The Effects of Using "Think, Write, Pair and Share" Strategy on 10th Graders’ English Writing Skills and Their Lateral Thinking

Ilham Mahmoud Ahmad Abu Ali

M. Sc. Thesis

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The Effects of Using "Think, Write, Pair and Share" Strategy on 10th Graders’ English Writing Skills and Their Lateral Thinking

Prepared By:
Ilham Mahmoud Ahmad Abu Ali

B.A. in English Language and Literature / Bethlehem University - Palestine

Supervisor: Dr. Ghassan Sirhan

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Thesis Approval

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Prepared By: Ilham Mahmoud Ahmad Abu Ali
Registration number: 21311920

Supervisor: Dr. Ghassan Sirhan

Master thesis submitted and accepted, Date: 29 / 5/ 2016, the names and signature of the examining committee members are as follows:

1- Head of Committee  Dr. Ghassan Sirhan  Signature: ……………..
2- Internal Examiner  Dr. Bu'ad Khales  Signature: ……………..
3- External Examiner  Dr. Hasan Hamad  Signature: ……………….

Jerusalem – Palestine

1437-2016
Dedication

I would like to dedicate my work to:

- My parents for their endless love, support, tolerance and encouragement throughout my life. Thank you both for giving me strength to reach the stars and chase my dream ...

- My lovely husband who was patient and tolerant during my study. You deserve my whole hearted thank, and I believe that my success is owed to you ...

- My sons, Ayham and Adam who were the inspiration behind this thesis.

- The greatest gift I ever had came from God, my lovely daughter Zaina.

- My brothers, sisters and in laws for their help, assistance and love. A special feeling of gratitude to you ...

- To the greatest friend and Brother Akram Radaydeh.

- My supervisor Dr. Ghassan Sirhan for his guidance and support throughout my study, especially for his confidence in me. I learned from your insight a lot ...

- Faculty of Graduate Study at Al-Quds University in general and to all instructors in the Faculty of Educational Sciences in particular ...

- All my friends and colleagues, especially Maisa and Maha for their understanding, love, and encouragement. Your friendship makes my life a wonderful experience ...

Thank God, for always being there for me ...

Ilham Mahmoud Ahmad Abu Ali
Declaration:

This is to certify that this thesis is for Al-Quds University to achieve the master degree and it's a result of my special research except what the researcher pointed to what occurred, also this didn't offered to any other universities to achieve any other degree else.

Signature: Ilham Abu Ali

Name: Ilham Mahmoud Ahmad Abu Ali

Date: / /
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To all them, I offer my deep respect and gratitude.

Ilham Mahmoud Abu Ali
Abstract

The study aimed at investigating the effects of using “Think, Write, Pair and Share” strategy on 10th graders’ English writing skills and their lateral thinking in Bethlehem district. The study has been applied on a purposive sample of 10th grade students in public schools, in Bethlehem district in the academic year 2015/2016. The sample included (116) students (63 males and 53 females) at AL-Obaidiah Secondary Girls' School and Bethlehem Secondary Boys’ School.

Students were assigned experimental and control groups, the experimental group was taught by using “Think, Write, Pair and Share” strategy and the control group was taught by the traditional method. The researcher has prepared two instruments: A writing rubric and a lateral thinking test. Validity and reliability were established for all instruments. a pre-test and post-test were performed using the writing rubric and the lateral thinking test to measure the effects of using “Think, Write, Pair and Share” strategy. The means and standard deviation, (2 way ANCOVA) test, were used in the study.

The findings of the study showed that there were statistically significant differences in the mean scores of 10th graders’ writing skills in the English language refer to the teaching method in favor of the experimental group. There were no statistically significant differences in the mean scores of 10th graders’ writing skills in the English language due to gender and the interaction between gender and group. There were statistically significant differences in the mean scores of 10th graders’ lateral thinking in English language refer to the teaching method in favor of the experimental group and the interaction between group and gender in favor of females in the experimental group. There were no statistically significant differences in the mean scores of 10th graders’ lateral thinking in the English language due gender.

Based on those findings, training programs should be offered to train teachers on using "Think, Write, Pair and Share" strategy, students should experience such strategy in which they evoke their thinking skills, and more studies should be conducted on different variables and different population.
# Table of Contents

<table>
<thead>
<tr>
<th>Number</th>
<th>Content</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Declaration</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Acknowledgments</td>
<td>ii</td>
</tr>
<tr>
<td></td>
<td>Abstract in English</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td><strong>Chapter One</strong></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Background of the Study</td>
<td>1</td>
</tr>
<tr>
<td>1.2</td>
<td>Statement of the Problem</td>
<td>4</td>
</tr>
<tr>
<td>1.3</td>
<td>Purposes of the Study</td>
<td>4</td>
</tr>
<tr>
<td>1.4</td>
<td>Questions of the Study</td>
<td>4</td>
</tr>
<tr>
<td>1.5</td>
<td>Hypotheses of the Study</td>
<td>4</td>
</tr>
<tr>
<td>1.6</td>
<td>Significance of the Study</td>
<td>5</td>
</tr>
<tr>
<td>1.7</td>
<td>Definitions of Terms</td>
<td>5</td>
</tr>
<tr>
<td>1.8</td>
<td>Limitations of the Study</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Chapter Two: Theoretical Framework and Related Studies</strong></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Literature Review</td>
<td>7</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Writing Skills</td>
<td>7</td>
</tr>
<tr>
<td>2.1.1.1</td>
<td>Writing as a Process</td>
<td>7</td>
</tr>
<tr>
<td>2.1.1.2</td>
<td>Stages of Writing</td>
<td>8</td>
</tr>
<tr>
<td>2.1.1.3</td>
<td>Why Teaching Writing</td>
<td>9</td>
</tr>
<tr>
<td>2.1.1.4</td>
<td>Why Writing is Difficult?</td>
<td>10</td>
</tr>
<tr>
<td>2.1.1.5</td>
<td>Fluency in Writing</td>
<td>10</td>
</tr>
<tr>
<td>2.1.1.6</td>
<td>Writing and Thinking</td>
<td>11</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Think, Write, Pair and Share Strategy</td>
<td>12</td>
</tr>
<tr>
<td>2.1.2.1</td>
<td>Pair Work</td>
<td>14</td>
</tr>
<tr>
<td>2.1.2.2</td>
<td>Group Work</td>
<td>14</td>
</tr>
<tr>
<td>2.1.2.3</td>
<td>The Benefits of Think, Write, Pair and Share Strategy</td>
<td>15</td>
</tr>
<tr>
<td>2.1.3</td>
<td>Lateral Thinking</td>
<td>15</td>
</tr>
<tr>
<td>2.1.3.1</td>
<td>Basic Nature of Lateral Thinking</td>
<td>16</td>
</tr>
<tr>
<td>2.1.3.2</td>
<td>Basic Principles of Lateral Thinking</td>
<td>17</td>
</tr>
<tr>
<td>2.1.3.3</td>
<td>Tools to explore lateral thinking skills to second language learners</td>
<td>17</td>
</tr>
<tr>
<td>2.1.3.4</td>
<td>Lateral thinking and Creativity</td>
<td>19</td>
</tr>
<tr>
<td>2.1.3.5</td>
<td>Learning Through Lateral Thinking</td>
<td>19</td>
</tr>
<tr>
<td>2.2</td>
<td>Related Studies</td>
<td>22</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Previous Studies Related to the &quot;Think, Write, Pair and share&quot; strategy</td>
<td>22</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Previous Studies Related to English writing skills</td>
<td>26</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Previous Studies related to Lateral Thinking</td>
<td>30</td>
</tr>
</tbody>
</table>
### Chapter Three: Methods and Procedures

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Research Method</td>
<td>33</td>
</tr>
<tr>
<td>3.2</td>
<td>Design of the Study</td>
<td>33</td>
</tr>
<tr>
<td>3.3</td>
<td>Population of the Study</td>
<td>33</td>
</tr>
<tr>
<td>3.4</td>
<td>Sample of the Study</td>
<td>33</td>
</tr>
<tr>
<td>3.5</td>
<td>Instruments of the Study</td>
<td>34</td>
</tr>
<tr>
<td>3.5.1</td>
<td>Writing Rubric</td>
<td>34</td>
</tr>
<tr>
<td>3.5.2</td>
<td>Validation of the Rubric</td>
<td>34</td>
</tr>
<tr>
<td>3.5.3</td>
<td>Reliability of the Rubric</td>
<td>34</td>
</tr>
<tr>
<td>3.6</td>
<td>Lateral Thinking Test (LTT)</td>
<td>34</td>
</tr>
<tr>
<td>3.6.1</td>
<td>Validation of the Test</td>
<td>34</td>
</tr>
<tr>
<td>3.6.2</td>
<td>Reliability of the Test</td>
<td>34</td>
</tr>
<tr>
<td>3.7</td>
<td>Preparation of the Teacher’s Guide Activities that Use “Think, Write, Pair and Share” Strategy</td>
<td>35</td>
</tr>
<tr>
<td>3.8</td>
<td>Procedures of the Study</td>
<td>35</td>
</tr>
<tr>
<td>3.9</td>
<td>Variables of the Study</td>
<td>36</td>
</tr>
<tr>
<td>3.9.1</td>
<td>Independent Variables</td>
<td>36</td>
</tr>
<tr>
<td>3.9.2</td>
<td>Dependent Variables</td>
<td>36</td>
</tr>
<tr>
<td>3.10</td>
<td>Statistical Treatment</td>
<td>36</td>
</tr>
</tbody>
</table>

### Chapter Four: Research Findings

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Results Related to the First Question</td>
<td>37</td>
</tr>
<tr>
<td>4.2</td>
<td>Results Related to the Second Question</td>
<td>39</td>
</tr>
<tr>
<td>4.3</td>
<td>Summary of results</td>
<td>41</td>
</tr>
</tbody>
</table>

### Chapter Five: Discussion, Conclusions and Recommendations

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Discussion of the Finding Related to the First Question</td>
<td>42</td>
</tr>
<tr>
<td>5.2</td>
<td>Discussion of the Finding Related to the Second Question</td>
<td>43</td>
</tr>
<tr>
<td>5.3</td>
<td>Conclusions</td>
<td>45</td>
</tr>
<tr>
<td>5.4</td>
<td>Recommendations</td>
<td>45</td>
</tr>
</tbody>
</table>

### References

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appendices</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Abstract in Arabic</td>
<td>90</td>
</tr>
</tbody>
</table>
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>The distribution of the sample of the study</td>
<td>34</td>
</tr>
<tr>
<td>4.1</td>
<td>Means and standard deviation of learners’ scores in the writing skills according to group.</td>
<td>37</td>
</tr>
<tr>
<td>4.2</td>
<td>Means and standard deviation of learners’ scores in the writing skills according to gender</td>
<td>38</td>
</tr>
<tr>
<td>4.3</td>
<td>(2-way ANCOVA) results of the learners’ scores in the writing skill rubric according to the teaching method, gender and the interaction between them</td>
<td>38</td>
</tr>
<tr>
<td>4.4</td>
<td>Adjusted means and standard errors of the post-test scores by groups.</td>
<td>38</td>
</tr>
<tr>
<td>4.5</td>
<td>The effect size of the writing skills</td>
<td>39</td>
</tr>
<tr>
<td>4.6</td>
<td>Means and standard deviation of learners’ scores in the lateral thinking pre – post test according to group</td>
<td>39</td>
</tr>
<tr>
<td>4.7</td>
<td>Means and standard deviation of learners’ scores the lateral thinking test pre and post-tests according to gender</td>
<td>40</td>
</tr>
<tr>
<td>4.8</td>
<td>(2-way ANCOVA) results of the learners’ scores in the lateral thinking test according to the teaching method, gender and the interaction between them</td>
<td>40</td>
</tr>
<tr>
<td>4.9</td>
<td>Adjusted means and standard errors of the post-test scores by group</td>
<td>40</td>
</tr>
<tr>
<td>4.10</td>
<td>The differences of the interaction between group and gender</td>
<td>41</td>
</tr>
<tr>
<td>4.11</td>
<td>The effect size of the lateral thinking test</td>
<td>41</td>
</tr>
<tr>
<td>Appendix</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>The Referee of the Activities of &quot;Think, Write, Pair and Share&quot; Strategy</td>
<td>53</td>
</tr>
<tr>
<td>2</td>
<td>Teacher’s Guide</td>
<td>54</td>
</tr>
<tr>
<td>3</td>
<td>The &quot;Think, Write, Pair and Share&quot; Students' worksheet</td>
<td>75</td>
</tr>
<tr>
<td>4</td>
<td>The Referee of the Lateral Thinking Test and writing rubric</td>
<td>76</td>
</tr>
<tr>
<td>5</td>
<td>Lateral Thinking Test (translated to Arabic)</td>
<td>77</td>
</tr>
<tr>
<td>6</td>
<td>Lateral Thinking Test in English</td>
<td>80</td>
</tr>
<tr>
<td>7</td>
<td>Writing skill Evaluation Sheets</td>
<td>84</td>
</tr>
<tr>
<td>8</td>
<td>The Validation Committee</td>
<td>89</td>
</tr>
<tr>
<td>9</td>
<td>Permission of the Directorate of Education/Bethlehem</td>
<td>90</td>
</tr>
</tbody>
</table>
Chapter One
Introduction

1.1 Background of the study

Recently, we have seen a number of significant changes in the field of foreign language teaching. Views have changed with regard to both what is taught "the linguistic content" and how we should teach "techniques and procedures" needed to transform this content into language skills.

