إقامة نادي للغة الانجليزية في المدرسة. | | | | | |
| ٢٤- | أشعر بالضيق لعدم توجيه المعلم أسئلة لي في حصة اللغة الانجليزية. | | | | | |
| ٢٥- | أرغب أن اكون مدرساً للغة الانجليزية. | | | | | |
| ٢٦- | أشعر برضاً عن أدائي في اللغة الانجليزية. | | | | | |
| ٢٧- | أحب مشاهدة البرامج المذاعة باللغة الانجليزية في التلفزيون. | | | | | |
| ٢٨- | أتشوق لدروس اللغة الانجليزية. | | | | | |
| ٢٩- | أستمتع بالمشاركة في حصص اللغة الانجليزية | | | | | |

# Appendix (3)

**The Islamic University-Gaza**

**Deanery of Graduate Studies**

**Faculty of Education**

**Department of Curriculum & Instruction Technology**

# Teacher's Guide

## *"English for Palestine 10"*

## How to teach vocabulary lessons using Smart Boards

***Prepared by***

**Riyad Suliman Al-Farra**

***Supervised by***

**Prof. Awad Keshta** **Prof. Mohammed Asqule**

2014

# Appendix (3-A)
# Refereeing Teacher's Guide

***"English for Palestine 10"***
**How to teach the vocabulary lessons using the Smart Board**

**Dear referee,**

The researcher is conducting a study entitled" **The Effectiveness of Using Smart Boards in Developing Tenth Graders' Vocabulary Achievement, Retention and Attitudes towards English in Gaza**" to obtain a Master's Degree in Curriculum & English Teaching Methods.

You are kindly invited to check the attached teacher's guide, which is designed to collect data for the study. The vocabulary will be limited to "*English for Palestine 10*" units (6 - 7 - 8).

Your notes and comments will be highly appreciated and confidential.
Any modifications, additions, or omissions will be taken into consideration.

This teacher's guide is a suggested lesson plan for each vocabulary lesson based on the Smart Board.

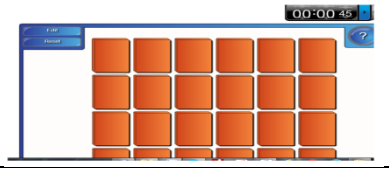
**It contains the following:**
1. Learning objectives for each lesson
2. Procedures and activities.
3. Evaluation

**Any further comments are highly appreciated.**
……
……
……
……

**Name of the referee:**
**The degree:**
***Thanks for your time and your efforts***

**Researcher**

**Riyad Suliman AlFarra**

| **Unit: 6** | **Title:** Dangerous Weather | | **Period:** 1 | **Grade:10** |
|---|---|---|---|---|
| **New vocabulary** | *avalanche – flood – hurricane – mudslip - tornado* | | | |
| **Resources & Materials** | *Smart Board – Worksheets – LCD – Video clips – SB – pictures.* | | | **Time**: 40 min. |
| **Objectives** | **Stage** | **Activities & procedures** | **Time** | **Evaluation** |
| SS. are expected to: | Warming up | - SS click tiles to match pictures  | 3 | SS answers |
| 1- elicit weather vocabulary | Revision | - T. writes the word weather on the Smart Board in a circle and elicits other words related to the weather conditions. See **Appendix (3-B) Activity ( 1 )**<br>- Some SS come to the Smart Board and try to write the words. | 7 | SS' different responses<br><br>SS. write them on the Smart Board |
| 2- identify new vocabulary | Presentation | -T. writes the new vocabulary on Smart Board.<br>- T. relates each word with its picture….. e.g.:<br>-SS listen to the words from the Smart board<br>.avalanche  hurricane  <br>Flood  mudslip  <br>Tornado  | 10 | |

| | | | | |
|---|---|---|---|---|
| 3- Use new words in meaningful sentences | Practice | -T. asks SS to give meaningful sentences using these words…e.g.<br>- ***There was a terrible flood in Gaza some weeks ago.*** | 7 | Oral practice |
| 4- Match types of natural disaster | Production | -T. asks SS to do EX. 1 in their SB p. 46 in pairs.<br>- T. asks some SS to come to the Smart board and match words with pictures.<br>  [1]<br>  [2]<br>  [3]<br>  [4]<br>  [5] | 8 | SS do the activity on the IWB |
| | Homework | -T. asks SS to look up their dictionary at home to find definitions for the new vocabulary and write them down in their notebooks. | 5 | |

| **Unit: 6** | **Title: Dangerous Weather** | | **Period: 2** | **Grade:10** |
|---|---|---|---|---|
| **New vocabulary** | *Combine – destructive- combination- cyclones- destruction* | | | |
| **Resources & Materials** | *Smart Board – Work sheets – LCD – PPT – SB- pictures* | | | |
| **Objectives** | **Stage** | **Activities & procedures** | **Time** | **Evaluation** |
| SS are expected to: | Warming up | SS watch a clip for a flood on the Smart Board.<br>- **See Appendix (3-B) Activity ( 2 )** | 3 | Involvement |
| 1- recall the learnt words | Revision | -T. asks SS about the homework and checks by some SSs' answers | 5 | SSs' different responses |
| 2- identify new vocabulary | Presentation 1 | -T. writes the new vocabulary "combine" on Smart Board.<br>- T. writes the word "combination" next to it, to figure out the relation between both.<br>- T. relates each word with its word family.<br>- T. gives a definition of the word.<br>**Combine**: *means to unite two things together to make one thing.*<br>-T. presents the words **destructive** & ***destruction*** in the same way.<br><br>**Cyclone**: T. relates it with a picture from Google.<br><br>  | 12 | |

| | | | | |
|---|---|---|---|---|
| 3- Use new words in meaningful sentences | Practice 1 | -T. then asks SS to give meaningful sentences using these words…e.g.<br>- *The cyclone can destroy a whole city.* | 5 | Oral practice |
| | Production 1 | T. presents a slide for SS to do on the IWB. | 5 | SS do an activity on the IWB |
| 4- derive nouns & adjectives of some words | Presentation 2 | -T. imports a slide of a table of nouns & adjectives on the Smart Board.<br>-T. asks SS to refer to the text in (SB p.47) and try to fill in the missing parts.<br>-T. asks some SS to come up and fill in the table. | 5 | SS' answers |
| | Homework | -T. distributes a worksheet. | 5 | |

**Slide**

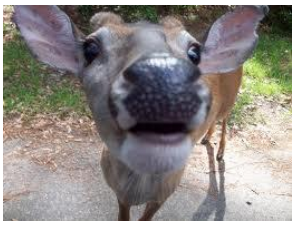
1- There was a strong _____in the French Island.
2- H2O is a _____ of oxygen and water.
3- We saw a _____ flood on TV last night.
4- Earthquakes cause great_____ in many areas.

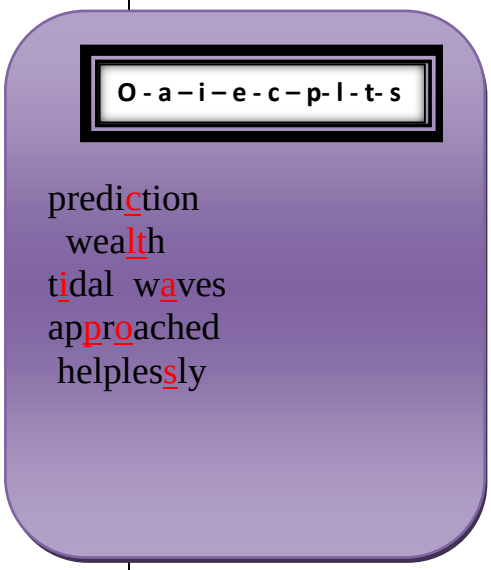
| Noun | Adjective |
|---|---|
| danger | dangerous |
| destruction | |
| | stormy |
| | powerful |
| nationality | |
| development | |

