

The Electiveness of the Design Pattern of the Educational Blog in Enhancing Sixth Graders' Reading Comprehension Skills

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Abstract

The study aims at identifying the effectiveness of the design pattern of educational blogs (micro/detailed) in enhancing the different levels of reading comprehension skills (literal, inferential, critical, creative, and appreciative) among sixth graders. In order to achieve the objectives of the study, the quasi-empirical approach has been used. The study was applied to a sample consisting of 30 sixth graders in Dammam. The pupils were randomly divided into two experimental groups, each including 15 pupils. The researcher has designed a two-pattern educational blog (micro and detailed) so as to apply the experiment to the research sample.

Research tools included the following:

- 1- List of Reading Comprehension Skills*
- 2- Reading Comprehension Test*

The study concluded that the educational blog of both patterns has a positive effect on developing reading comprehension skills. The study also showed that there are no differences of statistical significance at Level 0.05 between the mean scores of the first group (micro pattern) and the mean scores of second group (detailed pattern) in respect of all reading comprehension skills.

Introduction

The 21st century is witnessing a technological revolution in the area of information and communication technology (ICT) that has brought about a qualitative shift in education. E-learning emerged as one of education patterns that aim at creating an interactive environment swarming with applications. With the appearance of Web2.0 tools, learners became effective rather than non-interactive recipients (Al-Khalifah, 2006).

Only next to e-mail, blogs rank second in the world of the internet. Arab students make up the second segment that uses blogs next to journalists as per the Fourth Arab Report on Cultural Development (FARCD) held in 2010. This, in turn, poses a challenge to pedagogists and educators who are required to keep pace with the latest developments taking place in the age of science. That is why several studies such as (Higazi 2011, Al-Misri 2011 & Ebraheem 2013) devoted much attention to blogs and the necessity to use them as an educational tool.

In addition to serving as the basis of contact between people, language is also an incubator of ideas and a gate through which man enters the world and interacts with all its different aspects. Reading is considered as an important part of language and its importance stems from its function. That is why it has been receiving greater attention than other features of language. Besides, comprehension is the ultimate goal of all types of reading (Al-Basees, 2011). Therefore, it was necessary to employ the blog technology in a manner that serves one of the most important language skills and identifies the most suitable pattern for developing it.

Research Problem

Despite the importance of reading and its impact on people's life, it is a fact that there is an obvious problem in acquiring its skills. A great deal of students lack reading skills and in fact a great number of them complete the elementary stage without having successfully developed the ability to read (Younes et al, 1998, p.189).

If we are to examine a lot of errors in the answers given by pupils, we will notice that such errors occur on account of their inability to understand what they read (Madkour, 1997, p. 63). As a matter of fact, reading comprehension is one of the problems which face many pupils. This problem creates a barrier that prevents pupils from gaining total mastery of reading per se (IbnaI-Tahir, 2008, p. 73).

Based on the fact that the researchers have been working as an Arabic teachers for more than ten years, they noticed that sixth graders are poor at reading.

In view of the fact that technology has become an important part of the student's day-to-day life, educational blogs create an environment within which learners can interact with their teachers as far as reading and writing are concerned. This stimulates the former to read, understand, discuss, debate, comment, and participate in accordance with their abilities, thus achieving interaction. Undoubtedly mutual exchange of ideas between learners enables them to comprehend and understand (Salim, 2001). To the best of the researcher's knowledge, there has been scarcity in researches and studies dealing with developing reading comprehension skills through using educational blogs coupled with scarcity in Arabic studies dealing with Web2.0 tools used in teaching Arabic in elementary schools.

Based on the foregoing, the present study attempts to identify the effectiveness of educational blogs in developing reading comprehension skills among elementary pupils through using two of the design patterns of educational blogs.

Research Questions

The present research attempts to provide answers to the following questions:

- 1- What are the skills that enhance reading comprehension among sixth graders?
- 2- What are the components of the educational blog used to improve reading comprehension skills among sixth graders?
- 3- How effective is the use of the design pattern of the educational blog (micro/detailed) in enhancing reading comprehension skills?

Research Objectives

- 1- Outlining the most suitable pattern for designing the educational blog and measuring its effectiveness in enhancing reading comprehension skills among sixth graders.
- 2- Identifying the degree of effectiveness of using educational blogs in enhancing reading comprehension skills.
- 3- Identifying the components of the educational blog that are suitable for developing reading comprehension skills among elementary school pupils.

Significance of Research

- Using the present research as a guide to augment the benefit of educational blogs in regard to different school subjects.
- Offering a program that helps enhance reading comprehension skills among pupils through the use of the educational blog.
- Activating the role of pupils in the educational process.

Research Hypotheses

- There are no differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the first experimental group (micro pattern) with respect to the pre- and post-application of reading comprehension skills.
- There are no differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the second experimental group (micro pattern) with respect to the pre- and post-application of reading comprehension skills.
- There are no differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the first experimental group (micro pattern) and the second experimental group (detailed pattern) with respect to the reading comprehension skills post-test.

Research Scope and Limitations

- 1- Spatial Limitations: The experiment was applied at Noor Al Islam Boarding School
- 2- Temporal Limitations: Second Semester for the year 1434 AH-1435 AH.
- 3- Individuals Subject to Research: Sixth graders
- 4- Thematic Limitations: Design pattern of the blog and its effectiveness in enhancing reading comprehension skills

Research Tools

Web 2.0

Refers to websites and services that are turned from being mere websites into operational platforms that are based on social networks (O'Reilly 2005)

Educational Blogs

Refers to a space on the internet through which the curriculum or its related activities can be showcased. Both students and teachers can exchange discussions in the same efficiency as takes place inside class (Sim & Hew, 2010, p. 152).

Reading Comprehension

Comprehension of a text requires right linking between symbol and meaning in addition to finding the meaning through context, choosing the suitable meaning, organizing reading thoughts, recalling these thoughts and using them in current and future activities (Teamah, 1999).

Micro-Blogging

It is operationally defined as brief texts set to a constrictive 140-character limit and written by pupils as a comment. A micro-blog may contain texts, links or photos.

Detailed Blogging

It is operationally defined as texts not restricted to a specific number of characters and written by pupils as a comment. A detailed blogging may contain texts, links or pictures.

Literature Review

There is no doubt that paying attention to research literature and focusing thereon are very instrumental in developing an adequate vision concerning the subject matter of the study, understanding the study problem and building the study tools (Creswell, 2009). Accordingly, the researchers have concentrated on the two most important elements of the present study. The first element includes the definition and importance of the next generation of web including blogs under discussion as well as their different types. The second element includes review of literature on blogs and reading comprehension skills.

First Element

a) The Next Generation of Web (Web 2.0)

Origin and Definition

This term was first coined in 2005 AD in an article written by Tim O'Reilly entitled *what is Web 2.0?* O'Reilly used this term to describe modern technological trends (Tani, 2007). He defined it as a term referring to a next generation of websites and services that are turned from being mere websites into operational platforms that are based on social networks (O'Reilly 2005). (Anderson, 2007) perceives Web 2.0 as a new breakthrough in electronic applications emerged on the internet based on new methods of interacting and socializing. As a matter of fact, researchers themselves are not in agreement as to acknowledging a standard definition of Web 2.0. However, it can be said that Web 2.0 is not to be seen as a new technology but a set of methods and philosophies on web pages. These methods and philosophies have changed the user's position by offering them more authority and control, a view supported by Gervais (Tani, 2007).

Importance of Web 2.0

The appearance of the next generation of web (Web 2.0) has brought about a change in the concept of e-Learning as well as methods of its presentation as it covered a more interactive and productive aspects of learning.

This is to be added to those features which enabled learners to interact with content by adding and editing some information so as to be able to share them. Besides, such features helped learners interact with each other (Al-Hasan, 2012; Al-Khalifah, 2006).

Types Web 2.0

It was through a careful review of the literature dealing with the history and origin of Web 2.0 that the researcher found out that its most important applications are divided into seven categories as has been stated by (McDermott, 2007):

- **Publishing platforms:**

Allow users to disseminate their content such as *blogs and podcasts*

- **Social networking services:**

Forge social relationships among users such as *facebook*

- **Democratized content network:**

Enables users to add, edit or rate content such as *Wikipedia*

- **Virtual networking platforms:**

Offer an environment within which users interact with each other such as *second life*

- **Information aggregators:**

Collect headlines on a single topic from a collection of internet sources

- **Edited social news platforms:**

Allow users to read, submit and comment on news stories such as *spinthicket.com*

- **Content distribution services:**

Enable users to create, share and tag content such as *scrapblog.com*

b) Blogs

Definition

A blog or web blog is a website that works in the same way as a diary, with the exception that the other users who visit it can give their opinions on what the blog owner writes, who may accompany his/her comments with photos, links and videos (Rubio, Martin, & Moran, 2007).

A blog can also be defined as a web page that includes entries (blog posts) arranged in an ascending chronological order. It operates through a content management system controlled by the blog manager and contains a mechanism whereby older entries are archived (Sharqawi & Abd El-Razzeq, 2009, p. 298).

A blog is more like of an online newspaper with the exception that materials published on blogs are arranged in an ascending chronological order and configured in a way to show the most recent information firstly (Al-Badri, 2013, p. 101). A blog may also refer to a website of a person who writes a mixture of things in the form of calendar that contains events, biographies and opinions on a web page within which stories, personal experiences, discussions and debates are published with photos and audio records usually attached thereto (Al-Zaran, 2007, p. 160).

Micro-Blogging

Micro-blogging is defined as a form of blogging which allows users to publish brief text updates, usually between 140 to 200 characters, and sometimes containing other images and files (Grosbeck & Holotescu, 2008).

Micro-blogging is also a term referring to a small quantity of digital content which users place on the internet, such as links, short videos, pictures, text, or other media (Educause, 2009).

Micro-blogging is operationally defined as brief texts set to a constrictive character limit and written by pupils as a comment which may be accompanied by texts, links or photos.