Through the process of teaching and learning foreign language, there are four skills that must be developed: listening, reading, speaking and writing. The aim of foreign language teaching is to teach students all the basic language skills. One way of acquiring the skills is by experiencing them through real situations and relating activities.

One of very important basic skills of learning English is writing. Harmer (1998, 79) pointed that "writing as a skill: by far, the most important reason for teaching writing, of course, is that a basic language skill, just as important as speaking, listening and reading. Students need to know how to write letters, how to put written reports together, how to replay to advertisements– and increasingly".

Writing is frequently useful as a preparation for some other activities, in particular when students write sentences as a preamble to discussion activities. In this case, writing is considered to be important in developing other three skills: listening, speaking and reading (Harmer, 2004, 33).

Including writing as a part of our second language syllabus helps our students through many aspects. First, writing reinforces the grammatical structures, idioms, vocabulary that we have been teaching our students. Second, when our students write, they also have a chance to be adventurous with the language, to go beyond what have just learned to say. Third, when they write, they necessarily become very involved with the new language. They also discover a new way of expressing their ideas. Moreover, there is a close relationship between writing and thinking which makes writing a valuable part of any language course (Raimes, 1983).

Nunan (1989, 36) stated, "Writing is an extremely complex, cognitive activity for all which the writer is required to demonstrate control of a number of variables simultaneously". This means that students should take into account many aspects through the process of writing such as content, punctuation, spelling, sentence structure and vocabulary. Sumarsih and Sanjaya (2013) added that to write well, students must have good capabilities in writing. Moreover, someone who wants to write must know the steps of writing process and aspects of writing. The writer must be able to organize ideas, to construct the
sentences, to use punctuation and spelling well. Besides, they must be able to arrange any piece of writing into cohesive and coherent paragraphs and texts.

Due to the importance of writing skills and the complexity of this activity, an appropriate teaching approach and technique should be chosen. Clark and Star (1981) indicated that selecting a suitable technique has a very important role in supporting the success of teaching and learning process. Most traditional methods in language teaching were teacher-centered and were based on competition unlike today where all teaching approaches call for learner-centered classes in order to achieve effective and long-lasting teaching. Cooperative learning is a learner-centered approach. Clark and Star (1981, 35) indicated that there are at least three general theoretical perspectives that have guided research on cooperative learning, social interdependent, cognitive development and behavior.

Kessler (1992) pointed that cooperative learning is a group learning activity organized so that learning is independent on the socially structured exchange of information between learners in groups and in which each learner holds accountable for his or her own learning and is motivated to increase the learning of others.

Johnson, Johnson and Holubec (1993) pointed that working within a group or a team is better than the myth of competition. Most of researchers' views toward cooperative learning agreed that through this approach students tend to exhibit higher academic achievement, increased retention, greater use of higher level reasoning, increased perspective taking, greater intrinsic motivation, more positive heterogeneous relationships, better attitude toward school, better attitude toward teachers, higher self-esteem, greater social support, more positive psychological adjustment and greater collaboration skills.

Vygotsky views learning as a cooperation task like Piaget. He argues that action is the way in which the child responds to the world. However, in Vygotsky's view, children also learn by reflecting on their experiences using language and as a result move towards a new level of understanding. Additionally, Vygotsky states that learning is achieved through cooperation with others in a whole variety of social setting– with peers, teachers, parents, and other people who are significant to the child (Cowie et al, 1994).

Bader and Wiesendanger (1992) indicated that cooperative methods usually have a positive effect on students' achievement; students enjoy working and learning together in groups for academic as well as social reasons. When working together toward a common goal, students encourage each other learning and help their group mates to succeed. Working in groups also promotes language development.

There are some techniques used in cooperative learning to help students improve their writing skills. Some of these techniques are Think, Write, Pair and Share, Jigsaw, Write, Pair and Square. In this research, the researcher only focuses on one of the techniques, which is "Think, Pair and Share". Lyman, (2002) (Cited in Wichadee and Orawiwatnakul, 2012) pointed that, Think, Pair and Share is a strategy developed by Frank Lyman and his colleagues in Maryland. It can be used to encourage students' classroom participation without stress. This activity helps the students to formulate individual ideas and share these ideas with another student. It involves a three-step cooperative structure. In the think step, the teacher provokes students' thinking with a question or a prompt. It should take a few moments for them to think about the question individually. In the pair step, students work in pairs, talking about the ideas each comes up with. They compare their written notes and
identify the ideas they think are best, most convincing or unique. In the last step called share, the teacher calls for pairs to share their thinking with other pairs and the rest of the class. Often, the teacher or a designated helper will record these responses on the board.

TPS consists of three phases: Think, Pair and Share. To achieve the goal of this study, the researcher added a fourth phase, which is writing. The applied technique will be Think, Write, Pair and Share. The student will have a first draft of his writing. A final piece of writing will be adapted after discussion, so the teacher will check how much this technique helps in developing students' English writing skills. This technique also has an important element, which is thinking. The researcher will also investigate how much it will develop the students' lateral thinking.

There is a relationship between writing and thinking. Writing is the opportunity to use language, to think about, clarify, explain, and to internalize information, experience, beliefs and learning process. Spolsky (1999) indicates that writing is a major mean of learning. It is a problem solving activity in which students generate their own ideas then clarify them to communicate clearly to with readers. Thus, writing may involve assimilation, interpretation and reformulation of individual opinion. Moreover, Langer and Appleby (1987) see that writing creates a permanent record and allows rethinking and revising over an extended period. It also requires explicit expression so that meaning is clear in various contexts. In addition, writing requires organizing ideas and developing relationships between them. Finally, writing requires active, engaged thinking that explores implications and challenges unexamined assumptions.

To ignore the relationships between writing and thinking means to miss a powerful opportunity that can help students become better writers. In Think, Write, Pair and Share strategy writing is based on thinking alone then thinking with the whole. Students exchange their ideas to come up with improved views. Through the process, their ideas will be improved. The teacher takes the role of a manager or facilitator during one-on-one meetings, small group meetings and brainstorming sessions with students. Instead of seeing peers as competitors, students learn to collaborate and think laterally. What is important here is to let students think laterally. De Bono, (1990) mentions that lateral thinking uses random stimulation, humor, brainstorming and even irrelevant information to move from standard ideas to new and possibly improved ideas. However, it focuses on the perception aspect of thinking, lateral thinking leads one to think across different domains, helping one to examine a problem from many different perspectives. The result is a rich bag of ideas from which a preferred solution can be implemented after critical evaluation. Fisher and Frey (2008) added that writing is thinking and when students write they monitor their understanding, and facilitate their ability to think.

To achieve the previous idea, which is having a creative thinker and writer, "Think, Write, Pair and Share", could be an effective strategy that can develop the student's writing skills and thinking skills. It has two important elements, which are thinking and then writing. It lets student to think, write, pair and share. At the end, the students' will write their own piece of writing. Thus, the researcher discussed teaching writing by using think, write, pair and share strategy. Using such strategy can help students be more active in classroom. Due to the prominence of improving the methods of teaching and the development of lateral thinking among students, this study investigated the effects of an effective strategy of teaching which is "Think, Write, Pair and Share" on tenth graders' English writing skills and their lateral thinking.
1.2 Statement of the Problem

Learners have many difficulties in the process of learning English language. One of these difficulties is mastering the writing skills. A large number of learners can't even create a small piece of writing. Mostly, the writing section in the exams is ignored which affects the learners’ achievement.

Writing skills are difficult to master. It is not just putting pen to paper or writing down ideas, but it is how these ideas are presented or expressed effectively. This highly demanding process of writing requires a number of skills, instructions and procedures to improve the performance of the learners in this skill. It is a mental process that requires creative thinking.

There are several reasons for this problem, some related to learners, teachers, material, and methods. So it is important to find a way to help teachers and learners overcome this problem. Teaching methods have an important role in the process of teaching these days. What should be applied is a method that aims at enhancing learners' thinking levels within a suitable environment.

To conclude, the complexity of writing skills, the learners' low achievement in writing activities and enhancing learners' lateral thinking are all reasons that force the researcher to decide to investigate the effects of using Think, Write, Pair and Share strategy on tenth graders' English writing skills and their lateral thinking.

1.3 Purposes of the Study

This study aims at achieving the following purposes:
- The effects of using Think, Write, Pair and Share strategy on tenth graders' English writing skills in Bethlehem district.
- The effects of using Think, Write, Pair and Share strategy on tenth graders' lateral thinking skills in Bethlehem district.

1.4 Questions of the study

This study aims at answering the following questions:
- Is there an effect of using Think, Write, Pair and Share strategy on the development of 10th graders’ English writing skills? And does this effect differ due to the method of teaching, gender, and the interaction between them?
- Is there an effect of using Think, Write, Pair and Share strategy on the development of 10th graders’ lateral thinking skills? And does this effect differ due to the method of teaching, gender, and the interaction between them?

1.5 Hypotheses of the study

The following null hypotheses are derived from the questions of the study:
- There are no statistically differences at ($\alpha \leq 0.05$) in the mean scores of 10th graders’ English writing skills due to the method of teaching, gender, and the interaction between them.
- There are no statistically differences at (α ≤ 0.05) in the mean scores of 10th graders’ lateral thinking due to the method of teaching, gender, and the interaction between them.

1.6 Significance of the Study

The significance of this study stems from the fact that teachers are in need for effective teaching strategies to improve students' English writing skills and lateral thinking. Thus, this study will provide necessary information on theoretical, practical and research fields.

On the theoretical field, this study is expected to introduce a theoretical background about such strategy, writing skills and lateral thinking for curriculum designers and researchers.

On the practical field, the results of the study are expected to be meaningful for curriculum designers to develop materials that help students in applying such strategy. It may also offer a good benefit for supervisors to encourage teachers to use such strategy in teaching writing.

On the research field, this study may help to enlarge the understanding of improving lateral thinking and writing skills and provide reference for further study research, with further variables and stages.

1.7 Definitions of the terms

- Writing Skills: “writing is the mental work of inventing ideas, thinking about how to express them and organizing them into statement and paragraphs that will be clear to reader” (Nunan, 2003, 83).
  The researcher prepared a rubric to check students' writing skills. The rubric has four standards: conventions, the number of content words, grammar and ideas. The total grade is out of 20 (5 for each).