**Worksheet**

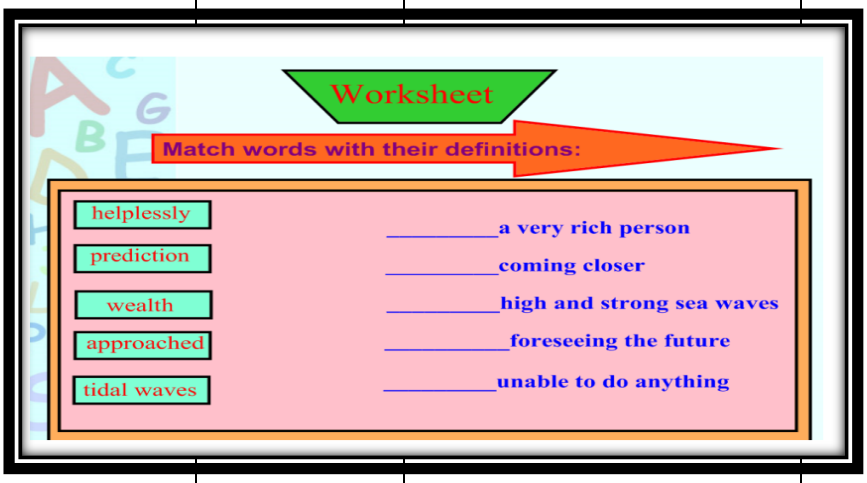
**Complete with a word from the same word families in brackets:**

1. The energy of the tidal wave caused a complete ..... (**destructive**)
2. The weather stayed ..... until yesterday. (**storm**)
3. Bangladesh needs money to help in the..... of its transport system. **developing**)
4. There was a .....avalanche in the mountain yesterday. (**disaster**)

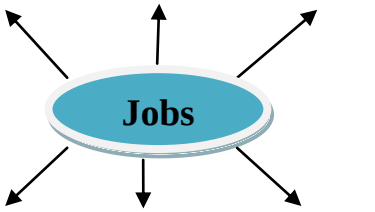
| **Unit: 6** | **Title: Dangerous Weather** | | **Period: 3** | **Grade:10** |
|---|---|---|---|---|
| **New vocabulary** | *Helplessly – approached – tidal waves- wealth - prediction* | | | |
| **Resources & Materials** | *Smart Board – Work sheets – LCD – PPT slides – SB- pictures* | | | |
| **Objectives** | **Stage** | **Activities & procedures** | **Time** | **Evaluation** |
| SS are expected to: | Warming up | SS form correct words on the Smart Board.<br>- **See Appendix (3-B)**<br>**Activity ( 3 )** | 2 | Participation |
| 1-recall the learnt words | Revision | -T. checks homework by some SSs' answers. | 5 | SS' different responses |
| 2-identify new vocabulary | Presentation | -T. writes the new vocabulary **help**" on Smart Board.<br>- T. asks SS to derive some other words.<br>T. gives an example on the Smart Board to make it clear, asking SS for more examples.<br>- T. relates the word **approached** with a picture.<br>  <br>T. asks SS to talk about the picture using the new word.<br>T. presents the word **tidal wave** through a video clip.<br>- **See Appendix (3-B)**<br><br>**Activity ( 4 )**<br>- T. gives a definition of the word **wealth**.<br>  | 15 | SS share with their answers |

| | | | | |
|---|---|---|---|---|
| | | **prediction**: *means to expect what is going to happen in future.*<br>  <br> | | |
| 3-complete new words with missing letters | Practice | -T. then extracts a slide of words with missing letters on the Smart Board.<br>  <br><br>-T. asks some SS to come up and do the exercise by moving the letters in the right place on the Smart Board. | 8 | SS do an activity on the IWB |
| 4-match words with their defintions | | -T. presents an exercise of definitions:<br>-T. he asks some SS to | 7 | |

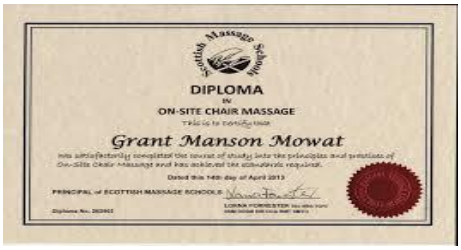
| | | | | |
|---|---|---|---|---|
| | Production | come up and match words with their definitions in front of class on the Smart Board.<br>- SS try to draw lines with the smart pens.<br>e.g.:<br>**helplessly**: ***not able to do anything without help*** | | |
| | Homework | - SS do EX.2 in WB p. 54. | 3 | |



| **Unit: 7** | **Title:** Which way now? | **Period:** 1 | **Grade: 10** |
|---|---|---|---|
| **New vocabulary** | ***decisions – academic route – vocational – career - become bored*** | | |
| **Resource & Materials** | *Smart Board – Worksheets – LCD – PPT – SB- video clips- pictures* | **Time**: 40 minutes | |

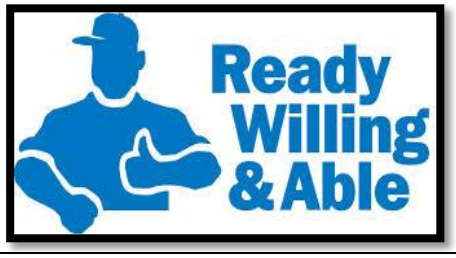
| **Objectives** | **Stage** | **Activities & Procedures** | **Time** | **Evaluation** |
|---|---|---|---|---|
| SS. are expected to: | Warming up | - T. asks SS what you would like to be in future. Why?<br>- **See Appendix (3-B) Activity ( 5 )** | 2 | SS'. responses |
| | Revision | - T. asks SS about the homework and checks by some SSs' answers. | 3 | Checking homework orally |
| 1- elicit jobs vocabulary | | -T. elicits some job vocabulary on the Smart Board as follows:<br>doctor teacher engineer<br>  <br><br>nurse officer farmer<br>- SS. come to the Smart Board and try to write the words. | 5 | SS' different responses<br>SS. write them on the smart board |
| 2-identify new vocabulary | Presentation | -T. writes the new vocabulary on Smart Board.<br>- T. relates each word with its picture on the Smart Board e.g.: ***decisions***<br>  <br>-SS listen to the words from the Smart Board. | 10 | |

| | | | | |
|---|---|---|---|---|
| | Practice | -T. asks SS to match the two words with the pictures on the screen.<br>  <br>  <br>**academic route** **vocational**<br>- T. presents the word **career** with synonyms as follows:<br>***Career = job***<br>-T. uses opposites to present the word ***become bored***<br>**e.g.:** ***become bored*** × **interested**<br>  | | SS' responses |
| 3- Use new words in meaningful sentences<br><br>4- Rearrange letters to give meaningful words | Production | -T. then asks SS to give meaningful sentences using these words…e.g.<br>- ***I am going to take the vocational route.***<br>-T. checks orally and on the board.<br>- T. asks SS to rearrange the letters of the words without looking at the words.<br>**Rearrange the following letters to give true words:**<br>acrere ……**career**……<br>oavtciolna……<br>cedinsios……..<br>Cdeamiac…… | 5<br><br>10 | Writing down some meaningful sentences<br><br>SS do the exercise on the IWB |
| | Homework | -T. asks SS to look up their dictionary at home to find definitions for the new vocabulary and write them down in their notebooks. | 5 | |

| Unit: 7 | Title: Which way now? | | Period: 2 | Grade: 10 |
|---|---|---|---|---|
| **New vocabulary** | ***Poor qualifications* – *respect* - *outdoors* – *specialize* – *competitive* - *arts*** | | | |
| **Resource & Materials** | *Smart Board – Work sheets – LCD – PPT slides – SB- pictures* | | **Time**: 40 minutes | |
| **Objectives** | **Stage** | **Activities & Procedures** | **Time** | **Evaluation** |
| SS. are expected to: | Warming up | -T. asks SS to work out a puzzle on IWB.<br>- **See Appendix (3-B)**<br><br>**Activity ( 6 )** | 2 | SS'. answers |
| | Revision | - T. asks SS about the homework and checks by some SSs' answers. | 3 | Checking homework orally |
| 1-identify some new vocabulary | Presentation 1 | -T. revises some job vocabulary on the Smart Board with SS.<br>- T. asks SS what we need to get a job.<br>-T. elicits different answers to present the word **poor qualifications**.<br>T. relates it with a picture on the Smart Board to make it clear.<br>  <br><br>-T. presents the word **respect** with an example on the Smart Board :<br>* We should *respect* our parents and teachers.<br>-T. introduces the word **outdoors** with sport games.<br>  <br>T. presents the word specialize through an example: | 5 | SS' different responses<br><br>SS. write them on the smart board |

