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On English Vocabulary Acquisition and
Retention among Preparatory School Pupils

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The Effect of Virtual Field Trips on English Vocabulary Acquisition and Retention among Preparatory School Pupils

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Abstract

This study aimed to investigate the effect of virtual field trips on vocabulary acquisition and retention among EFL preparatory school pupils. A pretest-posttest control group design was adopted, consisting of a control group and an experimental group, each consisting of an intact class of EFL 2nd-year preparatory school pupils. A vocabulary acquisition was prepared. Both groups were administered the vocabulary test before the experiment. Throughout a ten-week period, two hours a week, the experimental group (N=37) was taught vocabulary through virtual field trips while the control group (N=34) was taught the same vocabulary through regular classroom instruction. Immediately after the experiment, participants were posttested on vocabulary acquisition. Two weeks after the posttest, participants were administered the vocabulary test in order to measure vocabulary retention. Statistical analysis revealed a significant improvement in vocabulary acquisition and retention between pretest and posttest for the experimental group while the control group showed no such improvement either in vocabulary acquisition or retention. It was recommended that virtual field trips be used as a method for enhancing EFL vocabulary learning.

Key words: Virtual Field Trips, Vocabulary Acquisition, Vocabulary Retention, Preparatory School Pupils

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Introduction and Background of the Problem

Vocabulary knowledge is essential in both school settings and in real life situations. In school, vocabulary knowledge is related to academic success because learners with large vocabulary can understand new ideas and concepts quickly and deeply (Sedita, 2005) whereas a deficit in vocabulary knowledge causes comprehension problems (August, Carlo, Dressler & Snow, 2005). Moreover, learning vocabulary enhances communications and shapes thinking because vocabulary is a tool for analyzing, inferring, evaluating and reasoning both oral and written work (Bromley, 2002).

In real life situations, a person's ability to function in today's complex social and economic world is largely affected by his/her language skills and word knowledge (Pikulski & Templeton, 2004). Without a good vocabulary both written and verbal communication will be poorly understood which might lead to mistakes costing time, effort and money. That is why Pohl (2003, p.5) stated that "words are the currency of communication."

Mastering vocabulary is an important aspect in language learning (Penno, Wilkinson & Moore, 2002). This importance of vocabulary might be due to its impact on other language aspects (Pohl, 2003; Putri, 2010) such as: listening (Bromley, 2002), speaking (Putri, 2010), reading (Bender & Larkin, 2009; Biemiller, 2012) and writing (Bromley, 2002). Mastering vocabulary is especially important in learning foreign languages (Lin, 2002; Putri, 2010). Therefore, many educators highlight the need for sustained attention to the vocabulary development of English language learners (August et al., 2005; Hunt & Beglar, 2005; Pearson, Hiebert & Kamil, 2007; Zwiers, 2008) in order to improve both comprehension and production in English (Folse, 2008).

Despite the importance of having a good vocabulary, many EFL learners have a deficiency in developing their vocabulary to an adequate level that would enable them to function properly in different language contexts (Hunt & Beglar, 2005; Verhallen & Schoonen, 1993, cited in August et. al, 2005). Egyptian EFL learners are not an exception. Many studies tackled the problem of vocabulary deficiency in EFL Egyptian students in different stages such as: primary (Al-Qadi, 2008; Dadour, 2005; El-Shafie, 2000; Khodary, 2007), preparatory (Abdel Hamid, 2001; Awad, 2009; Ismail, 2008; Ismail, 2010; Mohammed, 2009), and secondary stages (Abdel Rahman, 2011; Ezz El-Arab, 2012; Hassan, 2005) as well as college level (Ahmed, 2012; Attia, 2007). Research also has documented that Egyptian students at faculties of Education suffer from problems with English vocabulary whether they are English (Hassanein, 2004; Sa'ey, 2010) or non-English majors (Dorgham, 2007). In order to find out how serious the problem was, the researcher administered a vocabulary test to a class of 2nd-year EFL pupils at a preparatory school in Suez Governorate. After two weeks, the same test was administered to these pupils. This pilot study revealed that these pupils scored very low on vocabulary in both administrations of the vocabulary test.

Problem and Purpose of the Study

The problem of this study was that: There were some weaknesses in EFL preparatory pupils' vocabulary acquisition and retention. In order to help these pupils acquire and retain vocabulary, the present study attempted to use virtual field trips.

Hypotheses of the Study

1. There would be a statistically significant difference ($\alpha \leq 0.05$) in the 2nd-year preparatory school EFL pupils' vocabulary acquisition between the experimental group exposed to virtual field trips and the control group exposed to regular classroom instruction in favor of the experimental group.
2. There would be a statistically significant difference ($\alpha \leq 0.05$) in the 2nd-year preparatory school EFL pupils' vocabulary retention between the experimental group exposed to virtual field trips and the control group exposed to regular classroom instruction in favor of the experimental group.

Significance of the Study

1. Directing the attention of EFL teachers and learners towards the effectiveness of virtual field trips in developing vocabulary acquisition and retention
2. Stressing the necessity to enhance EFL students' vocabulary acquisition and retention
3. Offering EFL teachers an innovative tool to use Internet resources
4. Saving the time and money that students and teachers would spend on physical field trips
5. Providing students with opportunities to visit places they would never have a chance to go to in the real world

Operational Definitions of Terms

The terms below, wherever seen in this study, have the following operational definitions:

Virtual field trip is a web-based guided tour of pre-screened websites arranged into a structured multisensory, multimedia learning experience.

Vocabulary acquisition is EFL 2nd-year preparatory school pupils' scores on the researcher-devised test administered immediately after the experiment in order to measure their skills in recognizing, understanding and applying the English vocabulary taught to them.

Vocabulary retention is EFL 2nd-year preparatory school pupils' scores on the researcher-devised English vocabulary test administered two weeks after the experiment.

Delimitations of the Study

The generalization of the results of the study is delimited to the following:

1. A random sample of 2nd-year EFL preparatory pupils from a governmental school in Suez Governorate.
2. The vocabulary of the English language book studied by 2nd-year preparatory pupils (*Hello! English for Preparatory Schools*) in the first term of the academic year 2012-2013.
3. A ten-week period, two hours a week, during the first term of the academic year 2012-2013.
4. Measuring vocabulary acquisition was limited to the following levels: (knowledge, comprehension and application). These levels have been analyzed by the researcher from the instructional objectives of 2nd-year preparatory English language course.

Review of Related Literature

What is a Virtual Field Trip?

Field trips are far from new. They have enjoyed a long-established place in educational strategies. They involve a trip or journey to places away from one's normal educational environment (Lukenbill & Immroth, 2010). Field trips are a good way to get students out of the building, enhance learning and have some fun (Gilbert, Breitbarth, Brungardt, Dorr & Balgopal, 2010). They are effective because they situate learning and facilitate knowledge transfer, thereby influencing students' learning attitudes, interests and motivation (Nadelson & Jordan, 2012). Students love field trips because they provide a break from the routine of the school day and an opportunity to learn from the world outside the classroom (Morris, 2012).

Despite the benefits of field trips, it is often difficult to organize meaningful field trips (Cox & Su, 2004) for various reasons. These reasons include: funding, time in the curriculum, staffing levels, and health and safety issues (Kravcik, Kaibel, Specht & Terrenghi, 2004) as well as large class sizes and bureaucratic difficulties (Tuthill & Klemm, 2002). With the advent of computers and online delivery systems, Virtual Field Trips (VFTs) have offered alternatives to actual field trips (Lukenbill & Immroth, 2010).