Think-Pair-Share: Santa et al (1996) (cited in Agusferani, Rahmah & Sutisna 2013, 5), defined it as a discussion strategy that can be used as pre-writing activity, problem solving strategy, or as a follow-up activity. Each student becomes an active participant.”It assumed that write, pair and share is one of teaching strategies, which gives a good time for students to brainstorm their ideas, sharing their ideas by working out the problem to their pair, at the end they are able to produce good writing that they have already made.

The researcher added a fourth phase to the technique to achieve the aim of the study, which is writing. The first phase is thinking in which we can improve students thinking skills and how they see things. Then they write ideas to improve their writing skills. The last two phases pairing and sharing are a way in which they can develop their social interaction.

Lateral Thinking: Sloane (2006) defines it as a type of thinking that seeks new ways of looking at a problem rather than proceeding by logical steps. De Bone (1971) summarizes that lateral thinking is generative. It is concerned with change and movement. It is never an attempt to prove anything but to explore and generate ideas.

The researcher prepared a test to check students' lateral thinking specially for the study. The test was translated to Arabic. It has 20 items and the grade is out of 80.
The 10th grade: The tenth level of the primary period, which consists of ten levels according to the Palestinian educational system (Palestinian Ministry of education, 1998).

1.8 Limitations of the study:

The study was applied within the following limitations:
1- This population of the study consisted of the 10th graders (females and males) enrolled at public school in Bethlehem.
2- The study was carried out in the academic year (2015-2016) at the second semester.
3- The study was limited by the concepts and definitions mentioned in it.
Chapter Two

Theoretical Framework & Related Studies

This chapter presents related literature and relevant studies to the effectiveness of using "Think, Write, Pair and Share" strategy in classroom in general. This chapter consists of two sections; the first one will shed the light on writing skills, "Think, Write, Pair and Share" strategy, lateral thinking, and the relation between thinking and writing. On the related studies section, summaries of results of relevant studies will be given.

2.1 Literature Review

Recently, a great interest of research has been increased in the EFL learner's problems of writing at the sentence, paragraph and the content level. Many researchers highlighted on the rhetorical features that a good writing piece should be associated with concepts such as coherent, cohesion, unity and clarity.

2.1.1 Writing Skills:

"Writing is a productive skill that is more complicated than it seems at first, and often seems to be the most difficult skill since it has a number of micro skills such as: using orthography correctly, spelling and punctuation, conventions, using vocabulary in a correct way and using the appropriate style" (Orwig, 1999,2).

Bello (1997) explains writing as a continuous process of discovering how to find the most effective language for communicating one's feeling and thoughts.

According to Alwasilah (2005), writing is a skill in which the writer delivered his ideas into a text so intellectual and social readers can accept it. It is an opportunity that enables students to turn their spoken language into written symbols.

Writing is one of the most important skills that learners of English as a second language need. Unfortunately, most of the teachers complain that students are too weak in this skill. Sherwood and Smith (1991) point that written language has its own functions in society, and its own linguistic patterns all of which must be taken into account by learners of any language. Grabe and Kaplan (1996) see that EFL students will need English writing skills ranging from simple sentences, to paragraphs, to the ability to write essays and professional articles.

2.1.1.1 Writing as a process:

The writing process approach recognizes that there are many stages to writing and that these stages are fluid and overlapping. Researchers and educators have identified several
logical steps that most writers go through. The names and classification of these stages differ from one researcher to another. Most of them adapted the following stages: prewriting, oral language, class discussion, and pre-composition activities. This approach came as a reaction to the restraints posed by the product approach. It focuses on the process of writing and assigns much importance to meaning rather than form.

Sun (2009,150) states "I think that process to teaching writing should be a process including several stages, namely prewriting or invention activities (brainstorming, group discussion, assessing ideas); drafting; seeking feedback from peers or the instructor; revising on the whole- text level (looking at the overall focus, reconsidering organization, deciding whether there is enough evidence, etc.) followed by revising at the paragraph or sentence level, proofreading, and publishing the final text. In essence, process approach to teaching writing focuses on the writing process rather than the final product."

Byrne (1979), indicates that many students do not enjoy writing, partly because of the nature of the task and partly because, out of school, it has little value for them as a form of social interaction. The students' previous experience of learning to write was frustrating could be another reason.

Byrne (1979), also describes writing as a medium in which we are able to communicate with others and translate our thoughts. The writer has to be careful when he organizes sentences into text, into coherent whole.

Writing well is a major cognitive challenge because it is attest of memory language and thinking ability. It demands rapid retrieval of domain specific knowledge about the topic from long terms memory (Kellogg, 2001).

The process approach calls for the principles of cooperative due to its positive effects on learners. Process approach focuses on helping students understand their own composing process and build repertoires of strategies for pre writing, drafting and rewriting. They have a time for writing, rewriting and revising. It also lets students discover what they want to say as they write. Students take feedback from the teacher and from each other. Individual conferences between the teacher and the student are included through the composing process (Scane, et al (1991).

2.1.1.2 Stages of writing:

Writing is not an easy task. It requires the use of linguistic and cognitive abilities. This productive skill has some important stages that the learners should follow to produce a creative piece of writing. Many researchers identify a number of writing stages that the writer goes through. Clifford (1991) shows that there are three main stages of writing – generating ideas, organizing the ideas and finding the language conventions. Whereas White and Arndt (1991) divide them into six stages as shown in the following diagram:
Harmer (2004) classifies the writing stages into four, which are planning, drafting, editing and the final draft.

Lindsay and Knight (2006) reduce them into three stages as the following:

- **Pre-writing**: preparation in this stage, the learner should think about the reader, consider why we are writing, think about the content and decide the appropriate layout and style.
- **Draft**: put our ideas together in a draft form. This is probably all we need for things like shopping lists and memos.
- **Editing and rewriting**: we need to write several times so that the text is coherent and clear.

All researchers focus on the prewriting stage because it is the basic of the writing process. Head (1977) considers prewriting activities to be of immense value because they fostered discovery. They are the fundamental element of the writing process. They encouraged effective writing because they prompted originality, creativity and personal awareness.

Hanna (1977) defines prewriting as anything that helps to prepare the student for writing. Oshima and Houghu (1981) believe that prewriting stage has two steps. Choosing and narrowing a topic is the first step in which students given a topic. Brainstorming is the second step in which students generate ideas to use them in writing.

Hale (2006, 7) states, "In prewriting, a learner thinks about the topic and organizes his/her ideas on the paper. It is the stage of generating ideas for writing the subject.

### 2.1.1.3 Why Teaching Writing?

Harmer (2001) suggests four reasons for teaching writing to students of English as a foreign language.

- **Writing as a skill**: writing considered the most important skill. It is a basic language skill like speaking, reading and listening. Learners need to know how to write letters, compositions, essays and report and to identify conventions.
- **Reinforcement**: some learners acquire languages in an oral/aural way, others by seeing written language. The visual demonstration of language construction is valuable for both
understanding and memory. It is useful for students to write the new language shortly after studying it.

- Language development: the process of writing helps learners to learn as they go along. The mental activity of constructing proper written texts is part of the ongoing experiences.
- Learning style: some learners are quick at acquiring language just by looking or listening, others may take longer time. Time spent in producing language can help in selecting the learners style i.e. slow learners are slow language producers when they taught only in a verbal way. Therefore, writing is more appropriate for those learners to learn language.

2.1.1.4 Why writing is difficult?

Writing is no longer viewed as a simple activity that consists of several stages that are independent and logically sequenced. By contrast, writing is recognized as a difficult, integrated set of processes that are interactive and recursive. It involves the creation of ideas and the ability to express them logically.

Byrne (1979), pointed that problems caused by writing are discussed under three headings:
- Psychological problems: writing, unlike speaking, is essentially a solitary activity and we are required to write on our own, without interaction or feedback, which makes it difficult.
- Linguistic problems: through the process of writing, the students have to be aware of the structure of sentences and the sequenced of these sentences linked together.
- Cognitive problems: writing is learnt through the process of instruction. We have to master the written form of the language and to learn certain structures, which are less used in speaking or perhaps not used at all, but which are important for effective communication in writing. We also have to learn how to organize our ideas in a way to be understood by readers.

Bello (1997) added that writing is challenging, whether it in one's native language or in a second language. It could be difficult for everyone, even for professional writer. It means that the ability to write in a foreign language seems to be more complicated than being able to speak that is why mastering writing is not easy, it needs practice a lot.

2.1.1.5 Fluency in writing:

Kailani and Muqattash (2013,137) indicated that "accuracy is a necessary condition for fluency and both need to be emphasized by language teacher. At the early stages of the writing skills teacher need to design writing activities, e.g. sentence completion, sentence joining, cloze exercise, dictation, writing a paragraph based model or answer to questions to reinforce work on structure and vocabulary. That is accuracy in writing. On other hand, teacher should assign tasks that generate fluency and enable students to become more confident with writing, and hence less likely to fear running out of ideas, and this is the main objective of teaching writing".

Kailani and Muqattash (2013) added that writing is a significant language skill that should be developed at an early stage of learning foreign language. It requires the following:
1. A knowledge of the English alphabet (spelling).
2. An understanding of the orthographic system i.e. relationship between sounds and written symbols.
3. A knowledge of mechanism of writing: spelling, capital letters, punctuation, paragraph indentation, leaving spaces between words, syllable division and other conversation.
4. A knowledge of sentence structure.
5. Familiarity with grammatical, referential or anaphoric connectors.
6. Familiarity with lexical connectors, e.g. the use of synonyms and antonyms – etc.
7. A skill in sentence combining to create an effective paragraph and a knowledge of organizing composition.
8. Familiarity with transitional words.
9. Adequate control of syntax and vocabulary in order to put ideas into writing.
10. An experience in listening, speaking and reading.

The ability to write well grows out of integrated skills. Byrne (1979) pointed that one effective way of providing writing tasks is through the integration of all four skills, so that the use of one leads naturally to the use of another. In this way, the learners will see how writing relates to certain communicative needs, just as listening, speaking and reading relate to others.

Students through Think, Write, Pair and Share technique use all English language skills to create a well-organized piece of writing. The final copy of writing will be built after students think, discuss, talk, exchange and listen to each others.

2.1.1.6 Writing and Thinking:

According to Rao (2007), the purpose of writing in EFL teaching is two-fold. First, through writing, we stimulate the learners’ thinking, let them concentrate and organize their ideas and evoke their abilities to summarize, analyze and criticize. On other hand, it reinforces in, thinking in and reflecting on the English language.

Cooper and Patton (2010) suggested that to write well, we need to think clearly. The evidence is strong for concluding that writing about ideas can help to clarify them. Taking this notion a step further, many would argue that the act of writing can create ideas, can lead writers to discover what they think. Written language provides a way to refine our thoughts since it can be manipulated until it accurately reflects our thinking. In writing, we can reflect on what we are thinking of. Writing does not simply convey thoughts; it also forges it. It is a two way street, both expressing and generating ideas.

Maiman, Peritz and Yancey (2010) pointed that thinkers, writers and readers get intellectually involved. They recognize that meaning and value are made, not found, so it is significant to pose pertinent questions, note significant features and examine the credibility of various kinds of texts.

Knipper and Duggan (2006) designated that the process of writing stimulates passive learners to become active learners as they grapple with putting their thinking and knowledge into paper. They added that writing helps students to review and summarize ideas and to think creatively.

Al-sharah (1988) stated that writing is a thinking process that involves more than grammar and vocabulary, the task of any writer is to produce and present the target readers, a well organized material, which is appropriate for communicating the intended message.
Therefore, writing must be effective, graceful and precise enough to satisfy and persuade the audience.