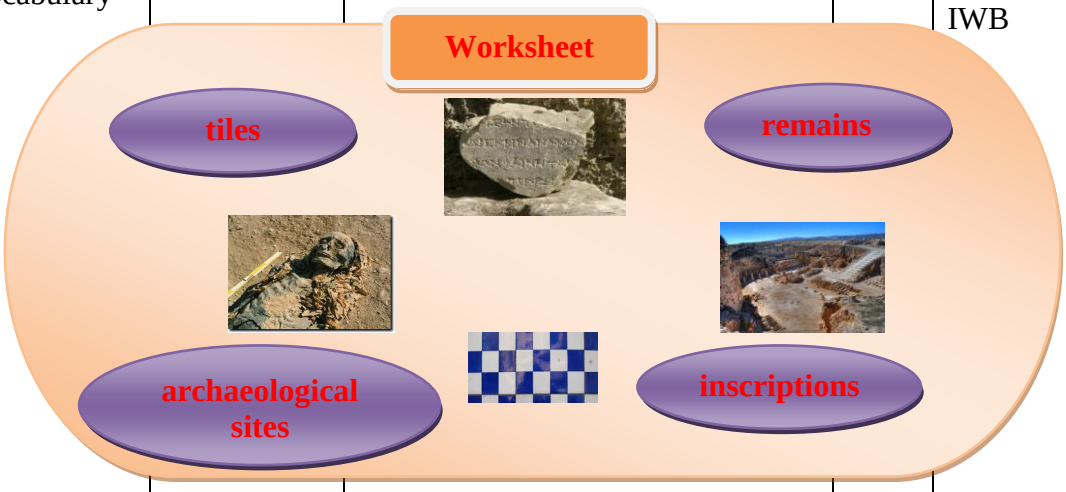
| | | | | |
|---|---|---|---|---|
| | | ***-When we go to university we specialize in one branch of science.***<br>-T. presents the word **competitive** through a picture:<br>  <br>-T. presents the word **arts** through the following picture:<br>  | | |
| 2-match new vocabulary with their pictures | Practice1 | -T. asks to match the new vocabulary on smart board with the picture with just one trial..<br>  <br>**arts**<br>  <br>**respect**<br>  <br>**Outdoors**<br>  <br>**Competitive**<br>**See Appendix (3-B)** | 5 | SS match words on IWB |

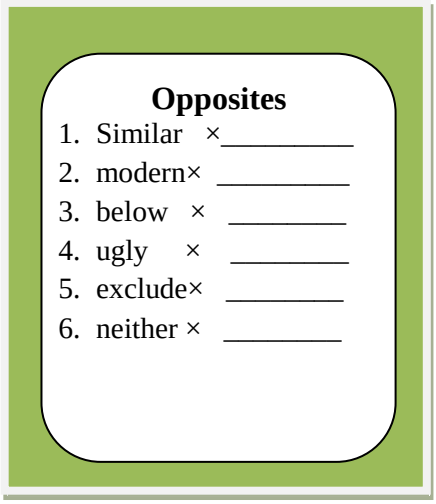
<table>
<tr><td></td><td></td><td>Activity (7)</td><td></td><td></td></tr>
<tr><td></td><td>Production1</td><td>-T. distributes a worksheet for SS to do in pairs.<br>-Then, some SS get on the screen to do the exercise in front of the other for interaction.<br>-The worksheet will be presented on a slide on IWB<br><br><u>Complete with a word from the box</u><br>Qualifications–outdoors–competitive – apply<br>1- If you want to get a good job, you should have high .....<br>2-In today's....., you'll need to improve your skills<br>3-.....games are very interesting ones.<br><br>-T. Checks by some SS on the IWB.</td><td>5</td><td>Writing down some meaningful sentences<br><br>SS do the exercise on the IWB</td></tr>
<tr><td>3- Use verbs and nouns correctly</td><td>Presentation 2</td><td>-T. introduces the table for SS.<br>T. asks SS to refer back to SB p.55 to complete the table.<br><table><tr><th>Verb</th><th>Noun</th></tr><tr><td>Decide</td><td>decision</td></tr><tr><td></td><td>requirement</td></tr><tr><td>Choose</td><td></td></tr><tr><td>Qualify</td><td></td></tr><tr><td></td><td>thought</td></tr><tr><td></td><td>application</td></tr><tr><td></td><td>specialization</td></tr></table>T. asks some SS to come up and fill in the table with the suitable words.<br>See Appendix (3-B)<br>Activity (8)</td><td>10</td><td>SS do the exercise on IWB</td></tr>
</table>

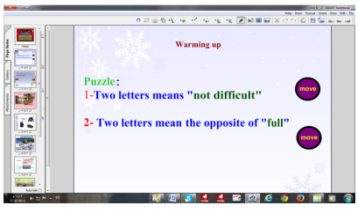
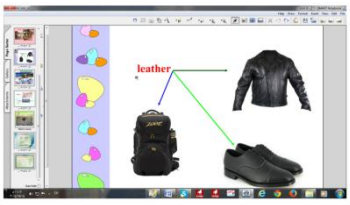
| | | | | |
|---|---|---|---|---|
| | | -T. presents some new vocabulary about **personal qualities**.<br>-T. presents the title personal as derived from person, qualities as related to a person's good behavior.<br><br>-T. asks SS for some of these qualities through brainstorming.<br><br>**flexible** **Determined**<br>**willing** Persona l qualities<br>**responsible** **take the initiative**<br>T. presents the word **Determined** through a picture on the Smart Board | | |
| | Practice 2 |  <br>- T. presents the word **flexible** through a picture<br>  <br>T. presents the word **willing** by a picture on the Smart Board .<br>  | | |

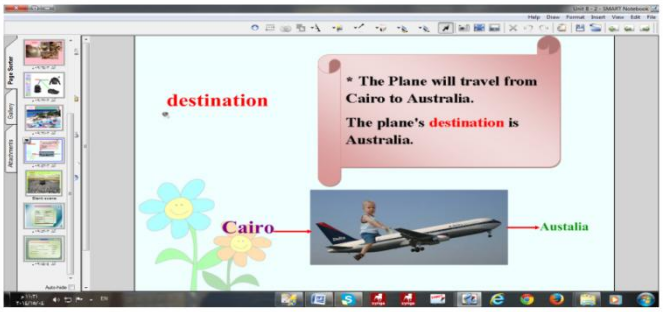
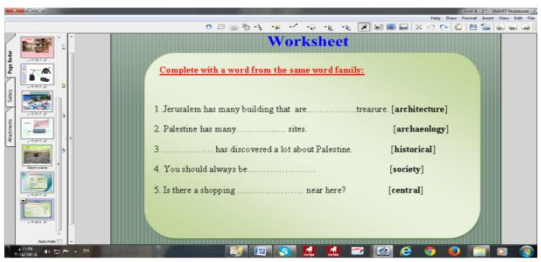
| | | | | |
|---|---|---|---|---|
| | | -T. presents the word **responsible** by a picture on the Smart Board.<br>  <br><br>-T. introduces the phrase **take the initiative.**<br>  | | |
| 4-match words with their definitions | Production2 | -T. asks SS to look the exercise on the IWB.<br>-SS. Try to do it orally in pairs.<br>-T. asks some SS to come up and match words with their definitions.<br>-T. imports the next slide by PPT.<br><br>**Match words with definitions:**<br>a-**responsible** __ready to do anything.<br>b-**willing** __has the power to carry out things.<br>c-**flexible** __to be in charge of something.<br>d- **determined** __very easy in dealing with others. | 8 | SS do the exercise on IWB |
| | Homework | -T. asks SS to use the phrase "**take the initiative**" in a sentence. | 2 | |