Types of Blogs

There are several types of blogs which differ from each other in terms of content or the way of presenting information. These types are as follows (Livingston, 2011, p.76):

1- In terms of the media they contain: A blog comprising videos is called *vlog*, one comprising links is called *linklog*, and one comprising photos is called *photolog*.

- 2- In terms of method: Types of blogs can be identified via the method through which they are written. A blog written via mobile is called *mblog*.
- 3- Business blogs such as those used to promote a trademark or a certain commodity and non-profit blogs such as blogs created by government organizations and institutions.
- 4- In terms of the topic it tackles: A blog dealing with education is called *edublog* and one dealing with the blogger himself is called personal blog.

As far as language learning is concerned, (Campbell, 2003) divides blogs into three main categories as follows:

- 1- **Instructor Blog** is run by a teacher of a class and serves the objectives of language learning such as:
 - a- Giving daily passages assignments to practice reading and linking the passage source with other websites for further reading or explaining the meanings of some words. This in turn encourages students to discover more language-related websites.
 - b- Reminding students of homework and topics to be discussed in the future. Links to websites that present topics relating to discussion can also be provided.
- 2- **Learner Blog** is run by students themselves either individually or through small collaborative groups. This may be the most suitable type of blogs to practice reading, writing and free expression.
- 3- **Class Blog** is the fruit of a collaborative effort of a whole class. It could be used to disseminate ideas about a certain issue. In this type of blogs posting comments is open even for teachers, parents and others.

Educational Blogs

These are personal websites tackling a variety of specializations owned by teachers, researchers, or educational institutions through which various articles and lessons are published targeting a specific group of readers. Educational blogs contribute to creating an interactive space between teacher and student and helps in the smooth running of the educational process (Bazeez, 2012).

Sim and Hew define it as a space on the internet through which the curriculum or its related activities can be showcased. Both students and teachers can exchange discussions in the same efficiency as takes place inside class (Sim & Hew, 2010, p. 152). Brownstein and Klein perceive it as a virtual environment where all students can participate in specified topics based on updated versions that are arranged in a consecutive logical sequence to showcase the events.

Importance of Blogs

As far as learning is concerned, blogs derive their importance from the number of their users. According to a study, 25% of internet users¹ read materials published on educational blogs on a daily basis and 17% of the people subject matter of that study visit educational blogs several times per day (Dubai School of Government, 2013, p. 8). Moreover, a large segment of teachers, who apply technology to education, are blog users. In general, blogs have been frequently used as a means that empowers the teacher to disseminate the educational content among his/her students and to know their opinions regarding it in an easy and economical manner. This is because many websites allow users to create blogs for free. According to Arab Social Media Report, 55% of teachers use social media, 7.8% of whom use blogs and micro-blogs (Dubai School of Government, 2013, p. 6). The widespread of blogs is attributed to the fact that they offer a wide array of features and benefits that made them one of the most popular applications in Arab education², thus ranking fourth among Web 2.0 applications.

Blog Components

A number of studies have been conducted on the form and components of educational blogs in general. Most of these studies concluded that blogs are often divided into two columns, each containing an arrangement of the blogs' versions. They are archived and indexed in general. An educational blog consists of ten major elements as follows:

- **Blog Title:** This title is chosen by the blogger, preferably a short and innovative one.
- **Pages:** An additional page other than the basic one that contains blogger's CV or any information he likes which remains visible without archiving.
- **Entries:** Topics that are dated and arranged in a reverse order from newest to oldest.

¹ The study covered 3321 people from all Arab countries.

² The study covered four Arab countries: Jordan, Egypt, UAE, and KSA.

- Fixed Links: Links to permanent titles which are called bookmarks.
- Comments: Opinions which blog readers write regarding blog topics and replies given by the blogger.
- Archive: A record of older entries which allows readers to access older posts easily.
- RSS: Allows readers to keep abreast of any updating of the blog without the need to visit it.
- Search Engine: Blogs offer the opportunity to search for a certain topic within their contents.
- Labels or Tags: Keywords under which entries are placed in a row.
- Trackback: Allows tracking references by other users to the blog's topics in other blogs or websites.
- Blog Roll is a side list containing links to other blogs which a blogger likes or recommends. Such blogs are often related to the blog's theme.

(Duffy & Bruns, 2006, p. 32) (Al-Jehani, 2013, p. 106)

(Al-Misri, 2011, p. 188) says that blogs have three essential components including (title – topic – comments – some links to topic – index specifying dates of publication of topic)

Use of Blogs in Teaching Arabic

Books are no longer the only source from which information is derived. Use of blogs in teaching Arabic breaks the student's traditional mold of learning Arabic by giving him/her more freedom to learn it, participate in creating the content, and use it to interact with others, thus polishing up his/her language skills. According to the findings of a study carried out by (Abu Bakar, Lati, & Acob, 2010, p.135) on 102 male and female students entitled *The Impact of Educational Blogs on Students' Learning of English as a Second Language*, the blog has a positive effect on improving language skills. 90.5% of the students covered by the sample have improved their reading skills. Moreover, some Arabic studies also dealt with the impact of applications of the next generation of web on the Arabic language such as the study entitled *The Effectiveness of Ninth Graders and Teachers' Use of Blogs, E-mails, and Social Networking Sites to Enhance Electronic Written Communication in the United Arab Emirates* (Al-Mazroui, 2012). Another study is entitled *The Impact of a Web 2.0-based Software on the Development of the Comprehension of Arabic Language among Faculty of Education's Students and Their Trends Towards It* (Ebraheem, 2013). A further study is entitled *The Impact of a Proposed Blog on Developing Creative Writing Skills among Secondary School Students* (Al-Mehdar, 2013). These studies generally focused on the role of the blog in enhancing reading and writing skills.

Growth Characteristics of Elementary Pupils

Growth is defined as “a coherent series of changes that aim at achieving the one coherent goal of maturation” (Awad, 1999, p. 12). Late childhood (6-12) is defined as “the stage of gaining mastery of linguistic skills and experiences as well as pre-acquired mental movements. In this way, the child moves gradually from the playhood stage to the mastery stage. In this stage, the child has few problems yet is full of energy. He is inclined to realism and objectivism (Ahmed, 2002, p.110). We will limit our discussion in the following to the growth characteristics that are instrumental to developing reading comprehension skills, which include:

Sensational Growth

A child's capability of intentional control increases as he starts to use all his senses which reaches their functional peak during that period. This helps him read and write for longer periods and work with greater concentration (Eweis, 2003).

Mental Growth

At this stage when the he turns nine, the child is characterized by curiosity and asking too many questions to which he insists on having answers. He also becomes capable of thinking in a logical way and linking reasons to results. Besides, all his mental faculties, including the ability to remember, observe, think, and imagine, are well developed (Ahmed, 2002).

Emotional Growth

At this stage, the child is characterized by having few problems and less emotionality if compared to the first stage. This is to be added to his inclination to explore, know and pay attention to the external world. Gesell believes that at the age of 11 the child develops an increasing desire to meet and compete with his peers.

Social Growth

One of the main features of social growth during this stage is the attitude the child develops towards the surrounding environment which includes customs, traditions and etiquettes of dealing with others. The comparison he draws between himself and others and his love of competition and jealousy motivate him to enter into controversial discussions (Ahmed, 2002).

Linguistic Growth

At this stage the child can distinguish between synonyms and find antonyms. He can also identify verbs denoting mental activity like the verb “understand” and others denoting movement. He reads to understand and can express his main ideas and tends to read silently. At this stage he can also write a descriptive subject (Eweis, 2003).

Reading Comprehension Skills of Six Graders

The Concept of Reading Comprehension

Comprehension of a reading passage requires right linking between symbol and meaning in addition to finding the meaning through context, choosing the suitable meaning, organizing reading thoughts, recalling these thoughts and using them in the current and future activities (Teaimah, 1999). Reading comprehension also refers to understanding and extracting meanings from the reading material, this being the ultimate purpose of all readings and the goal which all teachers seek to achieve and enhance at its different levels among students of different educational stages (Al-Ghoul, 2009).

It can be said that reading comprehension refers to the student’s ability to literally understand information presented in a written form, realize its implicit meanings, together with having the ability to criticize and appreciate its value and creating new knowledge to be added to it. These skills could be measured based on the comprehension test prepared for that purpose (Al-Basees, 2011, p. 62).

Reading Comprehension Skills

The concept of reading is associated with the ability to recall the written message. However, with the advance of researches on reading, reading comprehension turned into a compound process combining together the mental process of meaning comprehension and understanding and anticipating the information presented in a written form (Mousa, 2007). It is only possible to consider as successful the teaching of reading at the elementary stage if the reading process is capable enhancing the learner’s basic reading skills, most notably of which are the reading comprehension skills (Al-Shahri, 2012).