To conclude, it is clear that there is an important connection between writing and thinking. Integrating writing with thinking through the "Think, Write, Pair and Share" strategy helps students to be engaged, extend thinking, deepen understanding and energize the meaning-making process. The research focuses on improving students' English writing skills and their lateral thinking through 'Think, Write, Pair and Share" strategy in which we combine all the skills in one activity. The final piece of writing based on thinking, writing, speaking, reading and listening.

2.1.2 "Think, Write, Pair and Share" Strategy:

"Think, Write, Pair and Share" technique is one of cooperative learning methods. Johnson, Johnson and Holubec (1993) indicated that there are at least three general theoretical perspectives that have guided research on cooperation learning, social interdependent, cognitive developmental and behavioral. The social independence perspective assumes that the way social interdependence is structured determines how individuals interact which in turn determines outcomes. The cognitive developmental perspective is largely based on the theories of Piaget and Vygotsky. From Piaget and related theories come the premise that when individuals cooperate on the environment, socio-cognitive conflict occurs that creates cognitive disequilibrium, which in turn stimulates perspective taking ability and cognitive development. Piagetians argue that during cooperation efforts participants will engage in discussions, in which cognitive conflicts will occur and be resolved, and inadequate reasoning will be exposed and modified. The work of Voygotsky and related theories are based on the premise that knowledge is social, constructed from cooperative efforts to learn, understand and solve problems. Group members exchange information and insights, discover weak points in each other's reasoning strategies, correct one another and adjust their understanding on the basis of others' understanding. The behavioral learning theory perspective focuses on the impact of group reinforces and rewards on learning. The assumption is that actions followed by extrinsic are repeated. Skinner focused on group contingencies, Slavin emphasized the need for cooperative learning groups.

Bader and Wiesendanger (1992) pointed that cooperative methods usually have a positive effect on students' achievement. Students enjoy working and learning together in groups for academics as well as social reasons. When working together toward a common goal, students encourage one another's learning and help their group mates succeed. Group assignments enable learners to work together to discover their own meaning. Cooperative grouping promotes language development, listening skills, and equal participation.

Johnson, Johnson and Smith (1998), described cooperative learning as an approach to group work in which students work together to achieve a common goal under conditions that include the following elements:
1- Positive interdependence: students respond to each other.
2- Individual accountability: all students in a group are sharing the work and mastering all the given material.
3- Fact to face promotive interaction: Although some of the group work may be parcelled out and done individually, some must be done interactively, with group members providing one another with feedback, challenging reasoning and conclusions, and perhaps most importantly, teaching and encouraging one another.
4-Appropriate use of collaborative skills: students are encouraged and are helped to develop and practice trust building, leadership, decision-making, communication, and conflict management skills.

5. Group processing: team members set group goals, periodically assess what they are doing well as a team, and identify changes they will make to function more effectively in the future.

Schmuck and Schmuck (1983) indicated that learners through cooperative activities are active. They work within group where noise is appropriate, all students participate, all students responsible for their learning and all students share material.

Kagan (2009) (cited in Sugiarto and Sumarsono 2014) pointed that Think, Pair and Share model was first proposed by Prof, Frank Layman in 1981, and developed by many scientists in recent years. The basic principle of this strategy is learner–centered learning process. Moreover, teaching-learning process will be more attractive. Karnasih and Sinaga (2014) defined Think, Pair and Share strategy (TPS) as a cooperative learning technique that encourages individual participation and is applicable across all grade levels and class sizes. Students think through questions using three distinct steps:

1. **Think**: Students think independently about the question that has been posed, forming ideas of their own.

2. **Pair**: Students assign in pairs to discuss their thoughts. This step allows students to articulate their ideas and to consider those of others.

3. **Share**: Student pair then share their ideas with a larger group, such as the whole class. Students are often more comfortable presenting ideas to a group with the support of a partner. In addition, students' ideas have become more refined through this three-step process.

Karnasih and Sinaga (2014) added that 'Think, Pair and Share' strategy is ideal for teachers and students who are new to collaborative learning. It can be used in a variety of contexts. To be effective, students must consider a question or issue and they should derive some benefits from thinking about it with partners.

Mctighe and Lyman (1988, 19) pointed that, over 20 years of research on "wait time", findings have confirmed numerous benefits from allowing three or more seconds of silent thinking time after a question has been posed (wait time 1) as after students respond (wait time 2). These benefits include longer and elaborated answers; inferences supported by evidence and logical argument, greater evidence of speculative responses, increased student participation in discussion and improved achievement. He added that "Think, Pair and Share" strategy is a multi-mode discussion cycle, in which a question is raised and students have time to think individually, talk in pairs and finally share responses with larger group.

As shown above, the strategy has four important elements that are think, write, pair and share. Think and write are two steps that researcher showed them in details in the writing process section. The following two phases are pair and share. They are considered as a medium in which students increase their personal communication and exchange thoughts, ideas and opinions. When students share their ideas, they take ownership of their learning. Pimme (1987) added that "Think, Write, Pair and Share" strategy increases the kinds of personal communications that are necessary for the students to internally process, organize, and retain ideas. Kailani and Muqattash (2013) pointed that most activities in the
classroom can be performed by the students working in pairs or groups. Working in this way means more students are directly involved; more students are talking, while the teacher talks less; students can help each other; and not least, the atmosphere is more relaxed and conductive to good language learning.

2.1.2.1 Pair Work

Pair work is a very effective activity that increases the amount of learners' practice, encourages co-operation, which is important for the atmosphere of the class and for the motivation, it gives to learning others, and enables learners to help each other to use and learn language. In addition, the teacher is able to act as an assessor, prompter or resource. Harmer (1992)

Byrne (1991) added that pair working facilities learners' independence; moreover; he considered pair work as an interaction similar to real-life language. The learners talk to each other and exchange ideas, so it is much closer to the way people interact outside the classroom.

Some teachers complain that when students work in pairs or within groups, a lot of noise and indiscipline are caused. Ur (1991) strongly refused that, he claims that making noise is not caused by the choice of the activity. He shifts the problem onto the teacher's personality. Doff (1991) pointed that the noise created by working in pairs or groups is a good noise. It shows that students are using English and engaging in the learning task.

Moreover, when students work in pairs, they usually use their mother tongue. Byrne (1991) believed that learners use their mother tongue is a natural factor of group and pair work activities. He added that students start doing that when they get excited during the activity.

2.1.2.2 Group Work:

The modern incarnation of group work emerged from theorists like Vygotsky and Piaget. Vygotsky believes that social interaction precedes development; actions are the basic of forming thoughts. According to Vygotsky, when learners work within groups, they are active, they occupy the roles of problem solvers, and they use language in order to think and talk. He believes that group work and discussion in classroom reduce the pupil zone of proximal development. He sees that what a child can do today in cooperation tomorrow he will be able to do on his own. The students are responsible for one another's learning as well as their own. Thus, the success of one student helps other students to be successful. When students work within groups, they become capable of performing at higher intellectual levels (Bruner, 1985).

Ur (1991, 7) agreed that "group work provides some learners with confidence and encourages students who are shy of saying something in front of the whole class , or to the teacher, they often find it much easier to express themselves in front of a small group of their peers. Methodologists also concern on the point that learners' participation and mutual cooperation among them during activities carried out in groups."

Richard and Lockhart (1999) said that group work is likely to increase the amount of students' participation in the class and prompt collaboration among learners; furthermore, learners are given a more active role in learning, teacher's dominance over the class
decreases, while the opportunities for individual student practice of new features of the target language increases.

2.1.2.3 The benefits of "Think, Write, Pair and Share" Strategy:

Applying Think, Write, Pair and Share technique can be academically and socially beneficial. Students will need thinking skills as well as the ability to work collaboratively when they enter the modern world. "Think, Write, Pair and Share" is a teaching technique that mirrors the way that adults work in teams towards common goals: each individual contributing ideas and then working cooperatively towards a synthesis of those ideas.

Writing activities can be pleasurable and sociable ones by applying such a method in which students share their thoughts and explore more and more about the given topic. Through the process of writing, the writer should start by thinking about the topic and share his thoughts with others to enrich his knowledge and starts writing. Writing alone will not be creative as writing within groups.

Afan, Marhaeni and Dantes (2013,5), pointed that there are many benefits of TPS; First, Presenting “think time” improves the students' response quality. Second, students become actively participated in thinking about the academic concepts presented in lesson. Third, research reveals that we need time to mentally “chew over” new ideas in direction to keep them in memory. Fourth, when teachers served an over loaded capacity of information on students needed at once time, much of them are lost. Fifth, if the teacher gives students time to “think, pair and share” throughout the lesson, more of the critical information will be kept in place. Sixth, the students talk over new ideas, they are supported to make sense of those new ideas refer to their basic knowledge. During this time, discussion step resolve the problem on their misunderstanding of the topic discussion. Seventh, students are wishes to participate since they do not feel the peer pressure appeared in front of the whole class. Eight, Think-Pair-Share is easily to apply on the spur of the moment. The last benefit is that it is applicable easily for the big classes.

Cobb et al (1991) pointed that through sharing ideas, students take ownership of their learning and negotiate meaning rather than rely solely on the teacher's authority.

2.1.3 Lateral Thinking

Most of teachers noticed the week outcomes of their students' higher thinking skills. Our students are professional in rote learning. According to Bloom's taxonomy, there are six educational objectives - remembering, understanding, application, analysis, evaluation and creating. The final four objectives in the taxonomy have come to define "higher order thinking" and the movement from the first two goals (remembering and understanding) to the final four goals (application, analysis, evaluation and creating ) represents a shift from lower order thinking to higher order thinking.

Curriculum designers and teachers should have a continual and deep concern with helping students think more clearly and laterally. They should adapt strategies that evoke students' higher thinking skills due to the rapid change in the world, where information is becoming available. Therefore, students should constantly think, suggest alternatives, switch directions, have different views toward issues and deal with problem-solving skills. We
should help students to be good thinkers, who can manage their thinking more effectively and who can create new patterns and escape from the dominance of the old ones.

2.1. 3.1 Basic nature of lateral thinking

De Bone has identified and developed three types of thinking: vertical thinking, lateral thinking, and parallel thinking. The best way to understand vertical and lateral thinking is compare and contrast them side-by-side:

"Rightness is what matters in vertical thinking. Richness is what matters in lateral thinking. Vertical thinking selects a pathway by excluding other pathways. Lateral thinking does not select but seeks to open up other pathways. ... With vertical thinking one is trying to select the best approach but with lateral thinking one is generating different approaches for the sake of generating them". (De Bono, 1970, 39).

Lateral thinking is of course concerned with thinking. It is a term introduced by Edward de Bone in the books. He has sixty-two books about thinking. In his book, New Think: "The Use of Lateral Thinking" published in 1967, he describes Lateral thinking as a set of approaches and techniques designed to find radically new approaches to problems and to come at them from the side rather than the front.

Lateral thinking related to creativity. According to De Bone, creativity is often the description of a result whereas lateral thinking is the description of the process. Creativity involves restructuring but with more emphasis on the escape from restricting patterns. Lateral thinking involves restructuring, escape and the provocation of new patterns. He added that lateral thinking is the process of using information to bring about creativity and insight restructuring. Lateral thinking can be learned, practiced and used. It is possible to acquire lateral thinking skill just as it is possible to acquire skill in mathematics. De Bone (1970)

Lateral thinking deals with generating new ideas and new approaches with escape from old ones. It is not a method for decision. One of the important characteristics of lateral thinking is discontinuity. It aims at moving from one concept to another. It recognizes no adequate solution but always tries to find a better one. It is never an attempt to prove anything but to explore and generate ideas. Lateral thinking sees things through many ways. It seeks for alternatives. It works outside the yes/no system. Lateral thinking is interested in where an idea leads. It encourages happy accidents because they can set off new patterns of ideas. It simply rescues someone who has been blocked by a particular idea. Lateral thinking is concerned with changing patterns, and it tries to restructure them by putting things together in a different way. According to De Bone, lateral thinking can be improved just like any other skill. De Bone (1971)

De Bone (1992, 52) said that the simplest way to describe lateral thinking is to say, "You cannot dig a hole in a different place by digging the same hole deeper." This emphasizes the searching for different ways of looking at things. With lateral thinking, we move sideways to try different point of entry. We can use various methods, including provocations to get us out of the usual line of thought. Lateral thinking seeks to put forward different views. All are correct and not derived each from the other but produced independently.
2.1.3.2 Basic principles of lateral Thinking:

The concept of lateral thinking may be considered under three headings:

1. Background: the need for lateral thinking arises from the way the mind behaves as a patterning system, which requires discontinuity in order to change patterns and bring them up to date. The mind acts to create patterns, to recognize patterns and to use patterns but not to change them.