VFTs, also called computer-based field trips (Clark, Hosticka, Schriver & Bedell, 2002), virtual tours (Cowden, DeMartin & Lutey, 2006) and ziptrips (Adedokun, Parker, Loizzo, Burgess & Robinson, 2011), are one way the Internet is truly revolutionizing learning in the classroom (McKenzie, 2009). Various definitions of VFTs were introduced by educators. Some of these definitions focus on the technological component while some other definitions stress their

pedagogical purposes. The first category of definitions include that of Spicer and Stratford (2001, p. 346) who define the VFT as "the integration of text, audio, graphics, still image and moving pictures into a single, computer controlled multimedia product," as well as that of Stevenson (2001, p. 40) who defines it as "computer-generated environments that offer media-rich interactions with a particular location, such as laboratories, museums, parks, zoos, even other countries." Still in the same category, VFT is defined as "any activities on computer, that a user browses, step-by-step, link-by-link, click-by-click through a set of linked web-pages to acquire information about a field site or location" (Qiu & Hubble, 2002, p. 76), as "computer-based simulations of an actual field trip, which allows the user to vicariously experience the environment of the intended location" (Clark et al., 2002, p. 3), as "a field trip to another environment, whether real or simulated, through the Internet" (Pastore & Pastore, 2006, p. 3578), and as "explorations through the Web, typically an organized set of links with a particular theme" (Cowden et al., 2006, pp. 3-4).

Concerning the other category of definitions which stress the pedagogical purposes of VFTS, it includes more definitions such as that which defines a VFT as "a collection of resources designed for the effective teaching and learning of fieldwork based on computer and web technologies" (Arrowsmith, Counihan & McGreevy, 2005, p. 43), as a "a multimedia presentation that brings the sights and sounds of a distant place to the learner through a computer" (Klemm & Tuthill, 2003, p. 178), and as "a topical collection of Websites that help students to build upon their existing understanding of a subject or concept by vicarious experience" (Lukenbill & Immroth, 2010, p. 26). The same category includes the definition put by Foley (2010, p. 5) who defines the VFT as "a guided exploration through the World Wide Web that organizes a collection of

pre-screened, thematically based web pages into a structured online learning experience." More definitions in that category describe the VFT as "web-based teaching tools that present multisensory, multimedia instruction appropriate for individual student exploration as well as group learning experiences" (Tomei & Balmert, 2001, p. 6) and as "synthetic learning experiences utilizing virtual reality to provide experiential learning" (Sanchez, 2006, p. 5).

Theoretical Foundations of VFTs

VFTs are based on many theoretical foundations. Some of these foundations are discussed below.

1. Experiential Learning

Learning from experience is one of the most fundamental and natural means of learning (Beard & Wilson, 2006). The American educational philosopher John Dewey (1998) viewed a critical relationship between experience and education. Experiential learning has been regarded as an active process involving learners being placed in unfamiliar environments (Martin, Franc & Zounková, 2004) and immersing them in a situation that is part of, or relevant to, the subject matter about which they are developing knowledge and understanding (Hirsch & Lloyd, 2005). The VFT is a teaching pedagogy that draws on experiential learning (Rone, 2008). It offers the sort of enriching experiences that Dewey recognized as "so central to successful educational endeavors because they are experiences, lived social events that become ways of knowing" (Scarce, 1997, p. 219). Founded on the principles of experiential learning, VFTs utilize state-of-the art technologies to create immersive, multi-sensory, interactive experiences with real world environments (Sanchez, Cuevas, Fiore & Cannon-Bowers, 2005) bringing a different world to the classroom and allowing students to engage the environment in

real time without traveling concerns (Tao & Laughlin, 2012).

2. Situated Learning

Proposed by Jean Lave and Etienne Wenger, situated learning is referred to as learning that takes place in the same context in which it is applied (Lave & Wenger, 1991). They argue that learning should not be viewed as simply the transmission of abstract and decontextualized knowledge from one individual to another, but a social process whereby knowledge is co-constructed. Sanchez et al. (2005) add that situated learning is based on the pedagogical principle that for learning to be effective, it must be anchored in a meaningful context for learners. The VFT can be seen as a model of situated learning as it offers a meaningful context for learners to gain knowledge. Moreover, media accessibility makes VFT a valuable means for providing students with contexts and situations that would be impossible to encounter otherwise.

3. Discovery Learning

Discovery learning is an active process of inquiry-based instruction that encourages learners to build on prior knowledge through experience and to search for new information and relationships based on their interests (Coffey, 2009). It is a process of inductive inquiry (Saab, van Joolingen & van Hout-Wolters, 2005) that is characterized by exploration and problem-solving; student-centered activities based on students' interests; and scaffolding new information into students' funds of knowledge (Bicknell-Holmes & Hoffman, 2000). VFTs are based on discovery learning (Caupp, 2011) or even one of its products (Patrick, 2010). VFTs provide meaningful experiences that permit learning to be authentic, creative and inquiry-based (Pastore & Pastore, 2006).

4. Multiple Intelligences

The theory of multiple intelligences, put forth by Howard Gardner asserts that several types of intelligences exist beyond the linguistic and mathematical types reinforced in schools (Stefanakis, 2002). Gardner has come to recognize seven learning intelligences: Logical-Mathematical, Linguistic, Spatial, Musical, Bodily-Kinesthetic, Interpersonal, and Intrapersonal (Brualdi, 1996). Later, he added to his intelligence list the eighth one called the Naturalistic Intelligence (Wilson, 2005). The VFT is an example of applying the theory of multiple intelligences to education (Nelson, 2008) as it attends to differences in learning styles, learning modalities and multiple intelligences. VFTs bring the sights, sounds, and descriptions of distant places to learners (Klemm & Tuthill 2003). Following are some intelligences that VFTs are appropriate for:

- Bodily-Kinesthetic Intelligence (McCoog, 2007) (e. g., hand-eye coordination) (Jolley, Wolfsberger, Rainer & Bell, 2004)
- Naturalist Intelligence (e. g., VFTs to parks and zoos) (Jolley et al., 2004)
- Interpersonal Intelligence through virtual interactions (McLellan, 1994)
- Linguistic Intelligence, as students can chat with experts online, and e-mail other students all over the world who are studying the same concepts (About Best Practices in Integrated Thematic Instruction, 2012)
- Spatial and Logical/Mathematical Intelligences (e.g., making difficult data such as blueprints understandable by enabling people to visualize the buildings in a way that uses their own intelligence) (McLellan, 1994)

- Musical Intelligence, as VFTs usually include developmentally appropriate audio recordings (Kirchen, 2011; Tuthill & Klemm, 2002)
- Intrapersonal as students can express their opinions and thoughts about the trip (Nelson, 2008)

5. Constructivism

Constructivism views learners as active participants in the construction and evaluation of their learning processes and products (Shepard, 2000). According to this theory, learning is not the receipt of information (Duffy & Orrill, 2003) and students are not passive recipients of knowledge (Shostak, 2003). Recent attempts to integrate technology in the classroom have been within the context of a constructivist framework (Nanjappa & Grant, 2003). The VFT is an example. It is considered as a constructivist tool (Cowden et al., 2006) which gives a new experience that students would not typically get with direct instruction. This experience is usually followed up with an activity where learners can show what the VFT was telling them. This gives them the physical aspect they need to build their schema. Jonassen (1994) summarizes the characteristics of constructivist learning environments as: 1) providing multiple representations of reality; 2) representing the natural complexity of the real world; 3) focusing on knowledge construction; 4) presenting authentic tasks; 5) providing real-world, case-based learning environments; 6) fostering reflective practice; 7) enabling context and content dependent knowledge construction; and 8) supporting collaborative construction of knowledge. All these characteristics of constructivist learning environments are fulfilled by VFTs (Garner, 2004).