| **Unit: 8** | **Title:** Palestine: Holy Land to the world | | **Period: 1** | **Grade: 10** |
|---|---|---|---|---|
| **New vocabulary** | ***Remains* - *archaeological sites* – *ascended* – *inscriptions* - *tiles*** | | | |
| **Resource & Materials** | *Smart Board – Worksheets – LCD – PPT slides – SB- pictures* | | **Time**: 40 minutes | |
| **Objectives** | **Stage** | **Activities & Procedures** | **Time** | **Evaluation** |
| SS. are expected to: | Warming up | -Have you ever visited historical places? Where exactly? | 2 | SS'. answers |
| | Revision | - T. asks SS about the homework and checks by some SSs' answers. | 3 | Checking homework orally |
| 1-recognize some new vocabulary | Presentation 1 | -T. asks SS why you think tourists visit Palestine.<br>-T. elicits different possible answers on the Smart Board.<br>-T. then, presents the word **remains** with a picture.<br>  <br>T. asks SS for examples.<br>T. then presents the word **archaeological sites** through a video clip<br>- **See Appendix (3-B) Activity ( 9 )**<br><br>-T. let SS listen to the word by IWB speaker.<br>-T. presents the word **ascended** through an example:<br>* ***The prophet Mohammed (PBUH) ascended to the sky.***<br><br>-T. presents the word **inscriptions** through the following picture: | 10 | SS' different responses<br><br>SS. give oral examples |

| | | | | |
|---|---|---|---|---|
| | | - **See Appendix (3-B)**<br>**Activity ( 10 )**<br><br>T. presents the word **tiles** through the following picture:<br>  | | |
| 2- write new words properly | Practice 1 | -T. asks SS to write the words down<br>-T. asks some SS to try to write the words on IWB. | 3 | SS write the words on IWB. |
| 3-complete sentences with new vocabulary | Production 1 | -T. distributes a work sheet to do in pairs.<br>  <br><br>-T. then, checks answers on the IWB by some SS. | 5 | SS do a worksheet on IWB |

| | | | | |
|---|---|---|---|---|
| 4-practice using opposites | Presentation 2 | -T. introduces a new slide of opposite words on IWB.<br>-Then, he asks SS to find their opposites in the text SB p.63.<br>  | 5 | |
| 5-rewrite sentences with opposites | Practice 2 | -T. then asks SS to do an exercise with opposites.<br>**Rewrite with opposite of words in brackets:**<br>1. Everyone is……..from the others. [**similar**]<br>2. There is a picture…… the window. [**below**]<br>3…….Ali and his brother are clever. [**neither**] | 5 | SS do an exercise in pairs |
| | Production 2 | -T. asks SS to do EX.3 in SB p.64 alone.<br>-T. checks answers on the IWB. | 5 | SS do the activity on IWB |
| | Homework | -T. asks SS to look up their dictionary at home to find definitions for the new vocabulary and write them down in their notebooks. | 2 | |

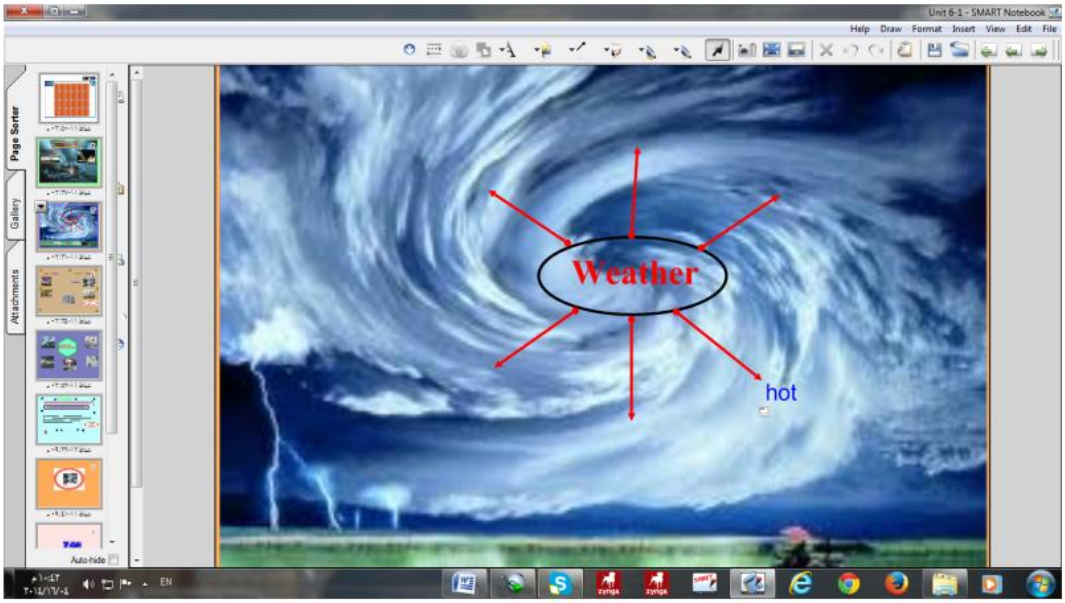
| Unit: 8 | Title: Palestine: Holy Land to the world | | Period: 2 | Grade: 10 |
|---|---|---|---|---|
| **New vocabulary** | ***architectural reassures - pottery – leather – resort – destination - pilgrims*** | | | |
| **Resource & Materials** | *Smart Board – Work sheets – LCD – PPT slides – SB-pictures* | | **Time**: 40 minutes | |
| **Objectives** | **Stage** | **Activities & Procedures** | **Time** | **Evaluation** |
| SS. are expected to: | Warming up |  | 2 | SS'. answers |
| | Revision | - T. asks SS about the homework and checks by some SSs' answers. | 3 | Checking orally |
| 1- identify some new vocabulary | Presentation 1 | -T. asks SS what the most famous place in Jerusalem is.<br>-T. elicits different possible answers<br>-T. then, presents the word **architectural reassures** with pictures on the Smart Board.<br>   <br>T. asks SS for examples.<br>T. presents the word ***pottery*** through a photo.<br>   <br>-T. let's SS listen to words by IWB speaker.<br>-T. presents the word **leather** a picture on the Smart Board<br>  <br>-T. presents the word **resort** through the following picture:<br>- **See Appendix (3-B) Activity ( 11 )** | 10 | SS' different responses<br>SS. give oral examples |

| | | | | |
|---|---|---|---|---|
| | |  <br>-T. pronounces the word by IWB speaker.<br>-T. presents the word **destination** through the following example on the Smart Board:<br>  <br><br>-T. introduces new word **pilgrims** through the following picture.<br>- **See Appendix (3-B)**<br>**Activity ( 12 )**<br>  <br>-T. elicits more examples.<br>-Then, SS listen to the word by IWB. | | SS' answers |
| 2- write the new words properly | Practice 1 | -T. asks some SS to try to write the words on IWB. | 3 | SS write the words on IWB. |
| 3- complete sentences with new vocabulary | Production 1 | -T. distributes a work sheet to do in pairs.<br>  <br><br>-T. checks answers on IWB by some SS. | 5 | SS do a work sheet on IWB |