2. Process: lateral thinking is concerned with change, with escape from old ideas to the generation of new ones. With practice, it becomes possible to find and try out several different ways of looking at a problem.

3. Method: lateral thinking is based on the use of chance and provocative methods to introduce discontinuity.

The use of lateral thinking consists of an awareness of the patterning nature of mind, awareness of the danger if being trapped by a fixed way of looking at things and awareness of concept prisons. Skill in lateral thinking depends on natural ability, on an understanding of the processes involved, on the ability to overcome the educated inhabitation of vertical thinking and on the practice of lateral thinking to the point of confidence. De Bone (1971)

2.1.3.3 Tools to explore lateral thinking skills to second language learners:

De Bone (1992) suggested a number of tools to explore lateral thinking:

**Six thinking hats:**
Practicing six thinking hat techniques provides a concrete framework to move away from regular patterns to cooperative exploration of the learners. Six types of thinking are introduced by mentioning six colors. White hat, red hat, black hat, yellow hat, green hat and blue hat.

White hat depicts information thinking to realize the information in the mind related to the situation by using the check list such as, what information do we have? What information is missing? Red hat symbolizes intuition, feelings, hunches, and emotion. Red hat people provided permission to realize and express their feelings and intuition. Black hat symbolizes caution and legal negative. People who wear black hat play the role of judge. It prevents people from making mistakes and find out why something is profitable. Yellow hat allows logical and positive views. It requires a deliberate effort, creative ideas deserves yellow hat attention. Green hat people allowed creative effort, creative thinking, new ideas, additional alternatives, putting forward possibilities, hypothesis and covers provocation and movement. Blue hat if for controlling the thinking process and make it productive. It was asked for seeing the agenda for thinking, for building summaries, conclusion and comment on the thinking being used. These six hat techniques help learners to regular their thinking skills.

**Challenge:**
Challenge means to be creative and reach the uniqueness. It assumes that the current way is one of many ways and looks for better ways. It has three elements. They are block, escape and drop it. Block: it blocks the current bath and forces the mind to find an alternative. Escape: escapes from the unnecessary conditions to find an alternative and new pattern.
Drop it: drops the unwanted ideas at the end of the process and look for the next. It challenges continuity of mind in certain ways. Practicing lateral thinking means to challenge the shaping factors of ideas such as dominating concepts, assumptions, boundaries, essential factors and polarization.

**Design**
Design is the convenient technique to practice lateral thinking. It asks for improvements in certain existing ideas. It is to show the different ways of doing some tasks. It does not have any strict mechanical process but has the capacity to create a new type of pattern. In the process of design there is a tendency to use complete units. It uses complete units for a project. Challenging the units opens the ideas. To put in a short frame, the design, a technique, emphasizes different way of doing things, different ways of looking at things, escapes from concepts and challenges assumptions.

**Alternatives**
Searching for alternatives considered the very essence of creativity. Alternatives mean to have another choice. Lateral thinking suggests the movement sideway to generate alternatives patterns. Lateral alternatives are deliberate. In lateral alternatives, the purpose of the research is to loosen up rigid patterns to provoke new ones. It is not a matter of finding an appropriate fixed point but finding out a number of suitable points. The fixed point may be purpose, group, resemblance or concept.

**Concepts**
Concepts are needed and must be put into action by using specific ideas. Concepts could be created directly and sometimes they are pulled from a number of ideas. It demands to extract the original concept to either find or create another one. Once the concept is extracted, it strengthens the changed ones, provides better ideas and put everything into action.

**Provocation**
Provocation is the term used for thought experiments. It can be obtained in deliberate manner and may arise in the course of thinking and conversation. The symbolic word "po" was used to indicate provocation. According to De Bone, the word 'po' relates to words like possible, hypothesis, suppose, and poetry. Both of provocation and hypothesis aim at changing the direction. Hypothesis guides perception in a certain direction and provocation seeks to take away the perceptions from the usual direction. It provides ways to getting out from the main track in order to be creative.

**Setting provocation**
Provocation can be set naturally or through the method of escape. The thinker realizes that the idea is unsound then he can look forward for an alternative automatically. It raises provocation naturally. Moreover, the thinker can take all the points as granted for any situation then proceed to escape from the granted points in order to find new ideas.

**Stepping Stones Methods**
Provocation can be set in four steps such as reversal, exaggeration, distortion, and wishful thinking. The reversal is the first formal way of creating stepping stone method to form provocation. One looks at the situation in normal point of view and does his performance from usual direction. Then goes in the opposite direction or reverse to form the
provocation. The exaggeration is related to measurements and dimensions such as number, frequency, volume, temperature, duration etc. This step of exaggeration could be done both upwards and downwards of natural measurement and dimension. Distortion type of provocation can be obtained by taking the normal arrangements and changing in patterns. This is distorting the situation to create provocation. Wishful thinking provocation puts forward a fantasy wish knowing that the wish will not be fulfill in their life. Stepping-stones exercise frees up the mind of the thinker and attempts to use any stepping-stone provocation. That was to make the learners more creative.

**The Escape Method**

It is a method of leaving the old patterns and finding new ones. It has two steps: accepting all the patterns by following the principle "take for granted" or by leaving all the patterns and escape to find new ones.

**Sensitizing Techniques**

Sensitizing techniques aims at feeding ideas into mind to allow the process of thinking to take new creative tracks.

### 2.1.3.4 Lateral Thinking and Creativity:

Lateral thinking closely relates to creativity. Creativity is the ability to generate new ideas by combining, changing and reapplying existing ideas in the suitable context. Both lateral thinking and creativity have the same basic. Creativity bases on trying to get what has been left out of the original way of looking at a situation. Creativity and lateral thinking bring about change in direction; the purpose of change is to provide a new direction. Creativity has three main principles - overcoming the "No" barrier so that ideas can be used as stepping-stones to other ideas, opening yourself up to influences which have no connection with what you are doing and developing the willingness to look again which seem perfectly right and absolute. Creative thinking can help to facilitate change without the need to reject a previously held idea to do so. Lateral thinking encourages restructuring, rather than rejection, of old ideas. Sloane (2006)

### 2.1.3.5 Learning through lateral Thinking:

Learning through lateral thinking encourages to work individually then to share within groups. It is best to start with the generation of individual ideas. For example, after students see a short film, each individual would commit his own ideas to paper. Then read them back to the whole groups. After this individual generation of ideas, they will be discussed in groups and new ideas might be added. De Bone (2006)

It is clear that there is a similarity between "Think, Write, Pair and Share" strategy, the steps followed through practicing lateral thinking skills and the writing process. All require to work individually then to work in pairs and share within groups. The point here is to let students exchange ideas and to come up with the suitable one.

Fan (2012,15) stated that "Lateral thinking is about reasoning that is not immediately obvious and about ideas that may not be obtainable by using only traditional step-by-step logical thinking. Techniques that apply lateral thinking to problems are characterized by the shifting of thinking patterns away from entrenched or predictable thinking to new or unexpected ideas. In essence, it is considered a new idea that is the result of lateral thinking
is not always a helpful one, but when a good idea is discovered in this way it is usually obvious in hindsight, which is a feature lateral thinking shares with a joke."

De Bone (2006) stated that, "one of the most important tasks that formal education, can hope to accomplish, is to produce individuals who can think for themselves. Learning to think, help people to make judgments for themselves, to have developed a much greater understanding and appreciation of their own potential and that of their fellow human beings, to be effectively participate in social, economic and political processes."

Lateral thinking is not at all easy to learn for several reasons: De Bone (1971)

1. Lateral thinking contradicts many of the traditional habits of thinking which have been established by education.

2. Lateral thinking is unnatural as far as the natural tendency of the mind is to create and maintain rigid patterns.

3. Lateral thinking encourages open–ended ambiguity and many people become unhappy by such insecurity.

De Bone’s book "Lateral Thinking – Creativity Step by Step" (1970) adapted some techniques in evaluating one’s insight:

1. Progressive arrangement of cardboard shapes. One can make up different sort of shapes and devise new patterns for illustrating the same thing. In addition, one can ask the students themselves to devise new shapes. Example: Non-geometrical shapes. Using geometrical shapes to illustrate the deliberate search for alternatives

2. Photographs and pictures can be taken from newspapers and magazines. Students are asked to interpret a situation and give different ways of looking at a picture. Example: Describe what you think is happening in that picture or describe three different things that could be happening in that picture.

3. Drawings of scenes or people in actions can be provided by students themselves. The complexity or accuracy of the drawing is not important since what matters is the way it is looked at.

4. Written material – stories. Stories may be obtained from newspapers, magazines, or even books that are being used elsewhere in the curriculum. Students can generate different points of view of the people involved, or change what is a favorable description to an unfavorable one not by changing the material but by changing the emphasis and looking at it in a different way, or even extract a different significance from the information given than that extracted by the writer.

5. Problem solving: Problems can be generated from the inconveniences of everyday lives or by looking through newspaper. Student can be asked to generate alternative ways of stating the problem or alternative approaches to the problem.

Through the process of applying the study, students experienced most of the above techniques. They were very excited dealing with such activity. By this way, we can evoke our students' thinking. But we should be aware of creating the self-confidence in students in order to let them suggest ideas and not to be hesitated. They should realize that there is no "yes/no" system. No ideas will be rejected.

The researcher had a problem with the educational material. It is not rich enough for such activities. The researcher was forced to design additional lessons to enrich the experience. Fan (2012) pointed that the trouble with present day education is that covers the ground (facts and figures) without cultivating the soil (reasoning and thinking). Thinking skills
will not improve by themselves, or in the course of a general improvement in education. Education does not yet pay enough direct attention to thinking skills. In other words, being "smart" and being "filled" with facts and figures are not enough; you must be able to evaluate those facts and figures and relate them in a constructive manner to anticipate and solve problems. Another concern with our present education system is the smugness that follows perfect logic and excludes the search for new ideas and better approaches. Another danger is that it leads us to tackle that part of a situation and to ignore the rest as if it did not exist.
2.2 Related Studies:

Few studies have been performed at the international level related to lateral thinking. However, several studies have been conducted to the effect of "think, write, pair and share" on writing skills and on other variables. This will be presented in chronological order.

2.2.1 Previous Studies that Related to "Think, Write, Pair and Share" Strategy:

Usman (2015) conducted a study to improve students' English speaking ability by using the "Think, Pair and Share" strategy designed in classroom action research in STAIN Ternate Indonesia. The sample was a number of students in a cyclical process. The findings in Cycle 1 was unsuccessful because the students’ average scores was 74.18 and classroom atmospheres were “mid” that did not meet the criteria of success. Therefore, the implementation of the strategy was continued cycle 2 by revising the plan. The students’ average score in cycle 2 achieved 81.68 and classroom atmospheres were “mid”. It means that the results in cycle 2 met the criteria of success and judged a successful. So, it can be stated that the think-pair-share strategy was effective to be implemented at Stain Ternate in order to improve the students’ speaking ability.