6. Internet-based learning

Internet-based learning has been known for its rich learning resources by exploring issues of interest and by critically evaluating those issues as well as assessing ways to apply them in real life situations (Okojie, Okojie-Boulder & Boulder, 2008). Through online delivery of instruction and supply of electronic resources, internet-based learning has facilitated students' learning (Kamarulzaman, Madun & Abdul Ghani, 2010). The VFT is one of the ways to incorporate internet-based learning into the classroom (Martin & Loomis, 2007). VFTs are explorations through the Web, typically an organized set of links with a particular theme. Some trips simply consist of a list of links on a Web page, while other trips use some type of navigator to move through the tour (Cowden et al., 2006). Using Internet resources, VFTs offer the possibility of exploring many locations that would otherwise be too expensive or even logistically impossible to visit (e. g., the ocean floor, outer space, and medieval castles) (Betrus, 2008).

Characteristics of VFTs

VFTs possess some characteristics. The first of these characteristics is that the VFT learning experience does not replace reality but serves to expose learners to experiences they typically cannot have (Cox & Su, 2004). It engages students in an experience that they would not normally have in the classroom (Pastore & Pastore, 2006). Although a VFT does not provide the same experience as a physical trip into the field, it represents a compromise, "a set of distilled experiences designed to mimic the real thing" (Garner, 2004, p.5).

The second characteristic of the VFT is that it is always computer based. For Qiu and Hubble (2002), VFTs can be described as being an electronic exhibition of diverse natural and cultural phenomena that also provide digital simulations of

the three-dimensional processes of surveying, observing, exploring and adventuring in some actual field site. The third and final characteristic of VFTs is that they can take a number of different forms. They can involve touring a historic site, witnessing scientific experiments, watching live demonstrations in the field, attending folk festivals, and much more (Zanetis, 2010). VFTs vary in complexity. They can range from a single PowerPoint or video presentation to a multifaceted virtual experience integrating photos, videos, text, audio, video conferencing, and Internet resources (Kirchen, 2011).

Types of VFTs

Some classifications of VFTs were introduced. The first was given by Zanetis (2010) who pointed out that there are two basic types of VFTs: synchronous and asynchronous. Synchronous VFTs are delivered in real time and students are all in one location and interacting and learning from others in another location. These VFTs are often called video conferencing. Asynchronous VFTs are not delivered in real time. They are basically a website that includes text, audio, and/or visual resources about a chosen topic.

Another classification of VFTs was introduced by Kirchen (2011) who claimed that there are two types of VFTs: Predeveloped VFTs and teacher-created VFTs. Predeveloped VFTs are available on various Internet sites and cover a wide range of subjects for different grade levels; however, they have some drawbacks including: (1) inability to be edited or modified, (2) possibility of their websites to close down, change addresses, or take too long to download or navigate, and (3) difficulty to ensure that children's specific needs (interest, reading level, appropriateness of content, connection to curricular and educational standards, and degree of

technology skills required) will be met. Unless teachers thoroughly examine a predeveloped VFT and determine its appropriateness for all children in their class, it might be best for them to consider using the second VFT type: teacher-created VFTs. These VFTs are constructed by the classroom teacher and incorporate developmentally appropriate text and technology with quality audio and video media using a variety of software programs (such as PowerPoint, Web-authoring software, MS Word, and video-conferencing technology and software).

VFTs can also be divided into two different categories (Risinger 2005). There are those that truly simulate a physical field trip in which students are guided through a place of interest and can decide to go to a certain room or not. There are also those that include all the art or artifacts on a website without using the advanced technology that allows the viewer to feel as if they are actually walking through the place of interest.

Advantages of VFTs

VFTs possess a number of advantages for both teachers and students. As for teachers, VFTs remove worrying about the financial aspect of the trip (Nanjappa & Grant, 2003) and allow teaching flexibility and efficiency (Klemm & Tuthill, 2003). Moreover, VFTs are thought to help teachers: enhance the learning process (Nanjappa & Grant, 2003), remove the barriers between the classroom and those far-away people and resources (Zanetis, 2010), find the resources that fit and supplement their lesson plans and curriculum (Cooper & Cooper, 2001), present data at a variety of scales and present images from a variety of viewpoints simultaneously (Qiu & Hubble, 2002), and focus on one specific aspect of the trip at a time (Clark et al., 2002).

For students, VFTs help with absenteeism; i. e., if students miss a VFT, they can catch up on their own time (Newman, Falco, Silverman & Barbanel, 2008). They also make learning come alive in a way that textbooks cannot (Cowden et al., 2006) allowing students to use technology and preparing them for the world they will live in (Nanjappa & Grant, 2003). Additionally, VFTs:

1. offer students opportunities to learn directly from experts in farflung places without ever leaving their classrooms (Zanetis, 2010),
2. offer opportunities for inner city students or students of need or educational exceptionalities for whom physical field trips can be prohibitive (Cowden et al., 2006),
3. provide opportunities for repeated visitations to the site for continued study (Clark et al., 2002; Qiu & Hubble, 2002),
4. address multiple modalities and reach multiple learning standards and objectives (Newman et al., 2008),
5. provide a useful way to both preview and review real field trips that the students will go on or have been on facilitating a better learning outcome (Qiu & Hubble, 2002), and
6. allow for common experiences by all participants (Clark et al., 2002).

Implementation of VFTs

According to Stevenson (2001), VFTs can be incorporated into curriculum as: (1) an instructional tool when a site visit is out of the question, (2) a focus activity prior to a class taking an actual field trip, and (3) a reporting and reflecting follow-up activity for students after they have been on a field trip. VFTs require serious planning and consideration in order to make them a success (McKenzie, 2009). Using VFTs goes through three successive phases: before the VFT, on the VFT, and after the VFT. Following are some guidelines for teachers to use in these three phases. These guidelines are

borrowed from related literature on VFTs (e.g., Everhart 2009; Kirchen, 2011; Klemm & Tuthill, 2003; McKenzie, 2009).

1. Before the VFT, teachers should:

- be sure the VFT is in the lesson plans and has a clear connection to what is taught in class.
- determine how the VFT will fit into the curriculum and what pre- and post-trip activities will enhance students' learning.
- delineate the purpose of the trip before hand, with a focus on what is expected from the learner.
- consider students' developmental and learning needs and skills as well as their interests.
- place a time limit on the VFT.
- preview the site and know the content therein as well as check all links up.
- teach a preparatory lesson before the VFT.

2. On the VFT, teachers should:

- provide as much supervision and structure as they would on a real field trip.
- be available to answer questions, guide and extend learning, and fix any technological problems.
- consider using a projector and touring as a class.
- consider pairs or small groups if students work on their own.
- provide step-by-step tasks to accomplish.
- provide numerous learning strategies to satisfy the variety of needs represented in today's diverse classrooms.
- encourage students to work at their own pace, stressing that they do not have to complete the entire VFT all at once.

3. After the VFT, teachers should:

- give at least one follow-up lesson after the VFT.
- provide books, materials, and props that students can use to reenact and build on the VFT.
- extend the experience to word processing, desktop publishing, and multimedia presentations.
- follow through on a plan of assessment for completed student work.
- share the VFT with others—especially the children’s families.