Some of the reading comprehension skills of the elementary stage approved by a group of specialists (Teaimah, 1999, p. 127) (Younes& Al-Kindari, 1998, p. 94) include the following:

- 1- Ability to give the symbol its meaning
- 2- Ability to understand larger units such as phrase, paragraph and topic
- 3- Ability to read in thought units
- 4- Understanding words through context and choosing suitable meanings for them.
- 5- Ability to guess meanings of a word
- 6- Ability to choose and understand main ideas
- 7- Ability to understand the structure adopted by the writer
- 8- Ability to deduce
- 9- Ability to understand trends
- 10- Ability to evaluate the written text, identify the literary devices and the writer’s purpose
- 11- Ability to retain ideas
- 12- Ability to apply ideas and explain them in light of past experiences

Some researchers believe that the necessary comprehension skills include “knowing the details, identifying main ideas, arranging ideas according to their logical sequence, following instructions and guidelines, outlining relations between causes and results, coming up with generalizations and outcomes, identifying writer’s style, and identifying the topic around which the text revolves” (Shehatah, 1992, p. 20). The following are some of the skills in which elementary school pupils must be trained:

- 1- Deducing main ideas
- 2- Being acquainted with some details of particular importance

- 3- Identifying sequence through reading, i.e. sequence and cohesion of ideas
 - 4- Ability to read instructions
 - 5- Ability to locate information acquired from reading
 - 6- Drawing conclusions from the text
 - 7- Ability to analyze and criticize while reading
 - 8- Identifying the writing pattern, that is to say the pupil's ability to know the writer's method of writing as well as his/her treatment of ideas
 - 9- Evaluation of content
 - 10- Ability to link the reading text with personal experience
 - 11- Ability to draw comparisons
 - 12- Ability to identify writer's objective
- (Megawer, 1980, pp. 354-356)

Reading Comprehension Levels

In order to identify reading comprehension levels and the skills associated therewith, the researcher has reviewed several studies and literatures on reading comprehension, which tried to classify it into specific levels. The following is a presentation of such major classifications:

Some have classified reading comprehension into three levels: comprehending the text, criticizing the text and interacting with the text (Teaimah, 1999). Others have identified reading levels suitable for Grade 4 stage and following stages:

- 1- Literal comprehension: This is called "reading on the lines". It includes the skills of enriching vocabulary, identifying and remembering details, outlining the general idea stated in the text, understanding the organizational structure of the text, and following instructions.
- 2- Interpretative comprehension: This is called "reading between the lines". It includes interpreting the figurative meanings of words, identifying the writer's main themes and point of views, drawing conclusions, outlining the central idea not stated in the text, interpreting feelings, and analyzing characters.
- 3- Applied comprehension: This is called "reading beyond the lines". It includes the following skills: evaluating the writer's degree of accuracy in expressing ideas, distinguishing between facts and opinions, and finding solutions to problems (Teaimah & Al-Sheibi, 2006, p. 92).

Others have classified reading comprehension into five levels. This could be the most inclusive classification of comprehension skills because it incorporates the above levels and attaches greater importance to the aesthetic and appreciative aspect by allocating a special level to it. Accordingly, comprehension is divided into five levels as follows (Al-Basees, 2011):

1) Direct comprehension level which includes the following:

- Identifying the suitable meaning of the word through context
- Identifying synonyms
- Identifying antonyms
- Identifying polysemous words (common meaning)
- Identifying the central idea of the text
- Identifying the main idea of a paragraph
- Identifying particular ideas and supporting details in the text
- Realizing chronological order
- Realizing spatial order
- Realizing order in terms of importance

2) Inferential comprehension level which includes the following:

- Finding similarities and dissimilarities
- Finding relations between cause and effect
- Finding the writer's purposes and motives
- Identifying common trends and values contained in the text
- Finding implicit meanings of the text

3) Critical comprehension level

- Distinguishing between primary and secondary ideas
- Distinguishing between facts and opinions
- Distinguishing between relevant and irrelevant ideas
- Distinguishing between tangible and intangible ideas
- Distinguishing between traditional and innovative ideas
- Identifying the degree of rationality of ideas and their sequence
- Identifying the writer's degree of credibility
- Judging the originality or modernity of the written material

4) Appreciative comprehension whose skills include

- Arranging lines based on the power of meanings
- Appreciating the aesthetic value and connotative significance of words and expressions
- Appreciating the emotional state and temperament dominating the text
- Choosing a line with a meaning closest to another particular line

5) Creative comprehension level

- Rearranging story incidents or rearranging its character in an innovative style
- Suggesting alternative solutions to problems highlighted in a topic or story
- Anticipating events on the basis of certain hypotheses
- Predicting events and plot of a subject or story before finishing it
- Envisioning an end to a certain story in case no such end is given by the writer
- Dramatizing the written text

(Al-Naqah, Hafiz, 2002)

Methods of Enhancing Reading Comprehension

The interactive approach is considered one of the modern approaches of developing reading comprehension skills which is based on interaction between the pupil and the written text. It concentrates on the fact that the learner constructs rather than acquires knowledge. The interactive approach is defined as "the interaction between pupils and the written text such that the pupil comprehends the meaning of that text through the interaction between the pupil's experiences and the knowledge and experiences of the text" (Abd El-Ghani, 2012).

Consequently, developing reading comprehension skills requires adoption of interactive strategies through which the student's comprehension skills are enhanced. There are various methods and strategies which contribute to developing reading comprehension skills:

- 1- Meaning Construction Strategy (KLW)³
- 2- Reciprocal Teaching Strategy
- 3- Brainstorming Strategy
- 4- Think-Aloud Strategy
- 5- Discussion Strategy: "This strategy is based on the discussion between teacher and students in the form of questions or the discussions through which the students advance towards achieving one or a group of goals" (Mostafa, 2000, cited in Abd El-Ghani, 2012, p. 50).

The study carried out by (Eweis, 2004, cited in Abd El-Ghani, 2012) has stressed the importance of using the Discussion Strategy in enhancing silent reading skills.

It also helps the student gain mastery of content and moves him/her from having a negative role into having a positive one by allowing him/her to participate in the discussion and put forward ideas and questions. It also enables him/her to have access to scientific information, concepts and ideas on their own, exchange them and interact with them. This strategy also provides students with instant feedback during their positive participation in the lesson (Abd El-Ghani, 2012).

³ KLW stands for "know, want to know, learned" and is one of the reading comprehension skills which depends on three questions: what do I know? What do I want to know? What did I learn?

Role of Blogs in Enhancing Reading Comprehension Skills

Although the next generation of web, including blogs, is considered one of the modern fields of education, most of the strategies applied in the traditional environment could be used in the e-Learning environment (Al-Sharqawi & Abd El-Razzaq, 2009). Accordingly, interaction with the text in the traditional environment is offset by a written electronic interaction which essentially depends on practicing reading and writing. It is through the feature of asynchronous comments that the educational blog allows students to interact with each other and with teacher outside classroom without time commitment, thus giving them enough time to practice reading. This is to be added to the fact that the blog saves the outputs of such interaction which students may later use as feedback that helps them have a deep understanding of the meaning. These writings could be provided with audio-visual comprehension aides. The blog also helps students acquire and employ new vocabulary. According to a study carried out by (Izquierdo, Reyes, 2009) on 115 male and female students with ages ranging between 17 to 22 so as to measure the impact of the blog on practicing reading in a foreign language learning program, it was proved that 83% of the students were able to learn new vocabulary.

Review of Literature: the Second Element

a- Studies Dealing with Educational Blogs

1- (Ebraheem, 2013)

This study aimed at identifying the impact of a Web 2.0-based software on the enhancing comprehension of the Arabic language among Faculty of Education's students and their trends towards it. The researcher used the blog as a tool and adopted the empirical approach. The study also included an Achievement Test on the comprehension of the Arabic language and a trend scale. The study was applied to a group consisting of 12 students studying at the Faculty of Education in King Khalid University. The study concluded that the experimental group was making progress regarding the comprehension of the Arabic language, thus indicating the effectiveness of the blog in enhancing comprehension.

2- (Shi-Jer, Mei-Chuan, Hsiu-Ling, & Ru-Chu, 2013)

This study aimed at identifying the effectiveness of using an interactive blog in teaching and instilling values of life into fifth graders of south Taiwan. 30 students underwent the study in which the researchers used the empirical approach. The study also depended on value scales. The study concluded that the education blog plays a vital role in teaching and instilling values into students.

3- (Al-Mehdar, 2013)

This study aimed at identifying the impact of a proposed blog on developing the creative writing skills among secondary school female students. It was applied to sixty female students who were divided into control group and experimental group. The researcher used the quasi-empirical and depended on a list of creative writing skills, creative writing test, scorecard, and the proposed blog. The study concluded that blogs play a role in enhancing writing skills.

4- (Al-Mazroui, 2012)

This study aimed at identifying the degree of effectiveness of UAE ninth graders and teachers' use of blogs, e-mails, and social networking sites to enhance electronic written communication in Abu Dhabi. The study depended on a questionnaire that was distributed to 564 students and 53 teachers of Arabic. The study adopted the analytical and descriptive approach and the findings showed that 50% of the ninth graders use the internet on a daily basis as against 56% of teachers. E-mails were the most used programs while twitter and blogs were the least used ones. The study showed no difference between teachers of Arabic and other teachers in respect of using technology in enhancing written communication skills. However, the students' written communication skills were improved.

5- (Al-Misri, 2011)

This study aimed at identifying the effectiveness of using the educational blog in enhancing learning progress of preparatory stage students regarding abstract concepts of the computer subject and the trend towards it in the Egyptian city of Giza. The study was applied to 35 students who were divided into two groups. The researcher used the empirical approach and depended on the pre- and post-achievement test and trend scale.

The study concluded that educational blogs play an effective role in promoting comprehension and enhancing students' trends towards the subject.

6- (Al-Madhouni, 2010)

This study aimed at identifying the effectiveness of using the educational blogs in enhancing academic attainment of female students studying at Qassim University and their trends towards them. The study was applied to 72 female students who were divided into control and experimental groups. The researcher used the quasi-empirical approach and depended on an achievement test and trend scale. The study concluded that blogs play an effective role in enhancing academic attainment and trend.

7- (Izquierdo, Reyes, 2009)

This study aimed at identifying the impact of blogs on practicing reading in the Teaching English as a Second Language Program for New Students at Simón Bolívar Universidad in Venezuela. The study was applied to 115 male and female students with ages ranging between 17 to 22 in a single group moving between three levels, with a blog dedicated for each level. The experiment lasted for a whole year. The researcher used the quasi-empirical approach and a questionnaire. The study concluded that blogs have an effect on acquiring new vocabulary.

b- Studies Dealing with Enhancing Reading Comprehension Skills

1- (Al-Hadad)

This study aimed at identifying the effectiveness of a strategy based on the whole approach in teaching reading to enhance reading comprehension skills among ninth grade basic stage students in the Jordanian city of Irbid. The study was applied to 123 male and female students who were divided into two groups. The researcher used the empirical approach and relied on comprehension test tool. The study concluded that the use of the strategy plays an effective role in enhancing reading comprehension skills.