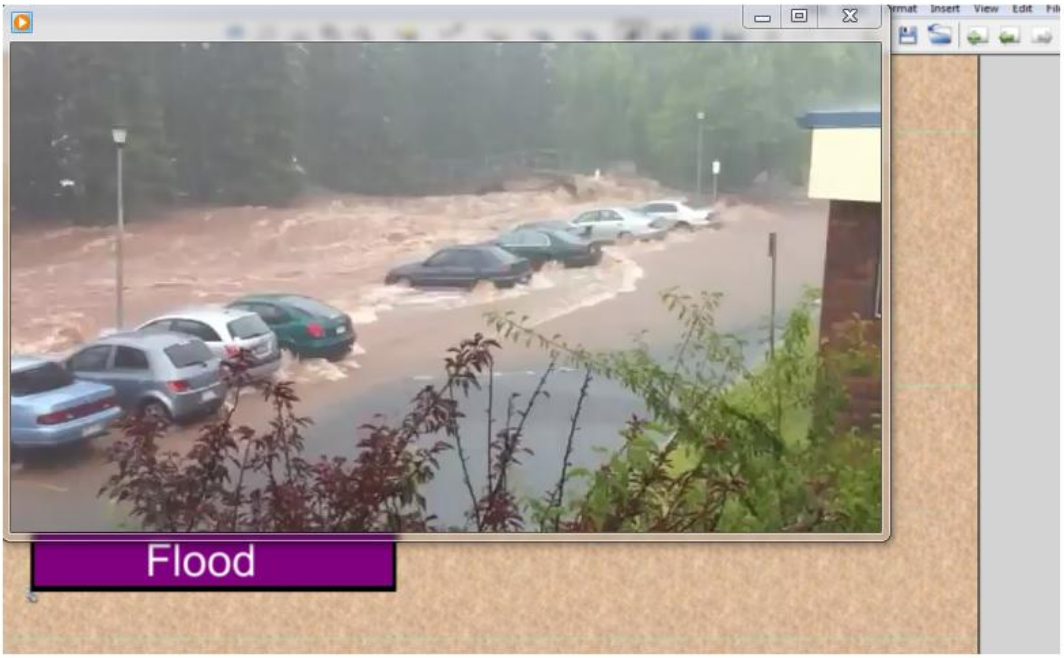
<table>
<tr>
<td>4-use nouns & adjectives properly</td>
<td>Presentation 2</td>
<td>-T. asks SS to go back to their SB p.63 to fill in the table.<br>T. introduces the table on a slide on IWB.<br><table><tr><th>Noun</th><th>Adjective</th></tr><tr><td>society</td><td>social</td></tr><tr><td></td><td>cultural</td></tr><tr><td>archaeology</td><td></td></tr><tr><td>architecture</td><td></td></tr><tr><td>history</td><td></td></tr><tr><td></td><td>central</td></tr></table></td>
<td>5</td>
<td>SS do it on IWB</td>
</tr>
<tr>
<td>5-complete sentences with nouns & adjectives.</td>
<td>Practice 2</td>
<td>-T. asks SS to return to SB p.64 and do EX.5 alone.<br>-T. then checks answers on the IWB by some SS who come up to write the answers on the screen.</td>
<td>6</td>
<td>SS' answers</td>
</tr>
<tr>
<td>6-practice word families</td>
<td>Production 2</td>
<td>-T. after that shows a slide for SS to do the exercise on it orally.<br><br>-Then, some SS get out on the IWB to do the exercise.<br><br><u>Complete with a word from the same word family:</u><br>1 .Jerusalem has many buildings that are…….treasure. [architecture]<br>2. Palestine has many…….....sites. [archaeology]<br>3. ……. has discovered a lot about Palestine. [historical]<br>4. You should always be…….. [society]<br>5. Is there a shopping ……..near here? [central]</td>
<td>5</td>
<td>SS do it on IWB</td>
</tr>
<tr>
<td></td>
<td>Homework</td>
<td>-T. asks SS to write down all new vocabulary in their notebooks.</td>
<td>1</td>
<td></td>
</tr>
</table>