Afrilianti (2014) carried out a study that aimed at finding out the effect of treatment by "Think, Pair and Share" strategy to improve students' reading comprehension of the first grade at MTSN Aryojeding Rejotangan Tulungagung (Indonesia) in academic year 2013/2014. The sample was seventh class F that consists of 39 students. This research uses pre-Experimental Design using quantitative approach. It is intended to find out any significant difference on the students’ reading achievement before and after taught using TPS strategy. The result of this study showed that the mean of students’ score of pretest before they are taught being using TPS strategy to improve reading comprehension was (64.3). While the mean of students score after they are taught being using TPS strategy was (81.2). The t-count was (7.507), whereas t-table with significant level 5% was 2.021. Therefore, t-count was greater than t-table. To conclude, TPS strategy to improve students’ reading comprehension can be used as an alternative strategy to improve students' reading comprehension at junior high school, especially for 7th grade.

Listianil (2014) conducted a study to improve reading comprehension of the eighth grade students of SMP N 2 Abiansemal in academic year 2013/2014 through "Think ,Pair and Share" strategy. The sample of this study, was class eight A of SMPN 2 Abiansemal that consists of 29 students (11 males and 18 females). The study used classroom action design. This study was conducted in two cycles, each cycle involved two sessions. The students' result of the post-test in each cycle obviously showed that there was significance improvement concerning the students' ability in Reading Comprehension in the term of narrative text in which it improved from level low to good. This research furthermore showed that there was changing learning behavior as the result of the positive responses concerning the technique applied in improving the subjects” reading comprehension skill. To sum up, the present classroom action study proved that think pair share could improve reading comprehension at the eighth grade students of SMPN 2 Abiansemal in academic year 2013/2014; in addition, the subjects also responded positively in reading comprehension through think pair share.
Afan, Marhaeni and Dantes (2013), carried out a study that aimed at finding out the effect of "Think, Pair and Share" technique on the English reading achievement of the Students differing in achievement motivation at grade eight of SMPN 13 Mataram (Indonesia). This research with posttest only control group design by using 2x2 factorial designs. 80 students were taken from six regular classes as the research sample with cluster random sampling technique, then divided them into experimental group and control group. The results of analysis the data were 1). There was a significant difference in English reading achievement between the groups of student who were taught by using think-pair-share technique and those taught with conventional teaching technique. 2). There was an interaction effect between the teaching technique and achievement motivation toward the English reading achievement of the students. 3). There was a significant difference in English reading achievement between the group of students who had high achievement motivation taught with think, pair and share cooperative technique and those who were taught with conventional teaching technique. 4) There was no significant difference in English reading achievement between the group of students who had low achievement motivation taught with think-pair share cooperative technique and those who were taught with conventional teaching technique.

Sumarsih and Sanjaya (2013) conducted a study to investigate the effect of using "Think, pair and share" (TPS) on the students' achievement in writing descriptive. Action research is conducted for the result. Additionally, qualitative and quantitative techniques are applied in this research. The sample of this research is grade eight in Junior High School in Indonesia. From this study, the mean of the first evaluation sharply increased to the mean of the second evaluation and to the mean of the third evaluation. They are 66.4375, 78.125 and 87.5625 respectively. Observation result showed that the students gave their good attitudes and responses during teaching and learning process by applying the application of TPS (Think Pair Share) technique. Questionnaire and interview report showed that students agree with the application of TPS (Think Pair Share) technique have helped them in writing descriptive text. It can be conclude that the students’ achievement is improved when they practice by TPS Technique.

Agusferani, Rahmah and Sutisna (2013), conducted a study to know the students' writing ability to write Narrative Text by using "Write, Pair and Share" technique. The sample of this research is 34 students of X-5 in SMA RIMBA MADYA BOGOR (Indonesia). By using Classroom action research, the writer has done two cycles process. After the learning process, the result of first cycle shows that five students who got very good criteria (15%), 19 students who got good criteria (56%), five students who got fair criteria (15%), and five students who got poor criteria (14%). In the second cycle, one student (2.94%) is poor, one student (2.94%) is fair, eight students (23.53%) are good, 18 students (52.94%) are very good and six students (17.65%) are excellent. In conclusion, there are six students get the score under the minimal standard score (≥75) or 82.35% students get higher score than 75. It indicates that write pair share technique is an appropriate technique that can improve students’ writing ability to write narrative text.

Marhaeni, Putra and Jaya (2013) conducted a study to investigate the effect of "Think, Pair and Share" teaching strategy to students’ self-confidence and students’ speaking competency. This study was conducted towards students of the second grade in SMPN 6 Singaraja, in the academic year 2012/2013. There were 121 students selected as sample put in experimental and control group. The study used a post-test only control group design. The analysis was made by using Manova facilitated by SPSS version 16.0 for windows.
The result indicated that (1) there was a significance effect of Think, Pair and Share on students’ self-confidence ($F = 754.104$ and $\text{sig} = 0.000; p < 0.05$). (2) There was a significance effect of Think Pair Share on students’ speaking competency ($F = 60.325$ and $\text{sig} = 0.000; p < 0.05$). (3) Simultaneously, there was significance effect of Think Pair Share on students’ self-confidence and students’ speaking competency ($\alpha<0.05$).

El-Najjar (2013) implemented a study to identifying the impact of employing the strategy of (Think, Pair, Share) in developing the collection and meditative thinking in algebra at the ninth grade female students in Khan Younis governorate. The researcher followed the procedures of experimental approach. The sample of study consisted of (74) student divided equally to (37) as experimental group and (37) as a control group. The study tools were collection test and test of meditative thinking prepared by the researcher. Study's results showed that there was an impact of (think, pair and share) strategy on collection a large effect size(0.35) attainment levels (remembering, understanding, application, high skills) for the total degree for the collection test and there was an impact for the strategy of (think, pair, share) on meditative thinking in size(0.230) on the skills of meditative thinking and in the total degree for the meditative thinking test.

Mazda (2013) conducted a study to find out the improvement on the ability of the second year students of MA Al Maarif Singosari Malang (Indonesia) in composing hortatory exposition text by the use of "Write, Pair and Share" technique. The sample was 37 students of the second grade of language class. The study was done only in one cycle that consists of five meetings. Classroom action research was used in order to attempt to solve her personal practical problems faced in the classroom. The analysis found that the treatment could reach the improvement of the students’ writing ability. It was reflected of the result of the test. There were 27 students (73%) out of 37 students got the score ≥ 75could obtain the school minimum standard (KKM) of English subject in writing hortatory exposition text. In addition, the percentage of the students’ activeness was also improved from the first to the last meetings.

Siahaan and Ginting (2012) conducted a study to improve students’ achievement in writing procedure text through Think-Pair-Share (TPS) technique. The result of writing test showed that the students score kept improving significantly. The mean of post-test I was 80,525 and the mean of post-test II was 92, 98. The mean score of post-test II in cycle II was the highest. The mean of post-test I until post-test II increased significantly from 80,525 to 92, 98. The students became active participants, enjoyable, and enthusiastic in teaching and learning process through Think-Pair -Share (TPS) Technique. The result of the research showed the progress of achievement scores. To conclude, Think-Pair-Share (TPS) technique gives contribution to improve students’ achievement in writing procedure text.

Gafour (2012) conducted a study that aimed at knowing effect of using strategy of (Think-Match-Participate) in Acquisition of mathematical. Concepts for Third stage students of Teachers Training institute. There are 2 sections in the institute in Ba'qobq. The Researcher chose section (A) as an experimental group and section (B) as a control group. The researcher prepared teaching plans and achievement test. The results of the study showed statistical significant differences between the two groups in favor of the experimental group. The researcher concluded that the strategy of (Think-Match-Participate) participated in students' acquisition for mathematical concepts and in students' participation in problem solving during the lesson. The researcher recommended to Put this strategy in curricula and
methods of teaching in teachers training institute and to train teacher to apply such a strategy.

Manik and Ginting (2011) conducted a study to improve students’ writing achievement in recount text through "Think, Pair and Share" Strategy. This study was conducted by using classroom action research. The sample of the research was class eight Pematangsiantar (Indonesia). The number of the students was 32 students, consisted of 5 males and twenty seven females. The research conducted in two cycles and consisted of six meetings. The instruments for collecting data were writing tests as the quantitative data and diary notes, observation sheet, interview sheet and questionnaire sheet as qualitative data. Based on the writing score, students’ scores kept improving in every test. In analyzing the data, the mean of the students’ score for the first test as a pre-test was 57.84, for the second test as a post-test I was 73.56, for the third test as a post test II was 77.56. Based on diary notes, observation sheet and questionnaire sheet, it was found that students were actively involved in writing process. The result of the research showed that Think-Pair-Share Strategy can improve students’ achievement in writing recount text.

Suwandi and Ardini (2011), conducted a study to find out whether "Think, Write, Pair, and Share strategy is effective for the teaching of writing. Two classes were taken as samples, one as an experimental group and the other as a control group ,each of which consisted of 32 students .It was hypothesized that learners in the experimental group would get better results than those in the control group .The data were analyzed using t-test. The results indicated that the experimental group got a higher mean score than the control group. The result of the t-test is 5.84 while the t-table is 3.6. Based on the scores it was conducted that Think Write Pair, and Share strategy is effective for the teaching of writing.

Abu Gali (2010) conducted a study that aimed at investigating the effect of recruitment strategy (think - pair – share) on the development of logical thinking skills in science among eighth graders in in Gaza. The researcher used the experimental method. The sample of the study included (161) students (80 males and 81 females) at the Nile School for Boys, and Sayeda Ruqaya Girls School in Gaza. Students were assigned to experimental and control group. The researcher has prepared the content analysis and a test for logical thinking skills. The results showed the effectiveness of (think - pair –share) strategy on the development of logical thinking skills among students in eighth grade. There are significant differences at the level of significance ($\alpha \leq 0.05$) between the average scores of the experimental group students and the average degree of the control group students, for students of the experimental group. - There are significant differences at the level of significance ($\alpha \leq 0.05$) between the average scores of the experimental group students and the average degree of the control group students for the experimental group. And There is no statistically significant differences in the abstract level less than 0.05 degrees between the average college students and average scores of students overall experimental group to measure the dimensional.

Abd El- fatah (2008) conducted a study that aimed at measuring the effects of using (think, pair, share) strategy on developing math communication and creativity of fifth grade students. The study sample is selected randomly from fifth grade. Students in Abo-Nbhan Primary School belong to Mite Ghamr education directorate. The sample consisted of 77 students (male and female). And is divided to experimental group consisted of 37 students (male and female) learning by using (think- pair- share) strategy and control group consisted of 40 students (male and female) learning by using normal way. Two tools
prepared by the researcher were used - Math communication test and Math creativity test. The Study reached to the following results: There is statistically difference at level (0.01) between the average grade of control group students in pre-and post- application of math communication test as whole (and for each of its sub-dimension) in favor of the post application. 2- There is a statistically difference at level (0.01) between the average grade of the experiment groups students in the pre-and post application of math communication test as a whole (and for each of its sub dimensions) in favor of the post-application.

Carss (2007), his study aimed at describing the effects of "Think, Pair and Share" strategies, used during Guided Reading lessons, on reading achievement in New Zealand. The sample was 6 year classroom with two intervention groups, each containing six children. One group was reading above their chronological age and the other below. Control groups reading at these levels were used. Three variations of Think-Pair-Share were utilized during the eight weeks intervention period; Predict-Pair-Share, Image-Pair-Share and Summarize-Pair-Share, and the research centered on the effects of the intervention on reading comprehension. A quasi-experimental design was employed using a pre-test, post-test format and a mix of quantitative and qualitative measures to ascertain the effects. The results confirmed the positive effects of the strategy on reading achievement, especially for those students reading above their chronological age, although an extended period of intervention may have had significant effects on those reading below. Positive effects on aspects of oral language use, thinking, met cognitive awareness, and the development of reading comprehension strategies were noted with both of the intervention groups. Results have significance for those concerned with implementing effective literacy practice. They demonstrate the versatility of the Think-Pair-Share strategy as a tool to foster conversation, and one that can be adapted to suit the learning focus and the needs of particular groups of students.