2- (Al-Shihri, 2012)

This study aimed at measuring the effectiveness of a program based on the use of reading activities in enhancing reading comprehension skills and trend among sixth graders in the city of Mecca. The study was applied to 61 students who were divided into two groups. The researcher used the quasi-empirical approach and relied on reading comprehension test tool and trend scale towards reading, and reading activities-based program. The study concluded that using reading activities plays an effective role in enhancing reading comprehension skills.

3- (Al-Kindari et al, 2012)

This study aimed at measuring the effectiveness of the reciprocal teaching strategy in enhancing reading comprehension skills relating to the teaching methods curricula among students studying at the Faculty of Basic Education. Carried out in the State of Kuwait, the study was applied to 40 male and female students who were divided into control and experimental groups. The researchers used the quasi-empirical approach and relied on a list of reading comprehension skills and comprehension test. The study concluded that reciprocal teaching has a positive role in enhancing reading comprehension skills.

4- (Abd El-Rahman, 2011)

This study aimed at identifying the effectiveness of using teaching strategies for reading based on multiple intelligences in enhancing cognitive progress and reading comprehension skills among preparatory students. The study was applied to a control group and an experimental group. The researcher used the empirical approach and relied on reading achievement test, reading comprehension test. The study concluded that strategies can play an effective role in enhancing reading comprehension skills.

5- (Shalaan, 2011)

This study aimed at identifying the impact of picture-reading in enhancing reading comprehension skills among first year secondary school students. The researcher used the descriptive and quasi-empirical approach and relied on a list of reading comprehension skills and comprehension test. The study concluded that pictures play an effective role in enhancing reading comprehension skills.

6- (Abd El-Bari, 2009)

This study aimed at identifying the effectiveness of mental imagery in enhancing reading comprehension skills among preparatory stage students. The study used the empirical approach and was applied to eighty three male and female students of second year preparatory in the Egyptian city of Toukh. The students were divided into control and experimental groups. The researcher used a test to measure students' reading comprehension skills. The study concluded that this strategy proved effective in enhancing reading comprehension skills.

7- (Hafiz, 2008)

This study aimed at identifying the effectiveness of using cooperative and collaborative learning and the KWL strategy in enhancing reading comprehension skills among sixth graders in the city of Riyadh. The researcher used the quasi-empirical approach. The study was applied to 135 pupils who were divided into control and experimental groups. The researcher used a questionnaire to make a list of reading comprehension skills as well as a comprehension test. The study concluded that the two strategies proved effective in developing reading comprehension skills.

8- (Lavi, 2007)

This study aimed at identifying the effectiveness of using beyond knowledge strategies in enhancing reading comprehension skills among elementary stage students in the city of Al-Ahsa. The researcher used the quasi-empirical approach and a questionnaire to make a list of reading comprehension skills as well as a comprehension test. The study concluded that the strategy proved effective in developing reading comprehension skills.

9- (Mousa)

This study aimed at identifying the effectiveness of using the computer in enhancing reading comprehension skills among the eleventh grade of secondary education. The study was carried out in the UAE and applied to 120 male and female students who were divided into control and experimental groups. The researcher used the descriptive and experimental approach. He also used a list of reading comprehension skills, a comprehension test and a computer software. The study concluded that the computer software has a positive role in enhancing reading comprehension skills.

10- (Mufleh, 2005)

This study aimed at identifying the impact of using cooperative learning in developing some reading comprehension skills among first year secondary students. The researcher used the descriptive and empirical approach and the study included a reading comprehension test. The study was applied to 58 students who were divided into control and experimental groups in the Saudi city of Ha'il. The study concluded that the reading comprehension skills of the experimental group enhanced if compared to the control group, thus indicating the effectiveness of cooperative learning in enhancing reading comprehension skills.

Table (1) shows the position of the present study in relation to the previous studies of the first element

Table (1): Studies Dealing with Blogs and Position of the Present Study

| Researcher | Study objectives | Area of Specialization | Approach | Stage |
|--------------------------|--|------------------------|-------------------------|--------------|
| (Ebraheem, 2013) | Development of comprehension and trend | Arabic | Empirical | University |
| (Al-Mehdar, 2013) | Enhancing writing skills | Arabic | Quasi-empirical | Secondary |
| (Shi-Jer et al,2013) | Teaching and instilling values | General | Empirical | Elementary |
| (Al-Mazroui, 2012) | Written communication | Arabic | Analytical, descriptive | Intermediate |
| (Al-Misri, 2011) | Learning concepts and trend | Computer | Empirical | Intermediate |
| (Al-Madhouni, 2010) | Learning progress and trend | Education Technology | Empirical | University |
| (Izquierdo, Reyes, 2009) | Enhancing reading level | English | Empirical | University |
| The present study | Enhancing reading comprehension | Arabic | Quasi-empirical | Elementary |

Table (1) shows the following:

- 1- The present study is in agreement with (Ebraheem, 2013, Al-Mazroui, 2013, and Al-Mehdar 2013) as far as Arabic is concerned. It is also in agreement with (JerLou,Others, 2013) as far as elementary stage is concerned and (Al-Mehdar, 2013) as far as the quasi-empirical approach is concerned.
- 2- The present study differs from other studies of the first element in that it dealt with reading comprehension.
- 3- The present study differs from other studies of the first element in that it dealt with the Arabic language in the elementary stage.
- 4- The researcher benefited from all these studies in terms of making an overview and forming a vision whether in respect of building tools, identifying problems, or writing objectives, etc.

If we carefully examine the findings of the previous studies of the first element, we will find that they all confirmed the effectiveness of using blogs in education.

Table (2) shows the position of the present study in relation to the previous studies of the second element.

Studies dealing with enhancing reading comprehension

Table (2)

| Researcher | Independent Variable | Approach | Stage |
|--------------------------|----------------------|---------------------------------|--------------|
| (Al-Haddad, 2013) | Strategy | Empirical | Intermediate |
| (Al-Shihri, 2012) | Reading activity | Quasi-empirical | Elementary |
| (Al-Kindari et al, 2012) | Strategy | Quasi-empirical | University |
| (Abd El-Rahman, 2011) | Strategy | Empirical | Intermediate |
| (Shalaan, 2011) | Mental process | Descriptive and quasi-empirical | Secondary |
| (Abd El-Bari, 2009) | Strategy | Empirical | Intermediate |
| (Hafiz, 2008) | Strategy | Quasi-empirical | Elementary |
| (Lavi, 2007) | Strategy | Quasi-empirical | Elementary |
| (Mousa, 2007) | Software | Descriptive and empirical | Secondary |
| (Mufleh, 2005) | Strategy | Descriptive and quasi-empirical | Secondary |
| The present study | Design pattern | Descriptive and quasi-empirical | Elementary |

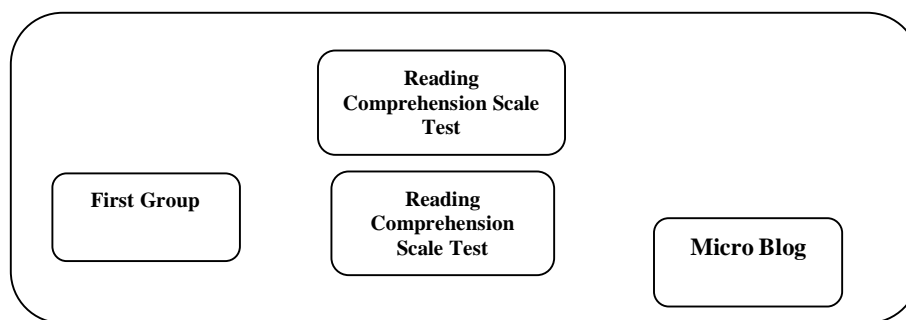
Table (2) shows the following:

- 1- The present study differed from (Abd El-Bari, 2009, Abd El-Rahman, 2011, and Al-Haddad, 2013) as far as the approach is concerned and agreed with (Al-Shihri, 2012, Hafiz, 2008, and Lavi, 2007) as far as the stage is concerned.
- 2- The study differed from other studies in terms of the independent variable which is pattern design of the blog.
- 3- The researcher benefited from all these studies in terms of making an overview and forming a vision whether in respect of building tools, identifying problems, or writing objectives, etc.

Methodology and Procedures of the Study

Section I: Methodology of the Study

This study depends on the quasi-empirical approach as it is the most appropriate approach for the nature of the study and its objectives. This approach is based on pre- and post- test comparative groups selected on a randomly basis. The first experimental group is being educated via using a blog with a micro design pattern while the second group is being educated via using a blog with a detailed design pattern. The researcher designed figure (1) to implement the study.



Section II: Study Population and Sample

The study population includes sixth graders studying at boarding schools in the Saudi city of Dammam. A sample was chosen from regular students for the year 2013-2014 during the second semester at Noor Al Islam Baording School in Dammam.

Method of Choosing the Sample

The sample was chosen in accordance with the following procedures:

- Making a list of boarding elementary boys' schools in the city of Dammam whose number reached 38.
- Qur'an memorization schools and private and international education schools totaling 13 were excluded from the list of boarding schools.
- Specifying schools that are suitable for applying the experiment in liaison with Planning and Development Department and Office of Education in Dammam so as to identify the school's potentiality and preparedness of its management to implement the experiment. Noor Al Islam Boarding School was thus chosen because it is well equipped and the school's management is well prepared to implement the experiment.
- Making a list of the number of sixth graders who go to school on a regular basis. The number totaled 101 pupils.
- The study sample was determined via using the simple and random sample where the numbers were randomly distributed among the students. Odd numbers were selected to represent the first experimental group whose number reached 15 pupils. The micro blog was applied to this group. Even numbers were selected to represent the second experimental group whose number reached 15 pupils. The detailed blog was applied to this group. Accordingly, the study sample covered 30 sixth graders.

Section III: Study Tool and Method of Designing It

First: List of Reading Comprehension Skills

On examining the document of the curricula of Arabic language taught to the elementary stage (Ministry of Education, 1427 AH), it was possible to identify the reading comprehension skills necessary for sixth graders. This document was prepared by experts and specialists in the field of teaching Arabic for the elementary stage and was certified by the competent authorities at the Ministry of Education. The document gave support to the studies carried out by (Al-Shihri, 2012), (Hafiz, 2008), and (Lavi, 2007).