VFTs and Vocabulary Learning

Computers and the Internet have been applied widely as an educational tool in second language learning (Yan, 2010) resulting in a positive effect on developing vocabulary acquisition (Tysseling, 2012), which has been reported in numerous studies (Kiliçkaya & Krajka, 2010). Considering vocabulary as one of nonnegotiable constituents of learning EFL, it is so fruitful to embark on the realm of innovative ways for developing vocabulary proficiency in learners via technological tools, most notably the Internet (Mahsefat & Homaie, 2012). One of these tools is the VFT through which students visit several teacher-selected websites and gain knowledge about words through multiple exposures in different contexts and through different media (Dalton & Grisham, 2011). Therefore, Blachowicz and Obrochta (2005) maintain that VFTs have the potential to develop new vocabulary by giving students the opportunity to experience vocabulary in an exciting and engaging way. They point out that the following characteristics of VFTs help students develop vocabulary:

- Having a content focus connecting to the curriculum and its content, thereby providing an integrated context for learning and a relational set of concepts and terms
- Engaging students' senses as they encounter new concepts and vocabulary
- Being preceded by preparation that helps students know what they are going to encounter
- Involving the mediation of an adult to explain, clarify, focus, or point out new concepts and vocabulary
- Involving exploration, talk, reading, and writing by the students
- Involving a follow-up of new concepts and terms

However, VFTs seem to have very little empirical data available regarding their effectiveness in developing vocabulary. As far as the researcher knows, only one study investigated the effect of VFTs on vocabulary. This was the study done by Sanchez (2006). In this study, VFTs were designed to increase vocabulary acquisition and knowledge by utilizing simulation based technologies. Second grade pupils were assigned to either use the VFT or listen to stories read aloud by a researcher on a video tape. While results did not indicate significant vocabulary acquisition on a series of three vocabulary tests, pupils who used the VFT did use significantly more words in a post exposure writing sample than pupils in the story group, indicating an increase of words known at a level of depth sufficient to warrant their use in a writing sample.

Method

Design of the study

A pretest-posttest control group design was adopted, consisting of a control group and an experimental group, each consisting of an intact class of 2nd-year EFL preparatory school pupils. All participants were pretested on vocabulary acquisition before the treatment and then posttested after it. Two weeks after the posttest, participants were tested in vocabulary once again in order to measure vocabulary retention.

Participants

Two intact 2nd-year preparatory classes, randomly drawn from a Preparatory School for Girls in Suez, participated in the study one as a control group and the other as an experimental group. The control group consisted of 34 pupils while the experimental group consisted of 37 pupils. Pupils spent at least seven years learning English as a foreign language. They all ranged between 13-15 years of age.

Instrument of the Study

A vocabulary test was prepared by the researcher and was used as a pre-post test to measure vocabulary acquisition and was also used as a delayed test to measure vocabulary retention. In preparing this test, the researcher reviewed the English language book taught to 2nd-year preparatory pupils (*Hello! English for Preparatory Schools*) in the first term and prepared a table of specifications in order to determine: (1) the vocabulary items to be included in the test, (2) the cognitive levels and (3) the number of test items for each cognitive level. Based on this table, the number of the test items was (60): 20 in

the knowledge level, 18 in the comprehension level and 22 in the application level. The test included different types of the questions preferred to be used in the vocabulary test as mentioned in Nation (2001) (see Appendix). The maximum score for the test was 100.

Test piloting was conducted to determine item difficulty as well as test time allotment. The test was administered to a sample of 35 2nd-year preparatory pupils. The item difficulty was estimated by dividing the frequencies of incorrect answers by the total number of pupils. The values of the item difficulty ranged between 0.30 and 0.80 for all test items. On the other hand, the discrimination index was estimated by using inter-item correlation. This correlation was between the total score and each item of the test. The discrimination index of the test items were within acceptable range (0.10 and above) except items No. 17, 33 and 54. The discrimination indexes of these three items were negative which indicated that they were either difficult or ambiguous. This led the researcher to write these three items again.

As for the time allotted for the test, it was estimated by calculating the mean of time of both of the fastest and slowest pupil that finished answering the test. Therefore, 90 minutes was the appropriate time for answering the test. The internal consistency coefficients of the vocabulary test levels were estimated through calculating the correlation coefficients between the test levels (knowledge, comprehension and application) and the total score of the test. The correlation coefficients between the total score of the test and the knowledge level, the comprehension level and the application level were 0.87, 0.89 and 0.91 respectively. All these correlation coefficients are significant at $p < 0.01$.

To determine the validity of the vocabulary test, seven specialists working in the field of TEFL were asked to review the test. Reviewers' suggestions were taken into consideration. The test reliability was estimated by using Cronbach's Alpha method. The standardized Cronbach's Alpha was 0.91. This meant that the test had considerable reliability according to Alaam (2006).

Variables of the Study

The study included one independent variable (VFTs) and two dependent variables (vocabulary acquisition and vocabulary retention).

Procedures of the Study

Procedures of the present study went through four main stages: pretesting, treatment, posttesting, and delayed measurement.

1. Pretesting

The vocabulary test was administered to all participants. Independent-samples t-test analysis of the pretest did not indicate a significant difference between the means of scores of the experimental and control groups ($t=0.345$; $p>0.05$). This confirmed that the two groups were equivalent. The results of the t-test of pretests of both groups are summarized in Table 1.

Table 1. Independent-samples t-test of the difference between the means of scores of the control and experimental groups on the pretest of vocabulary acquisition

Group	N	Mean	S.D.	t-value	Sig.
Control	34	20.26	12.75	0.345	0.731
Experimental	37	21.24	11.17		

2. Treatment

Whereas the control group did not receive any extra treatment other than their regular classroom instruction, the experimental group was exposed to VFTs as a tool for learning new vocabulary during a ten-week period, two hours a week. Based on Zanetis' (2010) principle that VFTs are not intended to be stand-alone activities but are to be integrated into a fully developed hands-on curricular experience, the researcher developed five VFTs that were included within the curriculum. The implementation of each trip went through three successive phases: before the VFT, on the VFT, and after the VFT. Below is a brief description of each of these phases.

A. Before the VFT

Planning each VFT began first-hand by deciding on its objectives. A list of the vocabulary words that participants of the experimental group needed to learn from the VFT was composed. The researcher drafted an outline of what the VFT should have included and how it would be organized. Appropriate text, photos, video clips, and audio recordings to be included in the VFT were compiled from the Internet. A VFT creation wizard (offered by Utah Education Network and available at <http://www.uen.org/utahlink/tours>) was used. It enabled the researcher to import the media she compiled, create relevant text, and organize the materials into an interactive VFT. As soon as the VFT was finished, the researcher navigated through it to ensure that it is fully functioning. A training session was offered to make sure that participants of the experimental group know how to navigate through VFTs.

B. On the VFT

In implementing each VFT, the main topic of the VFT was introduced. Pupils were encouraged to brainstorm and talk about what they know about it, especially the vocabulary words related to the topic. Pupils' words were recorded on the board and the researcher tried to focus on the important ones. Then, the new vocabulary to be delivered through the VFT was introduced to the participants. Pupils began to navigate and explore the VFT. On the trip, pupils were encouraged to work at their own pace. The researcher was available for guidance: to ask/answer questions, make explanations, provide individual assistance, and fix technical problems.

C. After the VFT

Pupils were encouraged to practice some extension activities to extend the VFT experience, reinforce learning and apply the new word knowledge they gained from the VFT. Examples of post-VFT activities were: painting, drawing, filling in a KWL chart, short writing, and role playing using the new vocabulary learnt from the VFT. Whatever activity was used, the researcher laid emphasis on the vocabulary that pupils learnt. Pupils could also navigate the Internet to download photos and videos related to what they learnt in the VFT. Pupils were also encouraged to share the VFT and their post-VFT products (in either digital format or print) with their friends and family members.

3. Posttesting

Immediately after the treatment was over, all participants were administered the vocabulary test. The purpose was to evaluate the difference between the two groups in vocabulary acquisition.

4. Delayed Measurement

Two weeks after the treatment, all participants were administered to the vocabulary test. The purpose was to evaluate the difference between the two groups in vocabulary retention.

Results

The Statistical Package for Social Sciences (SPSS) was used. Independent-samples t-test analysis of the posttest indicated a statistically significant difference between the means of scores of the control and experimental groups on vocabulary acquisition in favor of the experimental group ($t=7.191$; $p<0.05$). See Table 2.