# Appendix (3-B)

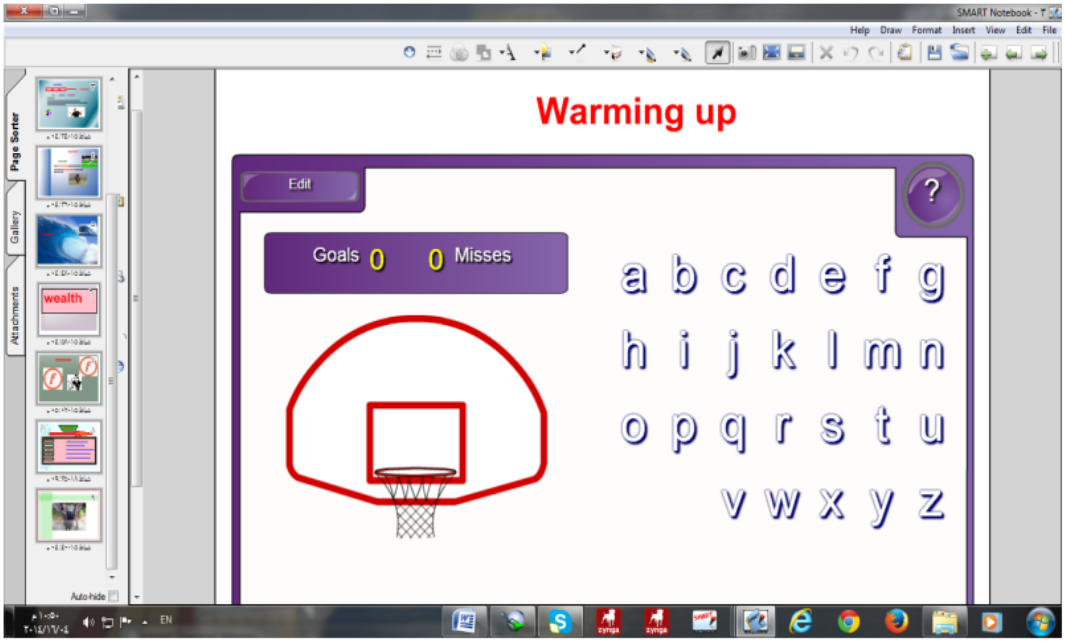
## The Smart Board Activities




**Activity (1)**

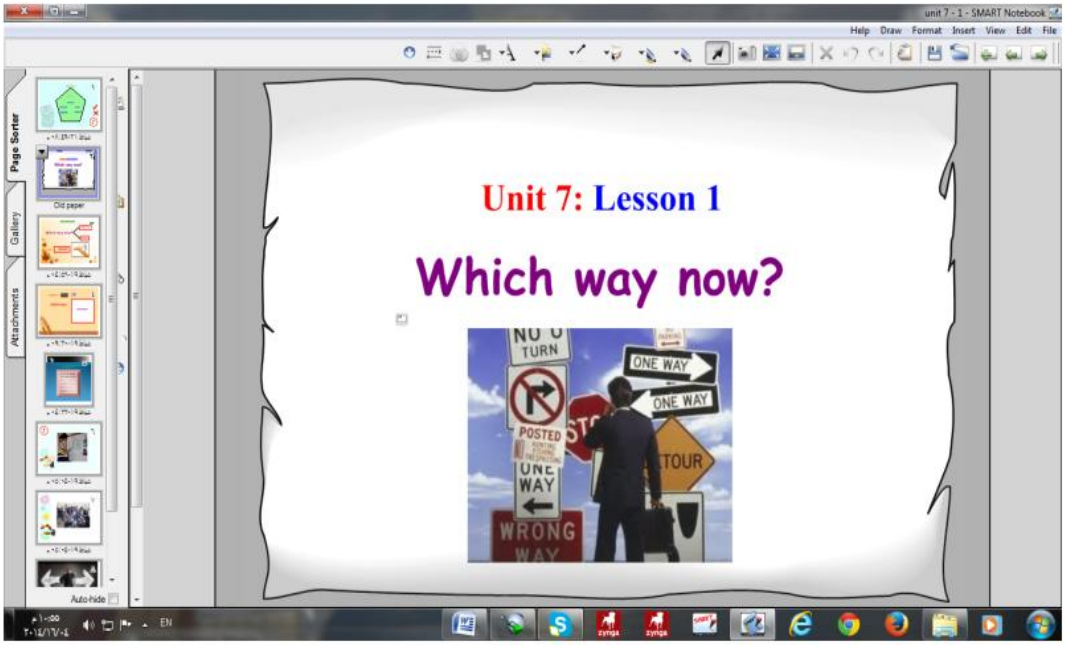



**Activity (2)**

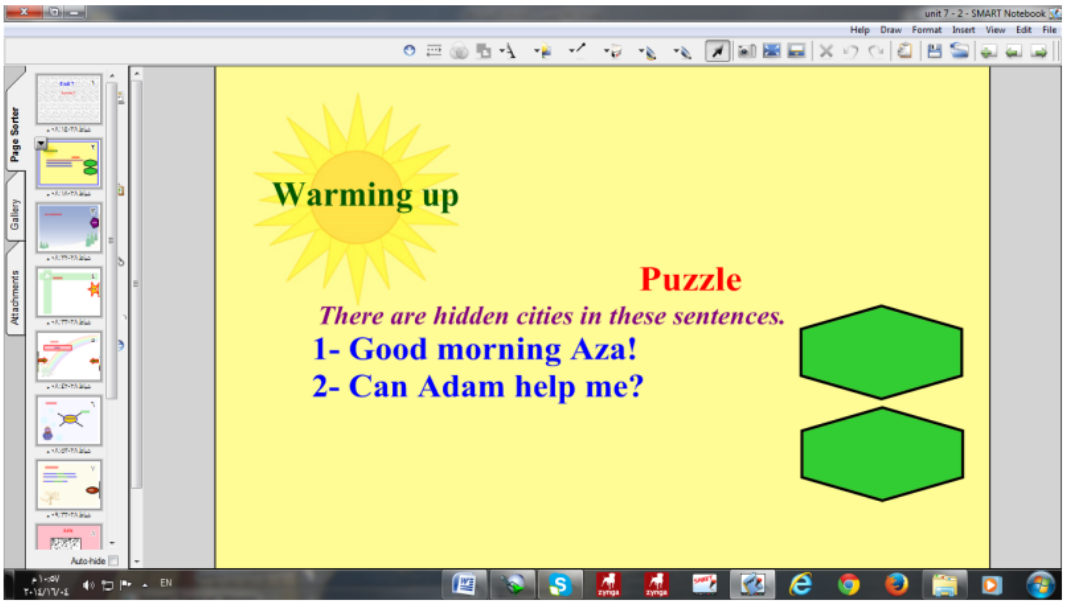



**Activity (3)**


**Activity (4)**

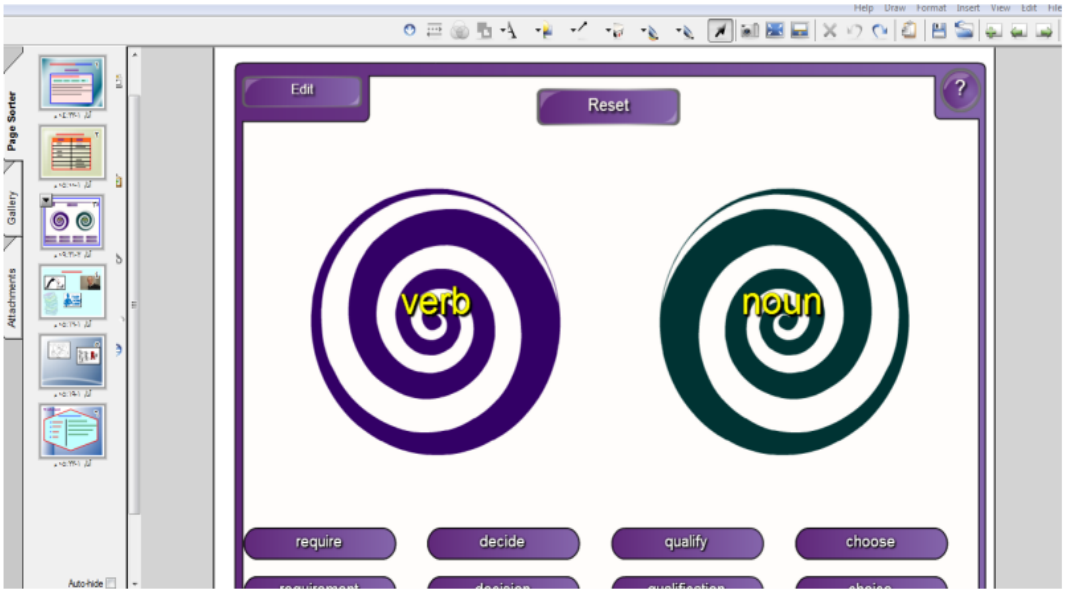



**Activity (5)**

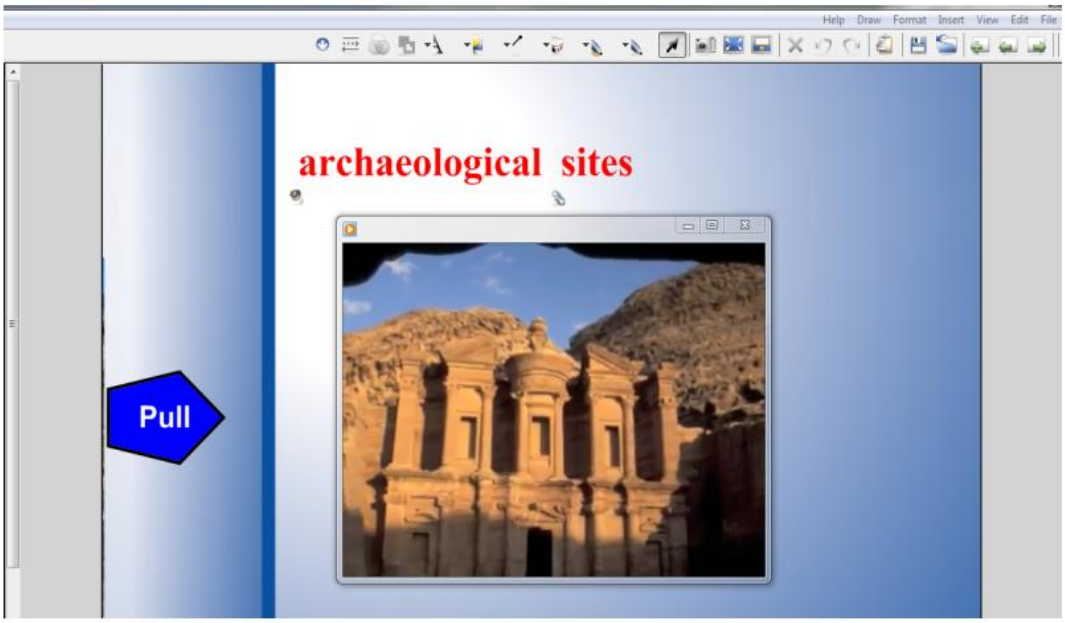



**Activity (6)**

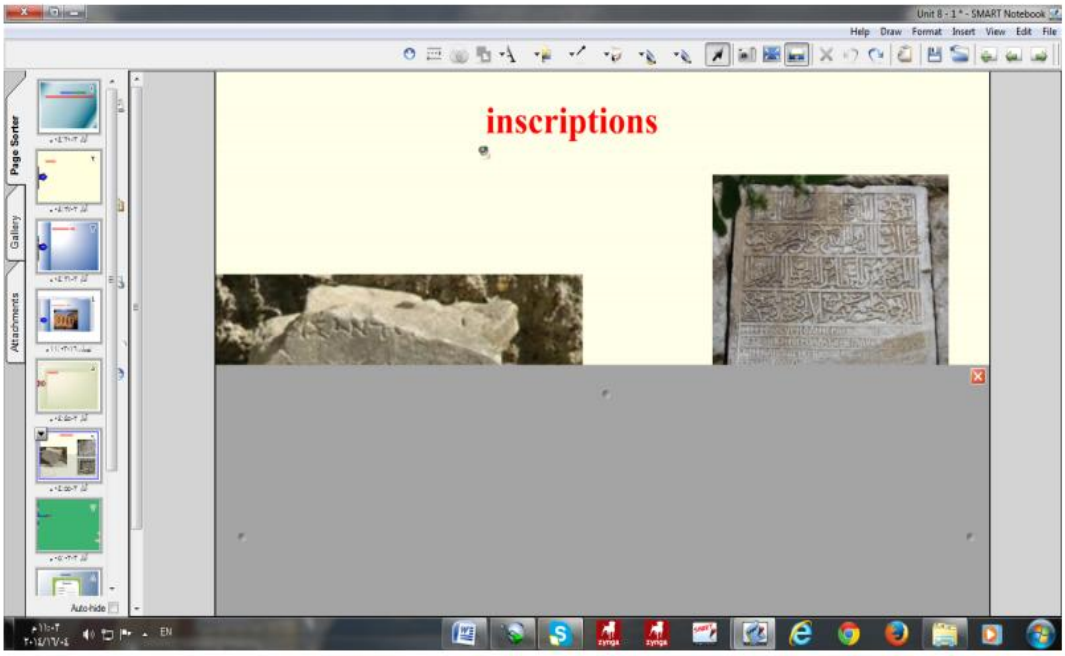

**Activity (7)**



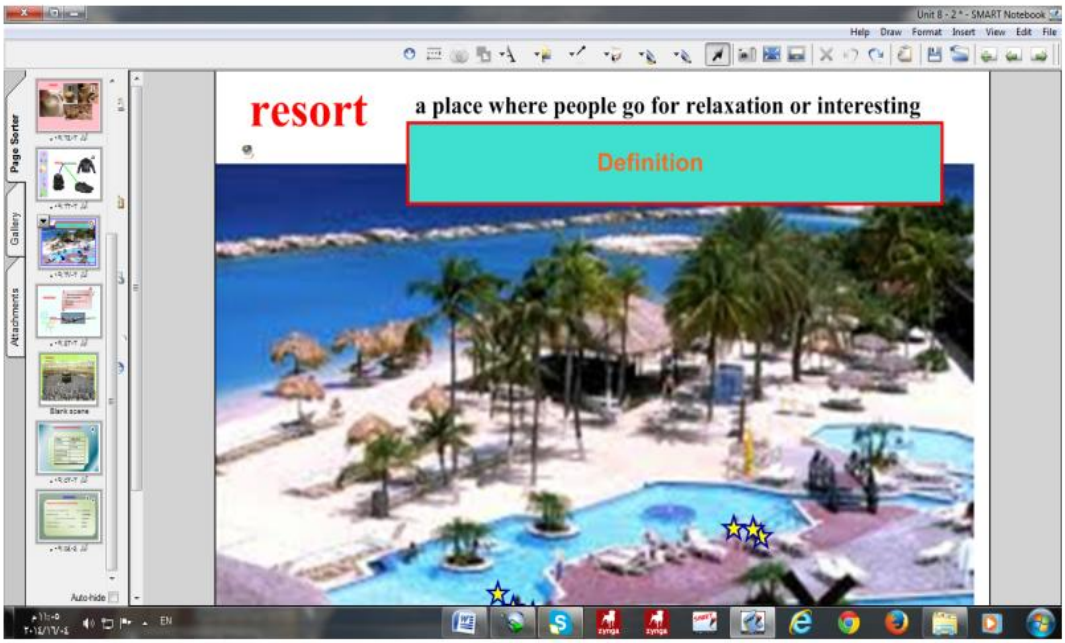

**Activity (8)**



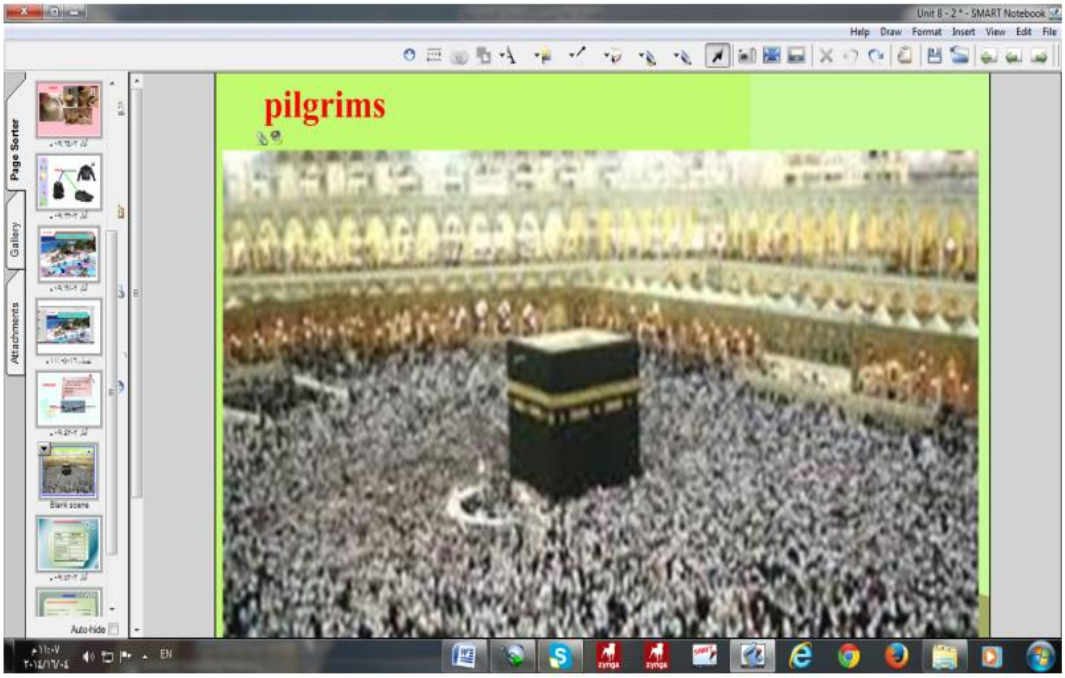

**Activity (9)**




**Activity (10)**




**Activity (11)**




**Activity (12)**

# Appendix (3-C)
# Photos of the Experiment


**Photo [1]**

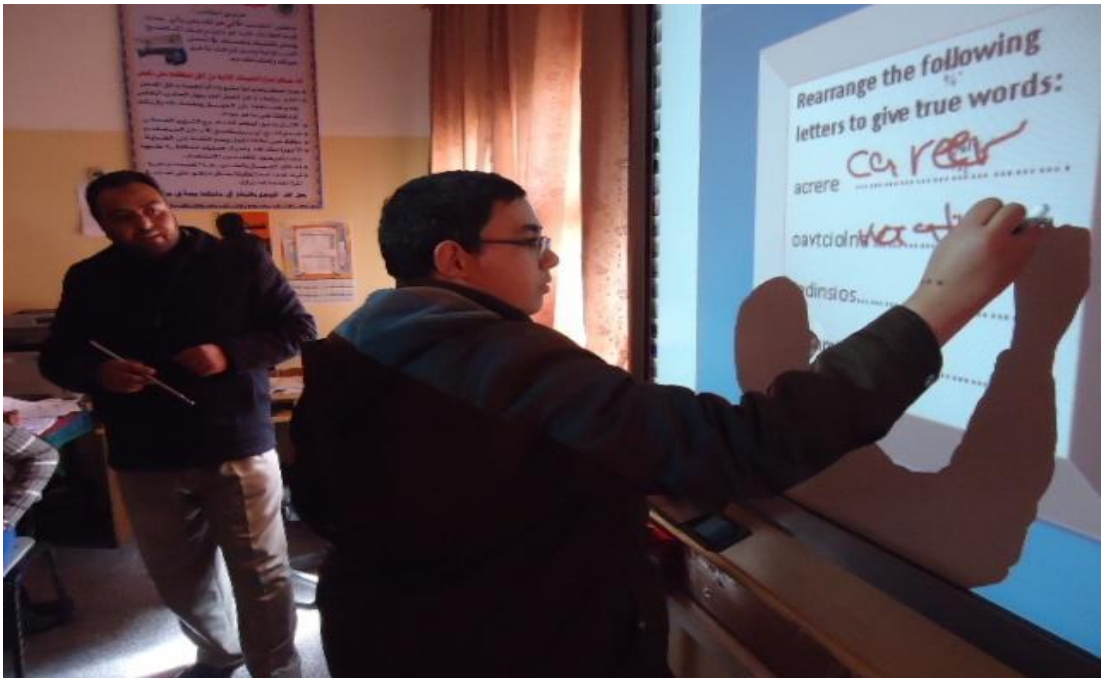



**Photo [2]**

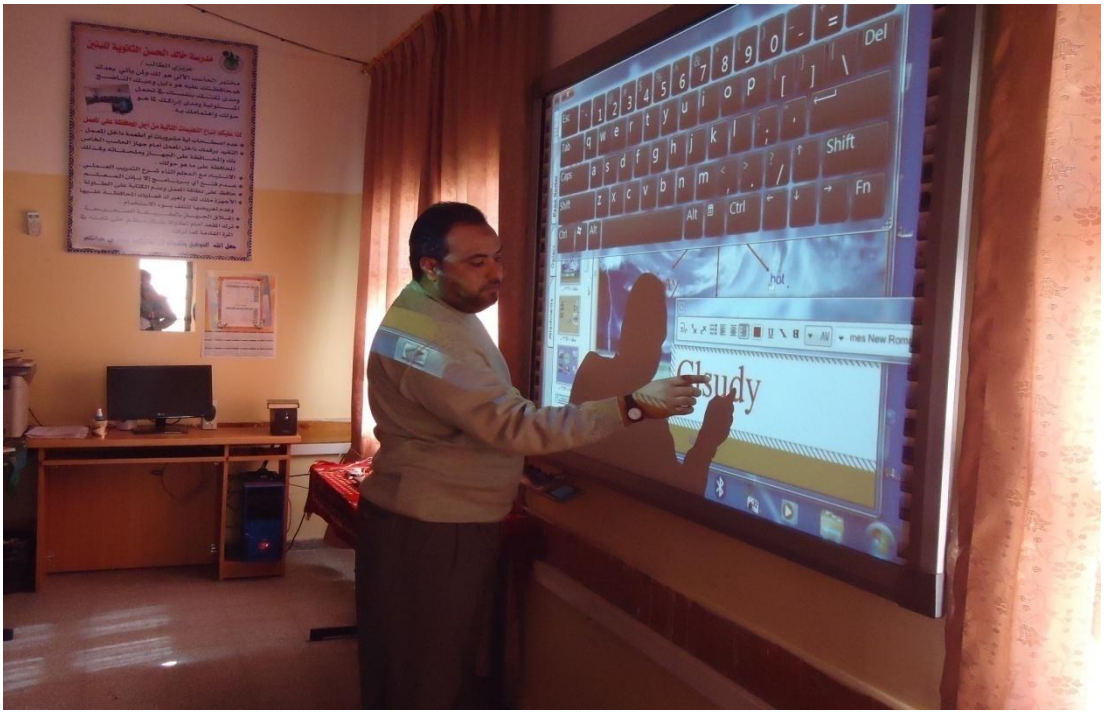



**Photo [3]**


**Photo [4]**

# Appendix (4)

**Referee Committee**
**Achievement Test = 1 Teacher's Guide = 2 Attitude Scale = 3**

| No | Name | Qualification | Institute | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| 1- | Dr. Sadek Firwana | Ph.D Methodology | Islamic University | | √ | √ |
| 2- | Dr. Akram Habeeb | Ph.D Literature | Islamic University | √ | | √ |
| 3- | Dr. Magdy Aquel | Ph.D Technology | Islamic University | | | √ |
| 4- | Dr. Ibrahim AL Astal | Ph.D Methodology | Islamic University | √ | | √ |
| 5- | Dr. Mosheer Amer | Ph.D Methodology | Islamic University | | | √ |
| 6- | Dr. Said Farahat | Ph.D Methodology | AL- Aqsa University | | | √ |
| 7- | Dr. Shawki Ghannam | Ph.D Literature | AL- Aqsa University | | | √ |
| 8- | Dr. Omar Dahlan | Ph.D Methodology | AL -Aqsa University | | | √ |
| 9- | Dr. Sohila Shaheen | Ph.D Education | AL- Quds Open University | | | √ |