The researcher also presented examples for lists including reading comprehension skills. He found out that this list suits the research objectives best⁴ because it incorporated all reading comprehension levels at both elementary and non-elementary stages. This is to be added to the fact that this list allocated special skills for both creative and appreciative comprehension. The list is arranged as follows:

Literal Comprehension Skills (Direct)

- Placing synonyms in one group
- Determining the meaning of the word as suits the context
- Finding antonyms
- Arranging events and information in a chronological order in the written text
- Recalling details mentioned in the written text

⁴ Based on a study entitled The Effectiveness of a Program Based on Using Reading Activities in Enhancing Reading Comprehension Skills among Sixth Graders and the Trend Towards It by Mohammed Al-Shihri.

Inferential Comprehension Skills

- Inferring the main ideas of the text
- Predicting the writer's purpose from the text
- Linking between cause and result

Critical Comprehension Skills

- Distinguishing between fact and opinion in light of the written text
- Distinguishing between ideas related to the text and those not related to it
- Distinguishing between right and wrong opinions in light of the written text

Appreciative Comprehension Skills

- Identifying the type of emotion dominating the text
- Identifying the words or phrases with beautiful connotations in the text

Creative Comprehension Skills

- Suggesting new solutions to problems contained in the text
- Coming up with new ideas based on previous ideas in light of the written text
- Suggesting a new title for the text

Reliability and Validity of List of Reading Comprehension Skills

The researcher has verified the reliability and validity of this tool on the basis of the procedures stated in the study carried out by (Al-Shihri, 2012). The list was presented to a group of 30 arbitrators who are specialized in curricula and teaching methods. The percentage was calculated. The skills that were presented to the arbitrators received 80% of their approval while other skills that received less than this were excluded. The validity of the list was confirmed by calculating the percentage of agreement between arbitrators of the list of reading comprehension skills. In order to do this the Cooper equation was applied to calculate the percentage of the arbitrators' agreement. The percentage of agreement over reading comprehension skills was high at some levels: (91%) for literal comprehension, (85%) for inferential comprehension (81%) for critical comprehension, (79%) for appreciative comprehension, and (82%) for creative comprehension. The average total reached 84%.

In this way, an answer has been provided to the first question of the research which states: What are the skills that enhance reading comprehension among sixth graders?

Second: Reading Comprehension Test

The test here aims at measuring the already identified reading comprehension skills whose number amounts to sixteen skills distributed to the five levels of reading comprehension. They were formulated on the basis of objective questions. The MCQ was selected from among these questions. The following criteria were taken into account upon making these questions:

- Ensuring linguistic integrity of the question
- There must be only one correct answer while other choices are wrong
- The paragraphs of each answer to a question must not be less than four
- Answers were randomly distributed so that the pupil may not answer on the basis of guesswork.

a- Face Validity

The initial shape of the test was presented to a group of arbitrators specialized in curricula and teaching methods (Appendix 2), a number of teachers who teach reading and supervisors so as to evaluate the test and its applicability. They were requested to state their opinions over the test in terms of:

- Suitability of the test measuring the specific skills
- Correctness of the choices which represent correct answers
- Clarity of the linguistic structure of the question

When the arbitrators were requested to advance the suggestions which they deem appropriate, they passed the following remarks:

Replacing the Arabic word *ma ada* (i.e. excluding) with the word *liysaminha* (i.e. not including) in Question 6. In Question 12 it was noticed that the topic contains two rather than one conjunction.

The arbitrators also requested replacing the substitutes in Question 10 due to ambiguity. These remarks were taken into account upon making the final shape of the test (Appendix 3)

b- Validity and Reliability of the Test

The internal consistency (IC) of the test was measured by using the *Kuder and Richardson Formula 20 (KR-20)*. This type of validity is both an index of reliability and validity at the same time. The Formula provides: (Obydat, 1988 AD, p. 183):

$$r = \frac{n a^2 - m (n - m)}{a^2 (n - 1)}$$

Where:

r = internal consistency coefficient

m = average grades of students

n = number of test sections

a^2 = variance of students' grades

On applying the Formula, it became clear that the $KR-20 = 76.4$ which is a high value indicating the test is valid for civil application.

c- Identifying the Discrimination Coefficient

The discrimination coefficient refers to the item's ability to discriminate between higher and lower groups. This means that the item is valid in terms of achieving its function of measuring, i.e. to precisely discriminate between excellent and weak students. The discrimination coefficient has been calculated in accordance with the following equation:

$$\text{Coefficient Discrimination} = \frac{(\text{number of correct answers in the section of higher group}) - (\text{number of correct answers in the section of lower group})}{\text{Number of individuals of either group}}$$

Having calculated the discrimination coefficient, the results are as shown in the following table.

Table (3): Discrimination Coefficient for Reading Comprehension Skills Test Questions

| Question No. | Higher Group | Lower Group | Discrimination Coefficient | Question No. | Higher Group | Lower Group | Discrimination Coefficient |
|--------------|--------------|-------------|----------------------------|--------------|--------------|-------------|----------------------------|
| 1 | 4 | 3 | 0.42 | 9 | 4 | 3 | 0.49 |
| 2 | 5 | 2 | 0.51 | 10 | 4 | 3 | 0.48 |
| 3 | 4 | 3 | 0.40 | 11 | 4 | 3 | 0.50 |
| 4 | 3 | 4 | 0.48 | 12 | 5 | 2 | 0.42 |
| 5 | 3 | 4 | 0.65 | 13 | 5 | 2 | 0.48 |
| 6 | 5 | 2 | 0.63 | 14 | 5 | 2 | 0.50 |
| 7 | 5 | 2 | 0.49 | 15 | 5 | 2 | 0.61 |
| 8 | 4 | 3 | 0.58 | 16 | 5 | 2 | 0.63 |

From Table (3), it is made clear that the discrimination coefficients of the test sections ranges between (0.40 to 0.63), which are all values indicating that the test is characterized by a higher degree of discrimination.

The researcher also used the *Kolmogorov-Smirnov* test (K-S test) to ensure the normal distribution of data.

It also became clear that value of $Z = 0.828$ while the significance level stood at 0.499 which is bigger than 0.05, which means that the grades of the students are subject to normal distribution.

In order to confirm parity between the two groups, the researcher applied the t-test to individual samples. The following table illustrates the results:

Table (4): Degrees of Parity for the Mean Scores of Students of the First and Second Experimental Groups in Respect of the Pre-Application of the Different Levels of Reading Comprehension Skills Test and the Maximum Grades Thereof

| Dimensions of Reading Comprehension Skills | Group | Number of Students | Mean Scores | Standard Deviation | T-Value | Degrees of Freedom | Significance Level |
|---|--------------|--------------------|-------------|--------------------|---------|--------------------|--------------------------|
| Literal Comprehension | First Group | 15 | 2.267 | 0.704 | 1.033 | 28 | 0.310 No significance |
| | Second Group | 15 | 1.933 | 1.033 | | | |
| Inferential Comprehension | First Group | 15 | 1.600 | 1.056 | -0.648 | 28 | 0.522 No significance |
| | Second Group | 15 | 1.800 | 0.775 | | | |
| Critical Comprehension | First Group | 15 | 1.400 | 0.828 | -1.538 | 28 | 0.135 No significance |
| | Second Group | 15 | 1.867 | 0.834 | | | |
| Appreciative Comprehension | First Group | 15 | 1.000 | 0.655 | 0.000 | 28 | 1.000 No significance |
| | Second Group | 15 | 1.133 | 0.834 | | | |
| Creative Comprehension | First Group | 15 | 1.600 | 1.632 | 1.138 | 28 | 0.265 No significance |
| | Second Group | 15 | 1.133 | 1.834 | | | |
| Maximum Grade of Reading Comprehension Test | First Group | 15 | 7.867 | 1.302 | 0.271 | 28 | 0.788 No significance |
| | Second Group | 15 | 7.867 | 1.685 | | | |

Based on Table (4), it becomes clear that there are no differences of statistical significance at significance level (0.05) between the first and the second experimental groups regarding the dimensions of (literal comprehension, inferential comprehension, critical comprehension, appreciative comprehension, and creative comprehension) where the significance levels reached (0.310, 0.522, 0.135, 1.00, and 0.265). The significance level of the maximum grade of the reading comprehension test reached (0.788), thus indicating parity between the two groups in regard to the pre-application of the reading comprehension skills test. Therefore, the experiment can be applied to the two groups.

d- Pilot Test

In addition to the experimental samples, a pilot test was experimented on a sample consisting of 27 pupils. The experiment set the suitable time for the test which was calculated by the average length of time on the basis of the following equation:

Amount of time the first student takes to finish the test + Amount of time the last student takes to finish the test

$$\frac{2}{(20) + (50)} = 35 \text{ minutes}$$

The result came like this:

On application of the equation, the test time was set at 35 minutes plus 5 minutes for reading the test instructions. There were no inquiries regarding the test instructions, thus indicating that they were clear.

e- Marking Clue

A clue was designed for marking the test questions. The clue included the targeted skills, number of the question that measures these skills along with the model answer. One mark was allocated to each of the 16 questions. (Appendix 4)

• Preparing the Instructional Design of the Proposed e-Blog

There is a variety of designs that could be applied to the educational blog. In view of this fact, the researcher reviewed a set of models pertaining to the instructional design as well as a number of literatures and studies relating thereto (Hassan, 2012), (Al-Gazzar& El-Sayyed, 2009), (Al-Madhouni, 2010), (Al-Mihdar, 2013), and (Herlo, 2013). The ADDIL⁵ model, being the general instructional design model, was selected. The five phases of this model were applied: (Analysis, Design, Development, Implementation, and Evaluation) (Herlo, 2013). The researcher designed the model as shown in Figure (2):