Table 2. Independent-samples t-test of the difference between the means of scores of the control and experimental groups on the posttest of vocabulary acquisition

Group	N	Mean	S.D.	t-value	Sig.
Control	34	56.12	10.44	7.191	0.000
Experimental	37	74.30	10.82		

Independent-samples t-test analysis of the delayed measurement indicated a statistically significant difference between the means of scores of the control and experimental groups on vocabulary retention in favor of the experimental group ($t=10.345$; $p<0.05$). See Table 3.

Table 3. Independent-samples t-test of the difference between the means of scores of the control and experimental groups on the posttest of vocabulary retention

Group	N	Mean	S.D.	t-value	Sig.
Control	34	47.82	10.81	10.345	0.000
Experimental	37	74.43	10.84		

Discussion of the Results

The purpose of the present study was to investigate the effect of virtual field trips on vocabulary acquisition and retention among EFL preparatory school pupils. The first hypothesis of the present study stated that “There would be a statistically significant difference ($\alpha \leq 0.05$) in the 2nd-year preparatory school EFL pupils’ vocabulary acquisition between the experimental group exposed to virtual field trips and the control group exposed to regular classroom instruction in favor of the experimental group.” In order to test this hypothesis, the control group and the experimental group pupils’ vocabulary acquisition posttest mean scores were compared using independent-samples t-test which revealed a statistically significant difference in favor of the experimental group. The second hypothesis of the present study stated that “There would be a statistically significant difference ($\alpha \leq 0.05$) in the 2nd-year preparatory school EFL pupils’ vocabulary retention between the experimental group exposed to virtual field trips and the control group exposed to regular classroom instruction in favor of the experimental group.” In order to test this hypothesis, the control group and the experimental group pupils’ vocabulary delayed measurement mean scores were compared using independent-samples t-test which revealed a statistically significant difference in favor of the experimental group.

Based on these results, the researcher concluded that VFTs had a significant effect on the vocabulary acquisition and retention of EFL preparatory school pupils. These results contradict with what Sanchez (2006) found as she designed VFTs to increase vocabulary acquisition and her results did not indicate significant vocabulary acquisition on a series of three vocabulary tests. However, the results of the present study is supported by prior literature in the field of vocabulary which suggests that VFTs have the potential to develop new vocabulary by giving pupils the opportunity to experience vocabulary in an exciting and engaging way (Blachowicz & Obrochta, 2005) and that the multimedia in VFTs give learners exposure to new words in many different modalities (Dalton & Grisham, 2011).

A further explanation is that VFTs might respond to participants' preferences to use computer technologies and the Internet in learning which could have a positive effect on their vocabulary learning. Many studies supported this explanation as they found significant effects for using different modes of computer and Web technologies in developing vocabulary for learners in different levels of education such as: Kindergarten (e. g., Korat, 2010; Korat & Shamir, 2012; Shamir, Korat & Shlafer, 2011), primary (e. g., Boling, Martin & Martin, 2002; Fehr et al., 2012; Korat, 2010; Mahsefat & Homaie, 2012; Proctor et al., 2011), preparatory (e. g., Esit, 2011; Kim & Gilman, 2008; Tozcu & Coady, 2004; Ward & Williams-Rossi, 2012), secondary (e. g., Hwang, Piazza, Pierce & Bryce, 2011; Kilickaya & Krajka, 2010) and college levels (e. g., Al-Jarf, 2007; Chen & Chung, 2012; Huang & Liou, 2007; Kayaoglu, Dag Akbas & Ozturk, 2011; Lin, 2010; Nikolova, 2002; Sun & Yang, 2012; Yan, 2010; Yanguas, 2012; Yip & Kwan, 2006; Zapata & Sagarra, 2007) as well as adult learners (e. g., AbuSeileek, 2008; Ghabanchi & Anbarestani, 2008).

Moreover, VFTs' potential to improve vocabulary learning might be due to the fact that they have a content focus and that they provide an integrated context for learning vocabulary. Vocabulary used in the VFTs in the present study was taken from the English course book taught to pupils at school. Moreover, the vocabulary items were not introduced separately; i.e., they were given to learners in the context of an interesting journey to places they would never be able to visit in real life.

The use of VFTs in the present study was both preceded and followed by activities that might have been helpful for developing pupils' vocabulary acquisition and retention. For example, before the VFT pupils were encouraged to brainstorm the words they know about the topic of the VFT. This might have helped learners activate their background knowledge. This opinion is supported by Fisher and Frey (2009) who emphasized that the ability to acquire new vocabulary is linked to background knowledge. Concerning post-VFT activities, participants of the study were encouraged to extend the vocabulary learning experience and apply the vocabulary they learnt to other contexts. This follow-up of new vocabulary might have helped in vocabulary acquisition and retention.

VFTs in this study also involved the assistance of the researcher in explaining, clarifying and pointing out new words and interesting things. This scaffolded learning experience might have helped in improving pupils' vocabulary learning. This explanation is supported by the results of some studies such as those done by Cudd and Roberts (1994) and Proctor, Dalton and Grisham (2007).

Recommendations

In light of the results of the present study, the following recommendations seem pertinent.

1. VFTs should be incorporated in EFL reading courses.
2. Vocabulary development should be given more attention in EFL courses.
3. Learners should be encouraged to use Internet resources under teachers' supervision.
4. EFL teachers should consider their strategies of teaching vocabulary.
5. EFL teachers should develop their technological skills in order to be able to use computer-assisted instructional techniques.
6. Teachers using VFTs have to be cautious about the appropriateness of the VFT content to learners' age and cultural background.

Suggestions for Further Research

The following topics seem worth attempting.

1. Research is needed to investigate the effect of VFTs on teachers' teaching self-efficacy.
2. Research is needed to investigate the comparison between the effect of predeveloped VFTs and teacher-created VFTs on teachers' attitudes toward using VFTs in teaching.
3. Research is needed to investigate the effect of VFTs on the listening comprehension of EFL students with different mental capacities.
4. Research is needed to investigate students' and teachers' attitudes towards the use of VFTs in learning, teaching, and assessment.
5. Research is needed to investigate the effect of VFTs on the vocabulary learning of Kindergarten children.

References

- Abdel Hamid, S. (2001). *The effectiveness of using some English vocabulary learning strategies on enhancing the poor learners' lexicon in the preparatory stage* (Unpublished master's thesis). Faculty of Education, Mansoura University.
- Abdel Rahman, G. (2011). *The effectiveness of using some translation strategies of English language in developing Al Azhar first year secondary institutes students' knowledge & use of islamic vocabulary* (Unpublished master's thesis). Faculty of Education, Beni Suef University.
- About Best Practices in Integrated Thematic Instruction*. (2012). Retrieved June 23, 2012, from <http://www.benchmarkeducation.com/learning-environment/integrated-thematic-instruction.html#read4>.
- AbuSeileek, A. (2008). Hypermedia annotation presentation: Learners' preferences & effect on EFL reading comprehension & vocabulary acquisition. *CALICO Journal*, 25(2), 260-275.
- Adedokun, O., Parker, L., Loizzo, J., Burgess, W. & Robinson, J. (2011). A field trip without buses: Connecting your students to scientists through a virtual visit. *Science Scope*, 34(9), 52-57.
- Ahmed, N. (2012). *The effectiveness of a suggested ESP program in enhancing students' vocabulary building skills, reading comprehension & writing skills at the Faculty of Agriculture* (Unpublished master's thesis). Faculty of Education, Fayoum University.
- Alaam, S. (2006). *Educational & psychological measurement & evaluation*. Cairo: Dar Alfekr Alaraby.
- Al-Jarf, R. (2007). Teaching vocabulary to EFL college students online. *CALL-EJ Online*, 8(2). Retrieved January 12, 2012, from <http://callej.org/journal/8-2/al-jarf.html>.