| 10- | Dr. Ismail Al Farra | Ph.D Methodology | AL- Quds Open University | | | √ |
| 11- | Dr. Ziad Hammoudah | Ph.D Methodology | AL- Quds Open University | | | √ |
| 12- | Dr. Said Al Mshookhi | Ph.D Methodology | AL- Quds Open University | | | √ |
| 13- | Mr. Ismail Harb | M.A. Methodology | Rafah Directorate | √ | √ | √ |
| 14- | Mr. Mohammed Asouli | M.A. Education | Khalid El-Hassan School | √ | | √ |
| 15- | Mr. Fekry Al Faleet | M.A. Methodology | Abdelkarim Aklook School | √ | √ | √ |
| 16- | Mr.Alaa Udaini | M.A. Methodology | UN school | √ | √ | |
| 17- | Mr. Kamal Abu Shamla | M.A. Methodology | Middle Area Directorate | √ | √ | |
| 18- | Mr. Maged Salah | M.A. Methodology | Khanyounis Directorate | √ | √ | |
| 19- | Mr. Mustafa Attwan | M.A. Methodology | Middle Area Directorate | | √ | |
| 20- | Mr. Omar Salah | M.A. Methodology | Science & Technology College | √ | | √ |
| 21- | Mr. Mahmoud Ferwana | M.A. Methodology | Khalid AL Hassan School | √ | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 22- | Mr. Mahmoud Baraghiti | M.A. Counselling | Khalid Al-Hassan School | | | √ |
| 23- | Mr. Yehia Al Agha | B.A. Education | Khalid Al-Hassan School | √ | √ | |
| 24- | Mr. Majed Abu Muamer | B.A. Education | Khalid Al-Hassan School | √ | √ | |
| 25- | Mr. Haider Abu Shaweesh | B.A. Education | Khanyounis Directorate | √ | | |

# Appendix (5)

بسم الله الرحمن الرحيم


الجامعة الإسلامية – غزة
The Islamic University - Gaza

مكتب نائب الرئيس للبحث العلمي والدراسات العليا
هاتف داخلي: 1150


الرقم..... Ref ج س غ/35/

التاريخ.... Date .....2014/02/10

الأخ الدكتور / وكيل وزارة التربية والتعليم العالي حفظه الله،،