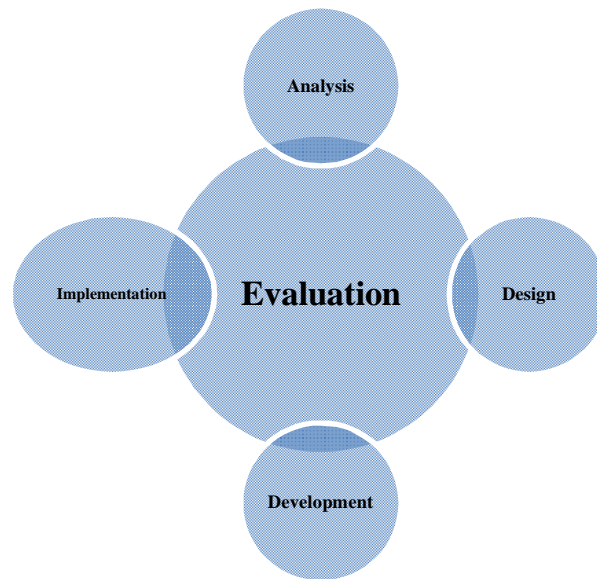


Figure (2): General Instructional Design Model (ADDIL)

The blog aims at achieving the general objective of enhancing reading comprehension skills among sixth graders. It includes the following objectives:

- 1- Enhancing sixth graders' literal comprehension skills
- 2- Enhancing sixth graders' inferential comprehension skills
- 3- Enhancing sixth graders' appreciative comprehension skills
- 4- Enhancing sixth graders' critical comprehension skills
- 5- Enhancing sixth graders' creative comprehension skills

3- Analyzing Learners' Characteristics

These characteristics refer to the factors common to learners whether as groups or individuals (Kemp, 1985). Late childhood (6-12) is defined as "the stage of gaining mastery of linguistic skills and experiences as well as pre-acquired mental movements. In this way, the child moves gradually from the playhood stage to the mastery stage. In this stage, the child has few problems yet is full of energy. He is inclined to realism and objectivism (Ahmed, 2002, p.110). The following discussion will be limited to the growth characteristics necessary for developing reading comprehension skills. These characteristics include:

Sensational Growth

A child's capability of intentional control increases as he starts to use all his senses which reach their functional peak during that period. This helps him read and write for longer periods and work with greater concentration (Eweis, 2003).

⁵ ADDIL stands for Analysis, Design, Development, Implementation, and Evaluation.

The blog is designed in a manner that ensures fulfillment of the requirements of sensational growth through using audio-visual means and choosing colors that help the pupil read for a long time.

Mental Growth

At this stage when the he turns nine, the child is characterized by curiosity and asking too many questions to which he insists on having answers. He also becomes capable of thinking in a logical way and linking reasons to results. Besides, all his mental faculties, including the ability to remember, observe, think, and imagine, are well developed (Ahmed, 2002).

The blog is designed in a manner that ensures fulfillment of the requirements of mental growth through asking questions that allows the pupil to think, criticize, discuss, and dialogue.

Emotional Growth

At this stage, the child is characterized by having few problems and less emotionality if compared to the first stage. This is to be added to his inclination to explore, know and pay attention to the external world. Gesell believes that at the age of 11 the child develops an increasing desire to meet and compete with his peers (Ahmed, 2002).

The components of the blog include a page that detects the progress of each pupil. Besides, enrichment links were added to the blog so as to achieve the characteristics of emotional growth at this stage.

Social Growth

One of the main features of social growth during this stage is the attitude the child develops towards the surrounding environment which includes customs, traditions and etiquettes of dealing with others. The comparison he draws between himself and others and his love of competition and jealousy motivate him to enter into controversial discussions (Ahmed, 2002).

Through this blog, the researcher has given consideration to achieving the requirements of social growth at this stage by creating a collaborative environment within which all pupils can see each other's replies and link them to social networking websites.

Linguistic Growth

At this stage the child can distinguish between synonyms and find antonyms. He can also identify verbs denoting mental activity like the verb "understand" and others denoting movement. He reads to understand and can express his main ideas and tends to read silently. At this stage he can also write a descriptive subject (Eweis, 2003).

The blog was designed in a manner that gives consideration to characteristics of linguistic growth through encouraging the students to use classical Arabic in their dialogues and discussions and to motivate them to concentrate on enrichment reading.

Second: Design Stage

This stage includes:

1- Designing Procedural Objectives

Based on the general objective of the study and the list of reading comprehension skills and with particular focus on learners' characteristics, the instructional objectives of this stage were identified. These objectives were divided into three dialogic sessions, each lasting one hour. Each session is expected to achieve five skill goals, including at least one goal of the higher levels of comprehension on the basis of discussion. These sessions are as follows:

First Session

- Classifying synonyms into groups
- Determining the meaning of the word as suits the context
- Finding antonyms
- Inferring the main ideas of the text
- Identifying the words or phrases with beautiful connotations in the text

Second Session

- Recalling details mentioned explicitly in the written text

- Arranging events and information in a chronological order in the written text
- Predicting the writer's purpose from the text
- Linking between cause and result
- Distinguishing between fact and opinion in light of the written text

Third Session

- Distinguishing between ideas related to the text and those not related to it
- Distinguishing between right and wrong opinions in light of the written text
- Identifying the type of emotion dominating the text
- Suggesting new solutions to problems contained in the text
- Coming up with new ideas based on previous ideas in light of the written text
- Suggesting a new title for the text

1- Defining the Educational Strategy

Having reviewed the writings dealing with strategies of enhancing reading comprehension (Abd El-Ghani, 2012), (Al-Haddad, 2013), and (Adler, 2012) as well as the studies dealing with application of some of such strategies within the e-Learning environment (Al-Sharqawai & Abd El-Razzaq, 2009), the researcher preferred to use the Discussion and Dialogue Strategy as a means through which reading comprehension can be enhanced. At first, the pupils were instructed to read the general aims of the lesson and read an article that specifies the main topic. During an hour of each day, the pupils are asked questions about the topic to which they provide answers and post comments. The blog supervisor responds to their answers, provides guidelines to them, and asks questions that both stimulate their thinking and have them interact with them by posting their comments. The blog has been supported with enrichment links and book summaries. The researcher exploited these comments and expressive images for reinforcement. The researcher has also attached to the blog a record link so as to show case the grades earned by each pupil as a token of encouraging the pupils to compete. He has also added the "like feature" and linked it to social networking websites.

2- Preparing the Scenario

The researcher started the preparation stages by making paper design and an initial sketch of the blog in which he defined the blog components, divisions, main lists and links as follows:

- Main Title of the Blog: The name chosen by the researcher for the blog (Awareness School)
- Pages: Three pages on top of the blog
 - Main page which includes the topic of discussion
 - Objectives page which includes the major objectives of each discussion session
 - Read Me Page which includes instructions and conversation rules and it also includes user's guide
 - Help Me Page which dedicated to problems and inquiries that are directly related to the topic of discussion
- Discussion Sessions: (Entries) Topics that are dated and arranged in a reverse order from newest to oldest
- Useful Links: Links to permanent titles which are called bookmark. These includes:
 - 1- Arabic dictionaries websites
 - 2- Wikipedia
 - 3- Detector: A link to a page that shows the progress achieved by each pupil
- Comments: The opinions written by the blog readers during the Discussion Session and replies given by the blogger.
- Archive: A record of older entries which allows readers to access older posts easily.
- Search Engine: Blogs offer the opportunity to search for a certain topic within their contents.

At this point, an answer has been provided to the second question of the research which states: What are the components of the educational blog used to improve reading comprehension skills among sixth graders

3- Choice of Multimedia

The blog contains an image illustrating the lesson and a video link tackling the same topic. It also contains links to Arabic dictionaries websites, Wikipedia and other enrichment links.

4- Defining the Formative Evaluation of the Design

Having completed preparation of the scenario relating to distribution of the blog elements and defining its components, the same was revised by the researcher in order to ensure the existence of the essential components and their distribution.

Third: Development Stage

Having completed the analysis and design stages and preparation of scenario, the researcher created the educational blog relating to enhancing reading comprehension skills.

1- Implementation of Scenario and Creation of the Blog:

The blog was created as follows

In order to create the blog, the researcher used a number of programs starting with content management system using Word Press through which the paper design was turned into an electronic blog. The Word Press was selected as one of the most famous among other content management systems whether in terms its technical support or its flexibility and circulation. The researcher also used software⁶ that regulates the number of characters used in comments. The researcher also used the Photoshop program to process images and drawings and Microsoft Word 2007 to write and edit texts. Moreover, the researcher benefited from Google Drive service so as to draw up a statement including the pupils' names and allows comments thereon.

2- Formative Evaluation of the Blog:

The researcher presented the blog to arbitrators with expertise in education technologies (Appendix 5) so as to have it improved and developed. The researcher also aimed at benefiting from their instructions and carry out the amendments which they deem appropriate. These amendments included the necessity to enlarge the font so as to suit the characteristics of the age group and decreasing the number of colors used in the texts. The amendments approved by the arbitrators were implemented.

The blog was also experimented on a pilot sample consisting of five pupils with the aim of ensuring that it contains no errors. There was a problem with video clips because the protection system in the school's network denies some links access to YouTube. This error was corrected by changing the link.

Fourth: Implementation Stage:

At this stage, the researcher confirmed the blog's readiness for action by attempting to browse it using different browsers. The electronic blog was published (Appendix 5) after choosing Bluehost.com to provide the paid hosting service. The researcher was keen to choose an easily memorized and recalled URL which refers to the scientific content of the blog. The URL is as follows:

For micro pattern: www.Ar1435.com/1

For detailed pattern: www.Ar1435.com/2

Fifth: Evaluation Stage

Having applied the two patterns of the blog to the pupils and analyzed the study findings, its effectiveness in enhancing reading comprehension skills was identified. We will discuss this later upon explanation of the findings.

Section IV: Procedures of Applying the Study Experiment

The procedures of applying the study started on Thursday 10 Jumada Al-Akhirah 1435 AH. The school's computer lab tutor was asked to attend a preliminary session with pupils of the experimental group to acquaint them with the present research, characteristics of the educational blog, how to use and interact with it, the terms related thereto, how to write and post comments. All this was displayed on a Data Show.