2.2.2 Previous Studies Related to Writing skills:

Mermelstein (2015) conducted a study aimed to seek out methods of improving reading and writing for EFL learners. This one-year study focuses on an enhanced design of extensive reading (ER) towards improving learners’ writing abilities in Taiwan. Pre- and posttests used the Jacobs, Zingraf, Wormoth, Hartfield, and Hughey (1981) measurement of writing, including content, organization, vocabulary, language use, and mechanics. A sixth subscale and fluency was added. The results indicate significant differences in gains on all of the subscales favoring the treatment group. A measurement of effect size also demonstrated small to large effects across the six subscales. This study demonstrates that an enhancement of previously established ER protocols can achieve significant gains and sizable effects among learners.

Gorjian and payman (2014) conducted a study aimed at investigating the role of task-based strategies on students’ writing skill among translation students at Abadan University, Iran. The hypothesis was that the tasks of class discussion, oral summary, and mind mapping may develop EFL learners’ writing of English as a foreign language whose access to the target language is limited. The focus of this study was to make treatment on the mechanics of writing, coherence, and cohesion. The design of the study was pre and post-test method. 90 translation students were selected out of 120 Translation students through a homogeneity grammar test (Richards et al, 2008) at Abadan University, Iran. Then they were randomly divided in to three (i.e., class discussion, oral summary, and mind mapping) equal groups received treatment on the three tasks in a-10 session period of treatment in
writing courses. Data were collected through pre and post-test writing descriptive essays to find any progress at the end of the treatment session. Data were analyzed through One-way ANOVA and Paired Samples t-tests. Findings revealed that the mind mapping and class discussion groups outperformed the oral summary group. However, mind mapping group outperformed both groups. Implications for future English teaching and learning could be the use of mind mapping tasks, which develops EFL learners’ writing proficiency. Thus through analyzing the passages in the classroom, the learners were able to discover the passage structures and use this knowledge in their writing process.

Zahra (2014) conducted a study aimed at investigating, whether there is any improvement of students’ writing ability in writing a descriptive text by the implementation of Jigsaw technique and discover students’ response to the use of Jigsaw technique in teaching writing descriptive text. This research employed quantitative method in the forms of quasi-experimental design. This quantitative research involved two classes of tenth grade at one senior high school in West Bandung in which one class was assigned as the experimental group and the other one was assigned as the control group. The instruments used were pretest, post-test, and questionnaire of attitudes towards the Jigsaw technique. The post-test scores of the two groups were compared by using Independent t-test. The results showed the significance value was lower than the significance level which was 0.043 < 0.05. It meant that the Jigsaw technique improved students’ ability in writing a descriptive text. Based on students’ attitudes toward the use of Jigsaw technique, the findings indicated that most of students rated the used technique moderately positive. Nearly all of students agreed that Jigsaw technique is able to improve their writing skill, advance their grammatical mastery, increase their vocabulary mastery, expand their creative thinking, and improve their presentation skill as well as their confidence.

Yamine (2013) conducted a study aimed at investigating the effect of using well-structured small group work to enhance third year LMD students’ writing skill at the English Department of Biskra University Algeria. In order to check this correlation, we have hypothesized that well structured small group work would enhance students’ writing skill if the teachers put into classroom application the cooperative learning principles and techniques that would result in developing the learners’ written production. To verify the validity of these hypotheses, an experimental study has been conducted. Two groups have constituted our sample an experimental group and a control one. A pre-test has been administered to examine students’ individual writings according to the graphic organization of an academic essay; i.e. the comparison and contrast essay which should include: an introductory paragraph, developmental paragraphs (two paragraphs at least: similarities paragraph, contrasts paragraph) and a concluding paragraph. The task is done without the implementation of the cooperative learning technique. The results of the pre-test have shown a limited knowledge of writing a descriptive essay and a wide range of mis-organization. Afterwards, a questionnaire has been conducted to teachers to gain more information about our sample’s use of cooperative learning. An experiment has been conducted to enhance students' writing skill by implementing a cooperative learning technique Jigsaw II (Slavin, 1980) mainly through an explicit teaching. The results of the post-test have confirmed our hypothesis that the students’ writing skill is developed with well-structured cooperative group work.

Shokrpour, Keshararz and Jafrai (2012) conducted a study aimed at investigating the interaction patterns among EFL learners, the effects of peer review techniques on improving the learners’ writing skill, and also the motivation aroused by writing in a
synchronous writing environment of an EFL context. Fifty EFL students at the intermediate level were enrolled and randomly divided into two experimental and control groups. During a three-month period, both groups were instructed writing. The control group received the traditional teacher-correction/feedback procedure whereas the experimental group was provided with a one-hour of instruction on peer review at the beginning of the term and peer review process was run in this class. The data were collected using a background questionnaire, a pre-test and a post-test for language proficiency and writing skill, a peer response sheet, writing criteria and guideline sheet, and a topic list sheet. The results of the study indicated that the writings of the students in the experimental group improved more than the control group. In addition, those engaged in peer review method were motivated to write more essays and enjoyed writing. It was concluded that peer review provides learners with an authentic audience, increases the students’ motivation for writing and enables them to receive different views on their writing.

Isa (2012) conducted a study that aimed at investigating the effect of using wikis on improving Palestinian ninth graders’ English writing skills and their attitudes towards writing. To achieve this aim, the researcher employed a representative sample of 39 EFL students studying at Bureij Prep. Girls School, 'A' which is run by UNRWA in the Gaza Strip. It was divided into two groups: experimental group consisted of 20 students and control one consisted of 19 students. The researcher used three tools: an observation card to explore students' performance in utilizing Wikis and practicing writing skills and activities, a questionnaire to reveal students' attitude towards using Wikis in teaching and learning writing skills and pre/ post writing test. Being used as a pre-test, the writing test was meant to prove groups equivalence. Besides, it was used as a post- test to measure any possible differences between the target groups. The collected data were analyzed and treated statistically using SPSS. The findings of the study revealed that there were significant differences in participants' performance before and after implementing wiki project in the favor of the post-performance. The findings also pointed toward the presence of significant differences between the attitudes of the experimental group before and after the experiment of utilizing wikis to develop their writing skills in the favor of after experiment. Moreover, the study findings revealed that there were significant differences between the mean scores attained by the experimental group and those by the control group in favor of the experimental group. This was due to the wiki technology. Additionally, implementing the effect size equation, the study revealed that wiki project had a large effect size favoring the experimental group.

Abu Armana (2011) carried out a study that aimed at examining the impact of a remedial program on English writing skills of the seventh grade low achievers at UNRWA Schools in Rafah . The researcher adopted the experimental approach. The sample of the study consisted of (127) seventh grade low achiever students distributed into four groups. Two experimental groups i.e. a male group consisting of (31) students and a female group consisting of (37) students. The others are two control groups i.e. a male group consisting of (25) students and a female group consisting of (34) students. The researcher used the sample from Rafah Prep Boys "E" school and Rafah Prep Girls "D" school. Both are UNRWA schools in Rafah Governorate where two teachers conducted the experiment and were helped and guided by the researcher. The remedial program was used in teaching the experimental group, while the ordinary teaching periods and the textbook was used with the control one in the second term of the scholastic year (2009-2010). A writing test of three scopes with (30) items was designed and validated to be used as a pre and post- test.
The data of the study were analyzed, using Statistical Package for Social Science (SPSS), to confirm the test validity and reliability. On the other hand, Mann Whitney, t. test paired and independent sample was used to measure the statistical differences in mean between the experimental groups due to the use of the remedial program. The study indicated that there are statistically significant differences at the level ($\alpha = 0.05$) on English writing skills of the seventh grade low achievers in favor of the experimental groups. It means that the use of the program in the remedy of the weaknesses of the writing skills of the low achievers had a significant impact on the students.

Abu Ghazalah (2010) conducted a study aimed at investigating the effect of using a comprehensive approach for teaching high frequency words on developing the writing skills of seventh graders in Gaza. Sample of the study consisted of 59 male students. The sample was purposively chosen from Nuseirat Prep. Boys School "B". It was divided into two groups, experimental consisted of 29 and control group consisted of 30 students. The two groups were equivalent in their previous learning, achievement in English language in general and achievement in writing and spelling in particular. To collect data and achieve the goal of the study, the researcher used three tools, card analysis to determine the most frequent words in English for Palestine grades 5,6 and 7, pre/ post achievement tests( spelling and writing) and a portfolio to measure the progress in writing skills. Data gathered from the card analysis revealed that there were 150 words that are frequently used in reading and writing exercises in the three grades. The researcher pre-tested the two groups in spelling and writing. The two groups were tested again in spelling and writing after the application of the experiment. The results were statistically analyzed. The study findings revealed that there were significant differences between the mean scores attained by the experimental group and those by the control group in favor of the experimental group. This was due to the comprehensive approach. Post intervention data indicated a remarkable increase in the experimental group's achievement in writing skills and ability to transfer their knowledge of spelling skills into daily writing.

Hanna and Farrah (2010) conducted a study that aimed at enhancing the English Reading and Writing Skills of Palestinian English Majors by Using CALL. The study was conducted at the English Department in Hebron University in the second semester of the academic year 2008-2009. The focus of the study is the Integrated Language Skills course. The population comprised 104 students. The students took the reading and writing portions of a standardized English language test, and a questionnaire was used to assess the achievement of the control group and the experimental group. The two researchers investigated whether there was a significant difference between the two groups in four dimensions, namely, computer anxiety, computer importance, attitudes, and productivity. The results indicate that CALL enhanced the Reading and Writing skills as evidenced by the statistically significant differences in the post-test between the control group and the experimental group. In addition, using CALL has been shown to include the added advantages of promoting motivation, increasing self-confidence, encouraging learner-centeredness and decreasing the anxiety felt by the students. Moreover, CALL makes EFL enjoyable, meaningful, and motivating relevant, and exciting. Finally, the results of this study revealed that using CALL enhances the reading and writing skills and proficiency of English majors.

Nudee (2010) conducted a study that aimed at investigating the effect of teacher–directed process writing and cooperative process writing on students' English writing ability, and to investigate the attitudes of students towards each method through which they were
instructed. The sample was Mattayomsuksa five students (grade 11) at Hatyaiwittayalai 2 schools, Songkhla, in the first semester of the academic year 2009. The sample were divided into two groups, each of which consisted of 30 students was taught by the researcher. The control group studied writing through teacher-directed process writing and the experimental group studied writing through cooperative process writing. The instruments used were the pre and post tests, lesson plans, teaching materials, the attitude questionnaires, and the interview questions forms. The results of the study showed that the post-test scores of each group increased significantly after the experiment. Moreover, the experimental group achieved higher level of writing ability and moved up to higher levels in greater number than those in the control group. T-Test results indicated that the post-test mean scores of both groups were significantly different. The finding also revealed that students in each group had positive attitudes towards the teaching method they were treated with.

Naeem's study (2007) aimed at investigating the effect of a suggested Computer-Assisted Language learning CALL program on developing EFL learner's mechanics of writing in English. The researcher chose the sample randomly. The sample consisted of eighty-four–year students (2006-2007) of the English Department at the Faculty of Education in Kafer El-Sheikh. Forty students have been chosen to the experimental group to study mechanics of writing via the CALL program and the other forty students have been chosen to the control group. The researcher used a pilot study, an achievement test, the CALL program, a lecturer's guide, a student's guide and a questionnaire to collect the data and carry out the experiment. The experiment of the study has lasted for ten weeks. The researcher used the One Way ANOVA and the t-test to analyze the data statistically. The findings of the study showed that the suggested CALL program developed EFL college learners' components of writing mechanics (Punctuation marks, Capitalization and Spelling).