- Al-Qadi, A. (2008). *The effectiveness of some strategies on improving learning disabilities of vocabulary in English for fourth-grade primary pupils* (Unpublished master's thesis). Institute of Educational Studies, Cairo University.
- Arrowsmith, C., Counihan, A. & McGreevy, D. (2005). Development of a multi-scaled virtual field trip for the teaching & learning of geospatial science. *International Journal of Education & Development Using ICT*, 1(3), 42-56.
- Attia, H. (2007). *The effectiveness of a program based on the lexical approach in learning & using vocabulary by students of the Workers University in the light of their needs* (Unpublished master's thesis). Women's College, Ain Shams University.
- August, D., Carlo, M., Dressler, C. & Snow, C. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research & Practice*, 20, 50-57.
- Awad, A. (2009). *The effectiveness of a strategy based on the language experience approach in developing the reading comprehension skills & vocabulary of preparatory students* (Unpublished doctoral dissertation). Women's College, Ain Shams University.
- Beard, C. & Wilson, J. (2006). *Experiential learning: A best practice handbook for educators & trainers* (2nd ed.). London: Kogan Page.
- Bender W. & Larkin, M. (2009). *Reading strategies for elementary students with learning difficulties: Strategies for RTI* (2nd ed.). Thousand Oaks, California: Corwin.
- Betrus, A. (2008). Resources. In A. Januszewski & M. Molenda (Eds.), *AECT definition of educational technology* (pp. 213-241). New York: Lawrence Erlbaum.
- Bicknell-Holmes, T. & Hoffman, P. (2000). Elicit, engage, experience & explore: Discovery learning in library instruction. *Reference Services Review*, 28(4), 313-322.

- Biemiller, A. (2012). Teaching vocabulary in the primary grades: Vocabulary instruction needed. In E. Kame'enui & J. Baumann (Eds.), *Vocabulary instruction: Research to practice* (2nd ed.) (pp. 34-50). New York: Guilford Press.
- Blachowicz, C. & Obrochta, C. (2005). Vocabulary visits: Virtual field trips for content vocabulary development. *The Reading Teacher*, 59(3), 262-268.
- Boling, C., Martin, S. & Martin, M. (2002). The effects of computer-assisted instruction on first grade students' vocabulary development. *Reading Improvement*, 39(2), 79-88.
- Bromley, K. (2002). *Stretching students' vocabulary*. New York: Scholastic Professional Books.
- Brualdi, A. (1996). *Multiple Intelligences: Gardner's Theory*. ERIC Digest No. ED410226.
- Caupp, L. (2011). *Discovery Learning Through Field Trips*. Retrieved May 14, 2012, from <http://prezi.com/zlm5vd8pm8wl/discovery-learning-through-field-trips>.
- Chen, C. & Chung, W. (2012). Research on the learning effects of multimedia assisted instruction on Mandarin vocabulary acquisition for Vietnamese students (Part II): A case study. *Educational Research & Reviews*, 7(14), 315-325.
- Clark, K., Hosticka, A., Schriver, M. & Bedell, J. (2002, June). *Computer based virtual field trips*. Paper presented at World Conference on Educational Multimedia, Hypermedia & Telecommunications, Denver, Colorado.
- Coffey, H. (2009). *Discovery Learning*. Retrieved April 14, 2012, from <http://www.learnnc.org/lp/pages/5352>.
- Cooper, G. & Cooper, G. (2001). *New virtual field trips*. Connecticut: Libraries Unlimited.

- Cowden, P., DeMartin, J. & Lutey, W. (2006). Stepping inside the classroom: A look into virtual field trips & the constructivist educator. *Journal for the Practical Application of Constructivist Theory in Education*, 1(1), 1-8.
- Cox, E. & Su, T. (2004). Integrating student learning with practitioner experiences via virtual field trips. *Journal of Educational Media* 29(2), 113-123.
- Cudd, E. & Roberts, L. (1994). A scaffolding technique to develop sentence sense & vocabulary. *Reading Teacher*, 47(4), 346-349.
- Dadour, E. (2005). The role of kinesthesia in developing children's learning of foreign language vocabulary: An experimental study. *Egyptian Council for Curriculum & Instruction, Faculty of Education, Ain Shams University*, 109, 1-40.
- Dalton, B. & Grisham, D. (2011). eVoc Strategies: 10 ways to use technology to build vocabulary. *The Reading Teacher*, 64(5), 306-317.
- Dewey, J. (1998). *Experience & education (The 60th anniversary ed.)*. Indiana: Kappa Delta Pi.
- Dorgham, R. (2007). *The effectiveness of portfolios on developing English vocabulary for non-English majors at the Faculty of Education, Al-Arish* (Unpublished master's thesis). Cairo University, Institute of Educational Studies.
- Duffy, T. & Orrill, C. (2003). Constructivism. In A. Kovalchick & K. Dawson (Eds.), *Educational technology: An encyclopedia*. Santa Barbara: ABC-Clio.
- El-Shafie, A. (2000). *The effectiveness of using multimedia-based computer games on developing English language vocabulary & attitudes towards the subject for primary stage students* (Unpublished master's thesis). Faculty of Education, Menoufeya University.

- Esit, Ö. (2011). Your verbal zone: An intelligent computer-assisted language learning program in support of Turkish learners' vocabulary learning. *Computer Assisted Language Learning*, 24(3), 211-232.
- Everhart, J. (2009). YouTube in the science classroom. *Science & Children*, 46(9), 32-35.
- Ezz El-Arab, M. (2012). *The effectiveness of extended reading for enhancing EFL reading comprehension & vocabulary acquisition of secondary school students* (Unpublished master's thesis). Faculty of Education, Tanta University.
- Fehr, C., Davison, M., Graves, M., Sales, G., Seipel, B. & Sekhran-Sharma, S. (2012). The effects of individualized, online vocabulary instruction on picture vocabulary scores: An efficacy study. *Computer Assisted Language Learning*, 25(1), 87-102.
- Fisher, D. & Frey, N. (2009). *Background knowledge: The missing piece of the comprehension puzzle*. Portsmouth: Heinemann.
- Foley, K. (2010). *The big pocket guide to using & creating virtual field trips (5th ed.)*. Kirkland: Tramline.
- Folse, K. (2008). Six vocabulary activities for the English language classroom. *English Teaching Forum*, 46(3), 12-20.
- Garner, L. (2004). *Field trips & their effect on student achievement in & attitudes toward science: A comparison of a physical versus a virtual field trip to the Indian River Lagoon* (Unpublished doctoral dissertation). Florida Institute of Technology, Melbourne, Florida.
- Ghabanchi, Z. & Anbarestani, M. (2008). The effects of CALL program on expanding lexical knowledge of EFL Iranian intermediate learners. *The Reading Matrix*, 8(2), 86-95.