The researcher activated the blog site through using one of the computers at the lab which was connected to the internet. He familiarized the pupils with the components of the blog and how to log in to it. When the researcher wanted to make sure that every pupil each and every pupil has an e-mail, he found out that all students have official e-mails which were provided to him.

⁶Greg's Comment Length Limiter

The researcher pointed out that having access to and participating in the blog is possible from home or school through using a desktop computer or tablet device.

The researcher also referred to the Detector Page (Grade Detection Page) and that grades are given on the basis of sharing, hard-work, interaction, using suitable language and giving consideration to the etiquettes of discussion. This page showcases the pupils' grades as well as those of their colleagues, in addition to the comments and instructions which the researcher puts next to each grade.

Study Findings and Explanation Thereof

Preamble

In this section the researcher presents the findings of analyzing the study data he arrived at by applying the study tool in addition to discussing and explaining, and comparing such findings with those of other previous studies.

Presentation of Research Findings

Checking the Validity of the First Secondary Hypothesis

The first secondary hypothesis provides:

There are no differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the first experimental group (micro pattern) in respect of the pre- and post-application of reading comprehension skills.

In order to check the validity of the first hypothesis and know whether there are differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the first experimental group (micro pattern) in respect of the pre- and post-application of reading comprehension skills, the researcher used the paired sample t-test. The results came as shown in Table (5):

Table (5): Significance of Differences between the Mean Scores of the First Experimental Group (Micro Pattern) in Respect of the Pre- and Post-Application of the Reading Comprehension Skills Test as Per the Specified Levels and the Maximum Grade of the Test

| Levels of Reading Comprehension Skills | First Experiment (Micro Pattern) | Number of Pupils | Mean Scores | Standard Deviation | T-Value | Degrees of Freedom | Significance Level |
|---|----------------------------------|------------------|-------------|--------------------|---------|--------------------|------------------------|
| Literal Comprehension | Pre-Application | 15 | 2.267 | 0.704 | -6.548 | 14 | 0.000** Significant |
| | Post-Application | | 3.666 | .723750 | | | |
| Inferential Comprehension | Pre-Application | 15 | 1.600 | 1.056 | -4.026 | 14 | 0.001* Significant |
| | Post-Application | | 2.466 | .639940 | | | |
| Critical Comprehension | Pre-Application | 15 | 1.400 | 0.828 | -4.036 | 14 | 0.001* Significant |
| | Post-Application | | 2.133 | .743220 | | | |
| Appreciative Comprehension | Pre-Application | 15 | 1.000 | 0.655 | -3.154 | 14 | 0.007** Significant |
| | Post-Application | | 1.600 | 0.507 | | | |
| Creative Comprehension | Pre-Application | 15 | 1.600 | 0.632 | -4.583 | 14 | 0.000** Significant |
| | Post-Application | | 2.400 | 0.507 | | | |
| Maximum Grade of Reading Comprehension Test | Pre-Application | 15 | 7.867 | 1.302 | -14.402 | 14 | 0.000** Significant |
| | Post-Application | | 12.2667 | 1.03280 | | | |

* Significant at Level (0.05)

**No significance at Level (0.01)

Based on the table above, it becomes clear that post-application pupils surpass pre-application pupils in the first experiment in relation to literal comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (3.666) whereas the mean scores of the pre-application pupils stood at (2.267) at a degree of freedom equaling (14). It is also clear that the significance level is (0.00), which is a value of statistical significance at significance level (0.01) and less.

This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the first experimental group in respect of literal comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the micro pattern experiment has an effect on enhancing the literal comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to inferential comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (2.466) whereas the mean scores of the pre-application pupils stood at (1.600) at a degree of freedom equaling (14). It is also clear that the significance level is (0.001), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the first experimental group in respect of inferential comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the micro pattern experiment has an effect on enhancing the inferential comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to critical comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (2.133) whereas the mean scores of the pre-application pupils stood at (1.400) at a degree of freedom equaling (14). It is also clear that the significance level is (0.001), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the first experimental group in respect of critical comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the micro pattern experiment has an effect on enhancing the critical comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to appreciative comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (1.600) whereas the mean scores of the pre-application pupils stood at (1.000) at a degree of freedom equaling (14). It is also clear that the significance level is (0.007), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the first experimental group in respect of appreciative comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the micro pattern experiment has an effect on enhancing the appreciative comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to creative comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (2.400) whereas the mean scores of the pre-application pupils stood at (1.600) at a degree of freedom equaling (14). It is also clear that the significance level is (0.001), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the first experimental group in respect of creative comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the micro pattern experiment has an effect on enhancing the creative comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to the maximum grade of the reading comprehension skills. The mean scores of the post-application pupils reached (12.166) whereas the mean scores of the pre-application pupils stood at (7.867) at a degree of freedom equaling (14). It is also clear that the significance level is (0.00), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the first experimental group in respect of the maximum grade of the reading comprehension skills favoring the post-application pupils. Accordingly, it becomes clear that the micro pattern experiment has an effect on enhancing all the reading comprehension skills among pupils who are covered by the study sample.

In order to identify how effective the micro pattern is in enhancing the pupils' skills based on the reading comprehension test, the researcher used the modified Black's Gain Ratio which provides:

$$\text{Modified Black's Gain Ratio} = (Y - X)/(D - X) + (Y - X)/D$$

Where:

Y = grade of post-test

X = grade of pre-test

D = test maximum grade

(Al-Mehrzi,2003,154)

On application of the Ratio, it was clear that the pupils' values of modified gain relative to the post-application reached 1.37, which value is greater than 1.2, this being the range defined by Black to prove the effectiveness of training programs. This indicates that the micro pattern is effective in enhancing the pupils' skills relative to the reading comprehension test.

Accordingly, the first hypothesis is proved faulty and the alternative hypothesis is accepted i.e. there are differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of pupils of the second experimental group (micro pattern) with respect to pre- and post-application of reading comprehension skills favoring the post-application.

Checking the Validity of the First Secondary Hypothesis

The second hypothesis provides

There are no differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the second experimental group (detailed pattern) in respect of the pre- and post-application of reading comprehension skills.

In order to check the validity of the second hypothesis and know whether there are differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the second experimental group (detailed pattern) in respect of the pre- and post-application of reading comprehension skills, the researcher used the paired sample t-test. The results came as shown in Table (6):

Table (6): Significance of Differences between the Mean Scores of the Second Experimental Group (Detailed Pattern) in Respect of the Pre- and Post-Application of the Reading Comprehension Skills Test as Per the Specified Levels and the Maximum Grade of the Test

| Levels of Reading Comprehension Skills | First Experiment (Micro Pattern) | Number of Pupils | Mean Scores | Standard Deviation | T-Value | Degrees of Freedom | Significance Level |
|---|----------------------------------|------------------|-------------|--------------------|---------|--------------------|------------------------|
| Literal Comprehension | Pre-Application | 15 | 1.933 | 1.033 | -1.702 | 14 | 0.021* Significant |
| | Post-Application | | 2.867 | 1.060 | | | |
| Inferential Comprehension | Pre-Application | 15 | 1.800 | 0.775 | -1.964 | 14 | 0.038* Significant |
| | Post-Application | | 2.400 | 0.737 | | | |
| Critical Comprehension | Pre-Application | 15 | 1.867 | 0.834 | -3.595 | 14 | 0.003** Significant |
| | Post-Application | | 2.667 | 0.488 | | | |
| Appreciative Comprehension | Pre-Application | 15 | 1.133 | 0.834 | -1.871 | 14 | 0.009** Significant |
| | Post-Application | | 2.000 | 0.845 | | | |
| Creative Comprehension | Pre-Application | 15 | 1.133 | 0.834 | -4.795 | 14 | 0.000** Significant |
| | Post-Application | | 2.267 | 0.704 | | | |
| Maximum Grade of Reading Comprehension Test | Pre-Application | 15 | 7.867 | 1.685 | -6.614 | 14 | 0.000** Significant |
| | Post-Application | | 12.200 | 1.612 | | | |

* Significant at Level (0.05)

** No significance at Level (0.01)

Based on the table above, it becomes clear that post-application pupils surpass pre-application pupils in the first experiment in relation to literal comprehension skill as part of the reading comprehension test.

The mean scores of the post-application pupils reached (2.867) whereas the mean scores of the pre-application pupils stood at (1.933) at a degree of freedom equaling (14). It is also clear that the significance level is (0.021), which is a value of statistical significance at significance level (0.05) and less. This indicates that there is a difference of statistical significance at Level (0.05) between the mean scores of the second experimental group in respect of literal comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the detailed pattern experiment has an effect on enhancing the literal comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to inferential comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (2.400) whereas the mean scores of the pre-application pupils stood at (1.800) at a degree of freedom equaling (14). It is also clear that the significance level is (0.038), which is a value of statistical significance at significance level (0.05) and less. This indicates that there is a difference of statistical significance at Level (0.05) between the mean scores of the second experimental group in respect of inferential comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the detailed pattern experiment has an effect on enhancing the inferential comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to critical comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (2.667) whereas the mean scores of the pre-application pupils stood at (1.867) at a degree of freedom equaling (14). It is also clear that the significance level is (0.003), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the second experimental group in respect of critical comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the detailed pattern experiment has an effect on enhancing the critical comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to appreciative comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (2.00) whereas the mean scores of the pre-application pupils stood at (1.133) at a degree of freedom equaling (14). It is also clear that the significance level is (0.009), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the second experimental group in respect of appreciative comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the detailed pattern experiment has an effect on enhancing the appreciative comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to creative comprehension skill as part of the reading comprehension test. The mean scores of the post-application pupils reached (2.267) whereas the mean scores of the pre-application pupils stood at (1.133) at a degree of freedom equaling (14). It is also clear that the significance level is (0.001), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the second experimental group in respect of creative comprehension as part of the reading comprehension test favoring the post-application pupils. Accordingly, it becomes clear that the detailed pattern experiment has an effect on enhancing the creative comprehension skill in the reading comprehension skills test among pupils who are covered by the study sample.