السلام عليكم ورحمة الله وبركاته،

**الموضوع/ تسهيل مهمة طالب ماجستير**

تهديكم شئون البحث العلمي والدراسات العليا أعطر تحياتها، وترجو من سيادتكم التكرم بتسهيل مهمة الطالب/ **رياض سليمان محمد الفرا** يحمل برقم جامعي **120120422** المسجل في برنامج الماجستير بكلية **التربية** تخصص **مناهج وطرق تدريس** وذلك بهدف تطبيق أدوات دراسته والحصول على المعلومات التي تساعده في إعداد رسالة الماجستير والتي بعنوان:

**فاعلية استخدام السبورة الذكية في تنمية تحصيل مفردات طلاب الصف العاشر في غزة والاحتفاظ بها واتجاهاتهم نحو اللغة الإنجليزية**

والله ولي التوفيق،،،

مساعد نائب الرئيس للبحث العلمي وللدراسات العليا

أ.د. فؤاد علي العاجز

صورة إلى:-
- الملف.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Palestinian National Authority
Ministry Of Education &Higher Education
Directorate of Education Khan -Younis

السلطة الوطنية الفلسطينية
وزارة التربية والتعليم العالي
مديرية التربية والتعليم - خان يونس

قسم التخطيط والمعلومات

التاريخ 11/ 2/ 2014 م

السادة/ مديرو المدارس المعنية ومديراتها المحترمون

السلام عليكم ورحمة الله وبركاته ،،،

**الموضوع/ تسهيل مهمة**

نهديكم أطيب التحيات، وبالإشارة إلى الموضوع أعلاه نرجو منكم تسهيل مهمة الباحث: **" رياض سليمان محمد الفرا "** ،حيث يجري الباحث بحثًا بعنوان :**" فاعلية استخدام السبورة الذكية في تنمية تحصيل مفردات طلاب الصف العاشر في غزة والاحتفاظ بها واتجاهاتهم نحو اللغة الإنجليزية"**،وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في كلية التربية بالجامعة الإسلامية بغزة تخصص **مناهج وطرق تدريس** ، في تطبيق أدوات الدراسة على عينة من طلبة الصف العاشر الأساسي ، وذلك حسب الأصول.

وتفضلوا فائق التقدير والاحترام،،،

/ مدير التربية والتعليم

د. سعيد ابراهيم حرب

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