- Gilbert, L., Breitbarth, P., Brungardt, M., Dorr, C. & Balgopal, M. (2010). The view at the zoo: Using a photographic scavenger hunt as the basis for an interdisciplinary field trip. *Science Scope*, 33(6), 52-55.
- Hassan, G. (2005). *The effectiveness of using vocabulary autonomous language learning strategies in improving vocabulary acquisition & reading comprehension of second-year students, general secondary school* (Unpublished master's thesis). Institute of Educational Studies, Cairo University.
- Hassanein, O. (2004). *The effect of using a suggested training program based on mnemonic strategies on developing vocabulary retention & retrieval of EFL majors at the Faculty of Education in the New Valley* (Unpublished doctoral dissertation). Faculty of Education, Cairo University.
- Hirsch, P. & Lloyd, K. (2005). Real & virtual experiential learning on the Mekong: Field schools, e-sims & cultural challenge. *Journal of Geography in Higher Education*, 29(3), 321-337.
- Huang, H. & Liou, H. (2007). Vocabulary learning in an automated graded reading program. *Language Learning & Technology*, 11(3), 64-82.
- Hunt, A. & Beglar, D. (2005). A framework for developing EFL reading vocabulary. *Reading in Foreign Language*, 17(1), 23-59.
- Hurst, S. (1998). Use of virtual field trips in teaching introductory geology. *Computers & Geosciences*, 24(7), 653-658.
- Hwang, S., Piazza, C., Pierce, M. & Bryce, S. (2011). My heart want to say something: Exploring ELL vocabulary use through e-mail. *Multicultural Education & Technology Journal*, 5(1), 19-38.

- Ismail, M. (2010). *The effectiveness of using CALL in EFL vocabulary acquisition of the preparatory stage students* (Unpublished master's thesis). Faculty of Education, Mansoura University.
- Ismail, O. (2008). *The effectiveness of using keyword & context to develop vocabulary achievement & retention of EFL preparatory stage pupils* (Unpublished master's thesis). Faculty of Education, Mansoura University.
- Jolley, A., Wolfsberger A., Rainer, L. & Bell, C. (2004). *Using Technology to Support & Facilitate Student Learning*. University of Alabama, Huntsville. Retrieved August 13, 2012, from <http://webpages.uah.edu/~bellcl/bellcl%20wp%20project.doc>.
- Jonassen, D. (1994). Thinking technology: Toward a constructivist design model. *Educational Technology*, 34(4), 34-37.
- Kamarulzaman, Y., Madun, A. & Abdul Ghani, F. (2010). Attitudes towards e-learning using Moodle: A qualitative approach. In I. Ismail (Ed.), *Proceedings of the 5th International Conference on e-Learning* (pp. 163-170). Reading, UK: Academic Publishing.
- Kayaoglu, M., Dag Akbas, R. & Ozturk, Z. (2011). A small scale experimental study: Using animations to learn vocabulary. *Turkish Online Journal of Educational Technology*, 10(2), 24-30.
- Khodary, A. (2007). *The effectiveness of a proposed non-graded activities-based program in developing English vocabulary for primary school pupils* (Unpublished master's thesis). Al-Arish Faculty of Education, Suez Canal University.
- Kiliçkaya, F. & Krajka, J. (2010). Comparative usefulness of online & traditional vocabulary learning. *The Turkish Online Journal of Educational Technology*, 9(2), 55-63.

- Kim, D. & Gilman, D. (2008). Effects of text, audio & graphic aids in multimedia instruction for vocabulary. *Educational Technology & Society*, 11(3), 114-126.
- Kirchen, D. (2011). Making & taking virtual field trips in pre-K & the primary grades. *Young Children*, November, 22-26.
- Klemm, B. & Tuthill, G. (2003). Virtual field trips: Best practices. *International Journal of Instructional Media*, 30(2), 177-193.
- Korat, O. (2010). Reading electronic books as a support for vocabulary, story comprehension & word reading in kindergarten & first grade. *Computers & Education*, 55(1), 24-31.
- Korat, O. & Shamir, A. (2012). Direct & indirect teaching: Using e-books for supporting vocabulary, word reading, & story comprehension for young children. *Journal of Educational Computing Research*, 46(2), 135-152.
- Kravcik, M., Kaibel, A., Specht, M. & Terrenghi, L. (2004). Mobile collector for field trips. *Educational Technology & Society*, 7(2), 25-33.
- Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: University of Cambridge Press.
- Lin, L. (2010). A video-based CALL program for proficient & less-proficient L2 learners' comprehension ability, incidental vocabulary acquisition. *Educational Media International*, 47(3), 199-216.
- Lin, S. (2002). *Modeling a supplemental course web site for EFL vocabulary acquisition* (Unpublished doctoral dissertation). University of Delaware.
- Lukenbill, W. & Immroth, B. (2010). *Health information in a changing world: Practical approaches for teachers, schools & school librarians*. Santa Barbara: ABC-CLIO, LLC.

- Mahsefat, H. & Homaie, S. (2012). Using internet technology in teaching vocabulary for elementary students. *The Iranian EFL Journal*, 8(5), 39-51.
- Martin, A., Franc, D. & Zounková, D. (2004). *Outdoor & experiential learning: A holistic approach & creative approach to program design*. Burlington: Gower Publishing.
- Martin, D. & Loomis, K. (2007). *Building teachers: A constructivist approach to introducing education*. Belmont: Wadsworth.
- McCoog, I. (2007). Integrated instruction: Multiple intelligences & technology. *The Clearing House*, 81(1), 25-28.
- McKenzie, W. (2005). *Multiple intelligences & instructional technology (2nd ed.)*. Washington, DC: ISTE.
- McKenzie, W. (2009). *Virtual Field Trip Guidelines*. Retrieved March 23, 2012, from <http://surfaquarium.com/IT/vftguide.htm>.
- McLellan, H. (1994). Virtual reality & multiple intelligences: Potentials for higher education. *Journal of Computing in Higher Education*. 5(2), 33-66.
- Mohammed, E. (2009). *The effectiveness of TPRS in vocabulary acquisition & retention of EFL prep. stage students & their attitudes towards English language* (Unpublished master's thesis). Faculty of Education, Mansoura University.
- Morris, R. (2012). Transforming a field trip into an expedition: Supporting active research & science content through a museum visit. *Science Scope*, 35(5), 68-73.
- Nadelson, L. & Jordan, J. (2012). Student attitudes toward & recall of outside day: An environmental science field trip. *Journal of Educational Research*, 105(3), 220-231.
- Nanjappa, A. & Grant, M. (2003). Constructing on constructivism: The role of technology. *Electronic Journal for Integration of Technology in Education*, 2(1), 38-56.

- Nation, I. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Nelson, K. (2008). *Teaching in the digital age: Using the internet to increase student engagement & understanding (2nd ed.)*. Thousand Oaks: Corwin.
- Newman, D., Falco, J., Silverman, S. & Barbanel, P. (2008). *Videoconferencing technology in K-12 instruction: Best practices & trends*. London: Information Science Reference.
- Nikolova, O. (2002). Effects of students' participation in authoring of multimedia materials on student acquisition of vocabulary. *Language Learning & Technology*, 6(1), 100-122.
- Okojie, M., Okojie-Boulder, T. & Boulder, J. (2008). Constructivist learning framework & technological application. In L. Tomei (Ed.), *Encyclopedia of information technology curriculum integration* (pp. 150-156). Hershey, PA: Information Science Reference.
- Pastore, R. & Pastore, R. (2006). Using virtual field trips as a 21st century teaching & learning tool. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference, 2006* (pp. 3577-3582). Chesapeake, VA: AACE.
- Patrick, A. (2010). Effects of field studies on learning outcome in biology. *Journal of Human Ecology*, 31(3), 171-177.
- Pearson, P., Hiebert, E. & Kamil, M. (2007). Vocabulary assessment: What we know & what we need to learn. *Reading Research Quarterly*, 42(2), 282-296.
- Penno, J., Wilkinson, I. & Moore, D. (2002). Vocabulary acquisition from teacher explanation & repeated listening to stories: Do they overcome the Matthew effect? *Journal of Educational Psychology*, 94(1), 23-33.
- Pikulski, J. & Templeton, S. (2004). *Teaching & developing vocabulary: Key to long-term reading success*. Litho: Houghton Mifflin.