It is also clear that post-application pupils surpass pre-application pupils in the first experiment in relation to the maximum grade of the reading comprehension skills. The mean scores of the post-application pupils reached (12.200) whereas the mean scores of the pre-application pupils stood at (7.867) at a degree of freedom equaling (14). It is also clear that the significance level is (0.00), which is a value of statistical significance at significance level (0.01) and less. This indicates that there is a difference of statistical significance at Level (0.01) between the mean scores of the second experimental group in respect of the maximum grade of the reading comprehension skills favoring the post-application pupils. Accordingly, it becomes clear that the detailed pattern experiment has an effect on enhancing all the reading comprehension skills among pupils who are covered by the study sample.

In order to identify how effective the detailed pattern is in enhancing the pupils' skills based on the reading comprehension test, the researcher used the modified Black's Gain Ratio which provides:

$$\text{Modified Black's Gain Ratio} = (Y - X)/(D - X) + (Y - X)/D$$

Where:

Y = grade of post-test

X = grade of pre-test

D = test maximum grade

On application of the Ratio, it was clear that the pupils' values of modified gain relative to the post-application reached 1.41, which value is greater than 1.2, this being the range defined by Black to prove the effectiveness of training programs. This indicates that the detailed pattern is effective in enhancing the pupils' skills relative to the reading comprehension test.

Accordingly, the second hypothesis is proved faulty and the alternative hypothesis is accepted i.e. there are differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of pupils of the second experimental group (detailed pattern) with respect to pre- and post-application of reading comprehension skills favoring the post-application.

Based on the foregoing, it becomes clear that the educational blog has a positive effect on developing the pupils' abilities to enhance the reading comprehension skills in particular. The researcher explains this result by stating that the educational blog has proved effective in many studies and researchers. It offers many advantages to the educational process including the motivation to make achievements. This is because the students' main purpose of reading is not just limited to obtaining grades. Rather, they have a desire to be admired by their colleagues and teachers and readers of the vast space of the internet. This is to be added to allowing students the opportunity to exchange comments, conversations, and discussions with their teachers. Furthermore, the educational blog has the ability to employ many of the teaching aides such as audio-visual means, multiplicity of knowledge and thinking sources as a result of allowing the pupil to have access to different websites which are linked to the topic of study. This study is in agreement with the conclusions arrived at by many other studies which stressed the usefulness of the two types of the educational blog (micro and detailed) in the educational process. One such study was carried out by Ebraheem2013 which concluded that the experimental group improved their comprehension of the Arabic language, which indicates the effectiveness of the blog in enhancing comprehension.

This study is also in harmony with the study carried out by (Shi-Jer Lou et al, 2013) which concluded that the educational blog plays a vital in teaching and instilling values into students. It is also in agreement with the study carried by (Al-Mehdar, 2011) which concluded that blogs play a role in enhancing writing skills. It is also in line with the study carried by (Al-Misri, 2011) which concluded that educational blogs play an effective role in promoting comprehension and enhancing students' trends towards the subject. It is also in agreement with the study carried out by (Al-Madhouni, 2011) which concluded that blogs play an effective role in enhancing academic attainment and trend. It is also in agreement with the study carried out (Izquierdo, Reyes, 2009) which concluded that blogs have an effect on acquiring new vocabulary.

In this way, an answer has been provided to the third question of the research which states: How effective is the use of the design pattern of the educational blog (micro/detailed) in enhancing reading comprehension skills?

Checking the Validity of the Third Hypothesis

The third hypothesis provides

There are no differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the first experimental group (micro pattern) and the mean scores of the second experimental group (detailed pattern) in respect of the post-test of reading comprehension skills. In order to check the validity of the third hypothesis and know whether there are differences of statistical significance at Level $\alpha \leq 0.05$ between the mean scores of the first experimental group (micro pattern) and the mean scores of the second experimental group (detailed pattern) in respect of the post-application of reading comprehension skills.

Table (6): Significance of Differences between the Mean Scores of the First Experimental Pupils (Micro Pattern) and the Second Experimental Pupils (Detailed Pattern) in Respect of the Pre- and Post-Application of the Reading Comprehension Skills Test as Per the Specified Levels and the Maximum Grade of the Test

| Levels of Reading Comprehension Skills | Sample | Number of Pupils | Mean Scores | Standard Deviation | T-Value | Degrees of Freedom | Significance Level |
|---|---|------------------|-------------|--------------------|---------|--------------------|--------------------------|
| Literal Comprehension | First experimental pupils (micro pattern) | 15 | 3.666 | .7230 | 2.914 | 28 | 0.107 No significance |
| | Second experimental pupils (detailed pattern) | 15 | 2.867 | 1.060 | | | |
| Inferential Comprehension | First experimental pupils (micro pattern) | 15 | 2.466 | .6390 | -1.009 | 28 | 0.322 No significance |
| | Second experimental pupils (detailed pattern) | 15 | 2.400 | 0.737 | | | |
| Critical Comprehension | First experimental pupils (micro pattern) | 15 | 2.133 | .7430 | -1.479 | 28 | 0.150 No significance |
| | Second experimental pupils (detailed pattern) | 15 | 2.667 | 0.488 | | | |
| Appreciative Comprehension | First experimental pupils (micro pattern) | 15 | 1.600 | .5070 | -1.122 | 28 | 0.271 No significance |
| | Second experimental pupils (detailed pattern) | 15 | 2.000 | 0.845 | | | |
| Creative Comprehension | First experimental pupils (micro pattern) | 15 | 2.400 | .5070 | -1.143 | 28 | 0.263 No significance |
| | Second experimental pupils (detailed pattern) | 15 | 2.267 | 0.704 | | | |
| Maximum Grade of Reading Comprehension Test | First experimental pupils (micro pattern) | 15 | 12.266 | 1.032 | -.113 | 28 | 0.911 No significance |
| | Second experimental pupils (detailed pattern) | 15 | 12.200 | 1.612 | | | |

Based on the table above, it becomes clear that the grades of the first group pupils (micro pattern) approximate to those of the second group pupils (detailed pattern) with respect to the post-application of the literal comprehension skill as part of the reading comprehension skills test. The mean scores of the first group pupils reached (3.666) whereas the mean scores of the second group pupils stood at (2.867) at a degree of freedom equaling (28). It is also clear that the significance level is (0.107), which is a value of no statistical significance. This indicates that there is no difference of statistical significance at Level (0.05) between the mean scores of the first experimental group (micro pattern) and the second experimental group (detailed pattern) in respect of literal comprehension as part of the reading comprehension test.

It is also clear that the grades of the first group pupils (micro pattern) approximate to those of the second group pupils (detailed pattern) with respect to the post-application of the inferential comprehension skill as part of the reading comprehension skills test. The mean scores of the first group pupils reached (2.466) whereas the mean scores of the second group pupils stood at (2.400) at a degree of freedom equaling (28). It is also clear that the significance level is (0.322), which is a value of no statistical significance. This indicates that there is no difference of statistical significance at Level (0.05) between the mean scores of the first experimental group (micro pattern) and the second experimental group (detailed pattern) in respect of inferential comprehension as part of the reading comprehension test.

It is also clear that the grades of the first group pupils (micro pattern) approximate to those of the second group pupils (detailed pattern) with respect to the post-application of the critical comprehension skill as part of the reading comprehension skills test. The mean scores of the first group pupils reached (2.133) whereas the mean scores of the second group pupils stood at (2.667) at a degree of freedom equaling (28). It is also clear that the significance level is (0.15), which is a value of no statistical significance. This indicates that there is no difference of statistical significance at Level (0.05) between the mean scores of the first experimental group (micro pattern) and the second experimental group (detailed pattern) in respect of critical comprehension as part of the reading comprehension test.

It is also clear that the grades of the first group pupils (micro pattern) approximate to those of the second group pupils (detailed pattern) with respect to the post-application of the appreciative comprehension skill as part of the reading comprehension skills test. The mean scores of the first group pupils reached (1.600) whereas the mean scores of the second group pupils stood at (2.000) at a degree of freedom equaling (28). It is also clear that the significance level is (0.271), which is a value of no statistical significance. This indicates that there is no difference of statistical significance at Level (0.05) between the mean scores of the first experimental group (micro pattern) and the second experimental group (detailed pattern) in respect of appreciative comprehension as part of the reading comprehension test.

It is also clear that the grades of the first group pupils (micro pattern) approximate to those of the second group pupils (detailed pattern) with respect to the post-application of all reading comprehension skills. The mean scores of the first group pupils reached (12.266) at a degree of freedom (28) whereas the mean scores of the second group pupils stood at (12.200) at a degree of freedom equaling (28). It is also clear that the significance level is (0.911), which is a value of no statistical significance. This indicates that there is no difference of statistical significance at Level (0.05) between the mean scores of the first experimental group (micro pattern) and the second experimental group (detailed pattern) with respect to all reading comprehension skills. Accordingly, the third hypothesis is proved valid and is completely accepted.

Based on the forgoing, it becomes clear that there are no differences in the mean scores of the pupils of the two groups regarding the post-application. The researcher explains this result by stating that both groups of post-application were taught by using the micro and detailed patterns. The two experiments are carried out on one and the same scientific basis. Therefore, the pupils' grades are close to each other without the existence of any differences of statistical significance in the level of the students' grades with respect to the two experiments.

Study Recommendations

- 1- The researchers recommend using the educational blogs because they have proved effective in enhancing the pupils' reading comprehension skills.
- 2- Adopting training programs necessary for teachers which contribute to increasing their teaching skills through using the educational blogs.

- 3- Benefiting from researches and studies that were carried out regarding the effectiveness of the educational blog in the educational process.
- 4- Paying attention to the number of pupils in the early stages of the educational process and developing the skills of dealing with information technology.
- 5- Providing an educational environment that suits the pupils and helps them deal with modern technologies in education.

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