- Pohl, D. (2003). *The teaching of vocabulary in the primary school foreign language classroom*. Norderstedt, Germany: Grin.
- Proctor, C., Dalton, B. & Grisham, D. (2007). Scaffolding English language learners & struggling readers in a universal literacy environment with embedded strategy instruction & vocabulary support. *Journal of Literacy Research*, 39(1), 71-93.
- Proctor, C., Dalton, B., Uccelli, P., Biancarosa, G., Mo, E., Snow, C. & Neugebauer, S. (2011). Improving comprehension online: Effects of deep vocabulary instruction with bilingual & monolingual fifth graders. *Reading & Writing: An Interdisciplinary Journal*, 24(5), 517-544.
- Putri, H. (2010). *The Importance of Vocabulary in English Learning*. Retrieved May 13, 2012, from <http://universityofibnkhaldunbogor-indonesia.blogspot.com/2010/01/importance-of-vocabulary-in-english.html>.
- Qiu, W. & Hubble, T. (2002). The advantages & disadvantages of virtual field trips in geoscience education. *The China Papers, October*, 75-79.
- Risinger, C. (2005). Take your students on virtual field trips: Exploring museums of the arts & humanities on the Internet. *Social Education*, 69(4), 193-195.
- Rone, T. (2008). *Culture from the Outside in & the Inside out: Experiential Education & the Continuum of Theory, Practice & Policy*. Retrieved June 23, 2012, from http://www.redorbit.com/news/science/1584247/culture_from_the_outside_in_and_the_inside_out_experiential.
- Saab, N., van Joolingen, W. & van Hout-Wolters, B. (2005). Communication in collaborative discovery learning. *British Journal of Educational Psychology*, 75, 603-621.

- Sa'ey, M. (2010). *The effectiveness of a lexical approach-based program on optimizing English language majors' functional use of lexis in their written expression* (Unpublished doctoral dissertation). Faculty of Education, Ain Shams University.
- Sanchez, A. (2006). *Enhancing vocabulary acquisition through synthetic learning experiences: Implementing virtual field trips into classrooms* (Unpublished doctoral dissertation). College of Sciences, University of Central Florida.
- Sanchez, A., Cuevas, H., Fiore, S. & Cannon-Bowers, J. (2005, September). *Virtual field trips: Synthetic experiences & learning*. Paper presented at the Human Factors & Ergonomics Society 49th Annual Meeting, Orlando, FL.
- Scarce, R. (1997). Field trips as short-term experiential education. *Teaching Sociology* 25(3), 219-226.
- Sedita, J. (2005). Effective vocabulary instruction. *Insights on Learning Disabilities*, 2(1), 33-45.
- Shamir, A., Korat, O. & Shlafer, I. (2011). The effect of activity with e-book on vocabulary & story comprehension: A comparison between kindergarteners at risk of learning disabilities & typically developing kindergarteners. *European Journal of Special Needs Education*, 26(3), 311-322.
- Shepard, L. (2000). *The Role of Classroom Assessment in Teaching & Learning*. CSE Technical Report, No. 517. Retrieved January 10, 2012, from http://datause.cse.ucla.edu/DOCS/las_rol_2000.pdf.
- Shostak, R. (2003). Involving students in learning. In J. Cooper (Ed.), *Classroom teaching skills* (7th ed.) (pp. 77-100). Boston: Houghton Mifflin.
- Spicer, J. & Stratford, J. (2001). Student perceptions of a virtual field trip to replace a real field trip. *Journal of Computer Assisted Learning*, 17(4), 345-354.
- Stefanakis, E. (2002). *Multiple intelligences & portfolios: A window into the learner's mind*. Portsmouth: Heinemann.

- Stevenson, S. (2001). Discover & create your own field trips. *Multimedia Schools*, 8(4), 40-45.
- Sun, Y. & Yang, H. (2012). Do language proficiency & lecture comprehension matter? OpenCourseWare lectures for vocabulary learning. *CALICO Journal*, 29(4), 663-678.
- Tao, L. & Laughlin, D. (2012, October). *SM2: Enhancing globalized experiential e-learning through virtual field trips*. Paper presented at the Annual Meeting of the AECT International Convention, The Galt House, Louisville, KY.
- Tomei, L. & Balmert, M. (2001). The virtual tour: A web-based teaching strategy. *Learning & Leading with Technology*, 28(6), 6-10, 12-13.
- Tozcu, A. & Coady, J. (2004). Successful learning of frequent vocabulary through CALL also benefits reading comprehension & speed. *Computer Assisted Language Learning*, 17(5), 473-495.
- Tuthill, G. & Klemm, E. (2002). Virtual field trips: Alternatives to actual field trips. *International Journal of Instructional Media*, 29(4), 453-468.
- Tysseling, L. (2012). *Word travelers: Using digital tools to explore vocabulary & develop independent learners*. Portland: Stenhouse.
- Ward, E. & Williams-Rossi, D. (2012). Jump-start your middle school students' background knowledge & vocabulary skills. *Science Scope*, 35(5), 32-37.
- Wilson, L. (2005). *The Eighth Intelligence: Naturalistic Intelligence*. Retrieved May 3, 2012, from <http://www4.uwsp.edu/education/lwilson/learning/natintel.htm>.
- Yan, Y. (2010). *The effect of de-contextualized multimedia software on Taiwanese college level students' English vocabulary development* (Unpublished doctoral dissertation). University of Mississippi.

- Yanguas, I. (2012). Task-based oral computer-mediated communication & L2 vocabulary acquisition. *CALICO Journal*, 29(3), 507-531.
- Yip, F. & Kwan, A. (2006). Online vocabulary games as a tool for teaching & learning English vocabulary. *Educational Media International*, 43(3), 233-249.
- Zanetis, J. (2010). The beginner's guide to interactive virtual field trips. *Learning & Leading with Technology*, 37(6), 20-23.
- Zapata, G. & Sagarra, N. (2007). CALL on hold: The delayed benefits of an online workbook on L2 vocabulary learning. *Computer Assisted Language Learning*, 20(2), 153-171.
- Zwiers, J. (2008). *Building academic language: Essential practices for content classrooms, grades 5-12*. San Francisco: Jossey-Bass.

أثر الجولات الميدانية الافتراضية على اكتساب واستبقاء مفردات اللغة الإنجليزية لدى تلاميذ المرحلة الإعدادية

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ملخص

هدف البحث إلى دراسة أثر الجولات الميدانية الافتراضية على اكتساب واستبقاء مفردات اللغة الإنجليزية لدى تلاميذ المرحلة الإعدادية. شملت الدراسة فصلين بالصف الثاني الإعدادي بإحدى مدارس محافظة السويس. تم استخدام أحدهما كمجموعة ضابطة وتضمن أربع وثلاثين طالبة بينما استخدم الآخر كمجموعة تجريبية وتضمن سبع وثلاثين طالبة. تم تطبيق اختبارا قبليا في مفردات اللغة الإنجليزية قبل بدء التجربة وذلك لضمان تكافؤ المجموعتين. تم التدريس للمجموعة الضابطة بالطريقة التقليدية بينما قامت طالبات المجموعة التجريبية بتعلم مفردات اللغة الإنجليزية من خلال مجموعة من الجولات الميدانية الافتراضية. بعد انتهاء التجربة مباشرة تم تطبيق اختبار المفردات لتحديد الفرق بين المجموعتين في اكتساب مفردات اللغة الإنجليزية. بعد مرور أسبوعين على التجربة تم تطبيق الاختبار مرة أخرى وذلك لتحديد الفرق بين المجموعتين في استبقاء مفردات اللغة الإنجليزية. أظهرت الدراسة وجود أثر دال للجولات الميدانية الافتراضية على اكتساب واستبقاء مفردات اللغة الإنجليزية لدى تلاميذ المرحلة الإعدادية.

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