2.2.3 Previous Studies Related on Lateral Thinking:

Saleh and Sou'd (2014) conducted a research aimed at measuring the degree of lateral thinking among students of university of Baghdad. The researcher had done a test of lateral thinking according to the definition of De Bono. The final research sample reached about (444) students divided into (242) males and (202) females from the students of the university of Baghdad, which were chosen randomly. After applying, the two concepts of the research and analyzing the data the researcher found the following: lateral thinking was low at the students of the University of Baghdad. There is a relationship between the lateral thinking and the ultimate degree components and they are all positive. There is no effect for the gender in the degree of lateral thinking students. There were no vivid influence for the gender and specialty in the degree of the lateral thinking at the students of the University of Baghdad.

Lawrence and Xavier (2013) conducted a study aimed at finding the lateral thinking of prospective teachers with certain demographic variables. Data for the study was collected using self-made Lateral Thinking Questionnaire (LTQ). The investigator used stratified random sampling technique. The sample consists of 1345 prospective teachers who studied in Tirunelveli, Thoothukudi and Kanyakumari Districts in Tamil Nadu. For analyzing the data percentile analysis, ‘T’ Test and ANOVA were used as the statistical techniques. Findings show that, the level of lateral thinking of prospective teachers are moderate. There is significant difference, between male and female prospective teachers, in their
lateral thinking, its dimensions description, humor, insight and problem solving. There is no significant difference between rural and urban prospective teachers in lateral thinking, its dimensions description, humor, insight and problem-solving. There is significant difference among the subject of language, arts and science prospective teachers in lateral thinking and its dimensions description, humor, insight and problem solving.

Leela and Sheela (2012), conducted a study aimed at investigating the effect of teaching English using lateral thinking techniques on achievement in English among secondary school students. A sample of 120 students of 9th standard of two schools in Mysore city (India) were matched on General Mental Ability using Ravan's Progressive Matrices and verbal creative thinking by using Baqer Mehdi's verbal test of creative thinking. There were two groups (experimental and control). Each one has 60 students. The experimental group was subjected to teaching by lateral thinking techniques and the control by conventional method of teaching. The results indicated that teaching English by using lateral thinking techniques was more effective than conventional method of teaching.

Deeb (2009) carried out a study aimed at identifying lateral thinking among the university students and personality traits in accordance with the big five-personality factors model among the students of university. The current research is restricted to the students of Al-Mustansriya University of scientific and humanitarian specialties from males and females for the academic year 2009-2010. The researcher has developed a questionnaire over lateral thinking according to the suggestions and views of de Bono in lateral thinking. The questionnaire consists of (34) questions. The researcher has adopted the scale of the big five personality factors of Costa & McCrae 1992. The researcher used the honesty, sincerity of virtual construction and stability coefficient through re-testing and analysis of variance were between (0.91-0.81) and (0.92-0.79) respectively, according to both methods. Those methods were applied to the sample of (250) students selected in random manner from the colleges of Al-Mustansriya University. After collecting information and processing it statistically, the results showed that the low level of lateral thinking among the university students in various specialties and gender. The results showed that there was no statistically significant correlation between lateral thinking and the traits of neuroticism, extraversion, and agreeableness. While the results showed, that there was statistically significant relationship between the lateral thinking and the trait of openness to experience and conscientious. Moreover, the relationship between each of the lateral thinking and openness to experience traits in males clearly are better than females. While it is showed that the relationship between lateral thinking and conscientious trait in females is better than males from the rest of the differences in the relationship. In addition, students of scientific specialty have better relationship between each of the lateral thinking and the trait of openness to experience from the rest of the differences in the relationship.

Alex (2009) conducted a study aimed at developing a multi-dimensional model of organizational creativity and developed instruments to measure the majority of the factors in the model. The specific objectives were to examine the influence of personal preferred style in creative problem solving and organizational creativity factors on the types of lateral thinking. The study also aimed to explore to what extent the types of lateral thinking could affect the decision outcomes. The research methodology used was a quantitative survey to test the theory that was hypothesized in the research framework. It involved 217 people across all departments at the supervisory, executive and managerial level from a sample of ten (10) organizations in Malaysia that has undergone creativity training by the researcher from the year 2000 to year 2004. The researcher administered four (4) instruments: Creative Process Inventory (CPI), Organizational Creativity Factors (OCF),
Lateral Thinking Test (LTT) and Decision Making Outcomes (DMO). The research indicated that personal preferred styles have no significant impact on the explanation of observed variances in the types of lateral thinking. However, the organizational creativity factors showed a significant association with a chi-square value of 30.61. This clarified the possibility of other factors that affected the types of lateral thinking. The three variables that are significant predictors of novelty ideas were creativity training, idea implementation process and idea assessment process. The model explained that the overall predictive accuracy was 68.2% of the types of lateral thinking, thus presenting a relatively good model of exogenous variables. Overall, the model correctly predicted 80.3% of the cases for novelty ideas and 52.6% for predicting effective ideas.

2.3 Conclusion

This chapter presented Eastern and Western studies, which dealt with independent and dependent variables of the study. The researcher noticed that all the researchers who have conducted their research on improving students' English writing skills agreed upon the significance of applying different strategies through the process of teaching for their great influence on students and on serving a variety of learning purposes.

After shedding light on the related studies, it is clear that all studies have focused on investigating the impact of different strategies on developing students' English writing skills. However, none of them examined the influence of any strategy on students' lateral thinking. It is obvious, that the interest of such type of thinking is rare. There were numerous studies on creative, meditative and logical thinking but not on the types of lateral thinking. Studies dealing with this subject were very few. The researcher found only six studies taking about lateral thinking (three are western and three are eastern).

Furthermore, some studies investigated the effect of the "think, write, pair and share" strategy on different skills and discipline at the international level. It is obvious that it has a positive results. For example, Usman (2015) carried out a study to investigate its effect on students' speaking ability. Afriliant (2014), Listiani (2014) and Crass (2007) conducted studies to examine its effect on reading skill. Others investigated its effect on writing skills. Among these are Sihaen & Ginting (2012), Sumarish and Sanjaya (2013), Mazda (2013) and Suwandi and Ardini (2011). Moreover, some researchers investigated its effect on different types of thinking such as Abu Ghali (2010) and El-Najjar (2013).

This study adds to previous studies the impact of "think, write, pair and share" strategy on lateral thinking by training students to the thinking skills within the training program prepared by the researcher to give students the chance to develop their lateral thinking skills. There are very limited number of studies that tackle this type of thinking. Among these are Saleh and Suo'd (2014), Lawrence and Xavier (2013), Leela and Sheela (2012), Deeb (2009) and Alex (2009).

The limited number of studies that focused on lateral thinking skills gives the importance to conduct a study that investigates students' writing skills, their lateral thinking and the interaction between them through "think, write, pair and share" strategy.
Chapter Three
Methods and Procedures

This chapter is devoted to the methods and procedures used by the researcher to determine the population and the sample of the study, as well as research instruments, reliability and validity of the instruments, data collection procedures and program description and implementation. It also illustrates the types of statistical tests used in this study.

3.1 The Research Method

An experimental method with a quasi-experimental design was used to carry out the study. The researcher conducted this method due to its relevance and suitability for the purposes of this study.

3.2 Design of the study

The researcher used a quasi-experimental design:

\[ \begin{array}{c|c|c|c|c} O1 & O2 & X & O1 & O2 \\ \hline O1 & O2 & --- & O1 & O2 \\ \end{array} \]

O1 – the wiring rubric (pre & post)
O2 – The lateral thinking test (pre-test post-test)
X- Treatment (using think, write, pair and share strategy)
--- (using the traditional method)

3.3 Population of the Study

The population of the study consisted of (3651) tenth grade students, distributed into (1909) female students and (1742) male students at the governmental schools, which belong to Directorate of Education in Bethlehem in the second semester of the academic year 2015-2016.

3.4 Sample of the study

The sample of the study consisted of the tenth grade (116) in two different schools (Al-Obaidiah Secondary Girls' School, Bethlehem Secondary Boy's School). These two schools were selected in this study as a purposive sample due to the following reasons:
- The easiness of reaching the schools.
- The schools administration's acceptance to apply the research.
The researcher assigned the sample of the study for the experimental and control group in both schools randomly.

Table 3.1: The distribution of the participants of the study

<table>
<thead>
<tr>
<th>Group</th>
<th>Experimental</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>32</td>
<td>31</td>
<td>63</td>
</tr>
<tr>
<td>Female</td>
<td>26</td>
<td>27</td>
<td>53</td>
</tr>
<tr>
<td>Sum</td>
<td>58</td>
<td>58</td>
<td>116</td>
</tr>
</tbody>
</table>

3.5 Research Instruments
To achieve the objectives of the study the researcher conducted two instruments:
- A marking writing rubric.
- A lateral thinking test.
These instruments were applied before the intervention of the study and after it for both the experimental and control groups.

3.5.1 Writing Rubric:
The researcher referred and reviewed many sources such as Mermelstein (2015), Shokrpour & Kesharzar (2013), and Jafrai (2012). The rubric has four standards: conventions, the number of content words, grammar and ideas. The total grade is out of 20 (5 for each).

3.5.2 Validation of the Rubric
The rubric was given to a jury of English language specialists at school and university level. (Appendix 7).

3.5.3 Reliability of the rubric:
A pilot study was applied in order to examine the reliability of the rubric. The pilot study was conducted on 12 students at Alnokha Secondary School - Bethlehem. The researcher used a test/re-test with two weeks period between them. Test reliability was (0.84) using correlation test.

3.6 Lateral thinking test (LTT)
The researcher referred and reviewed many sources such as Edward de Bone book which name is Lateral Thinking (1970) and some studies such as Saleh and Sou'd (2014), Lawrence and Xavier (2013), Leela and Sheela (2012), Deeb (2009) and Alex (2009). The researcher developed her own instrument, which suits the current study purposes. The test was translated to Arabic to be compromised with student's ability in the 10th grade. The test has 20 items and the grade is out of 80. (Appendix 5 and 6)

3.6.1 Validation of the Test
The test was given to a jury of English language specialists at school and university level.(Appendix 8).

3.6.2 Reliability of the Test
A pilot study was applied in order to examine the reliability of the test. The pilot study was conducted on 12 students at Alnokhba School Bethlehem. The researcher used a test/ re-test with two weeks period between them. Test reliability was (0.80) using correlation test.
3.7 Preparation of the Teacher's Guide Activities that Using the "Think, Write, Pair and Share" Strategy

The researcher prepared a teacher's guide (Appendix 2) in the form of activities illustrates how to teach writing skills and lateral thinking through "Think, Write, Pair and Share" Strategy. The researcher chose some periods from English for Palestine "grade ten" that can be taught through the "Think, Write, Pair and Share" Strategy. The researcher also prepared some additional lessons to apply the strategy. The researcher followed the following steps:

• Had a deep look on the 10th grade's English language curriculum, which is applied in Palestine in the second semester of 2015/2016.
• Had a deep reading on the specified related literature to the procedures that the teachers can follow in applying "Think, Write, Pair and Share" Strategy.
• The educational materials consisted of 11 lessons (7 lessons are selected from the units in the book and three additional ones prepared by the researcher.
• The teacher's guide consisted of, objectives, lessons, and the suitable methods to implement them according to "Think, Write, Pair and Share" Strategy as well as certain pictures, a worksheet, a poster and a video to simplify the teacher's job and the learner's learning.
• The researcher showed the teacher's guide to a group of specified and experienced persons to give their opinions.
• The researcher held several meeting with practicing teachers to exchange opinions.

3.8 Procedures to study

The researcher did the following procedures:

• Got a permission letter from the Dean of Research and Graduate Studies at Al Quds University to facilitate the work at school.
• Got a permission from the Directorate of Education in Bethlehem for applying the research at school.
• Assigned the population of the study, which consisted of all tenth grade students at the governmental schools in Bethlehem district in the academic year 2015/2016.
• Assigned the purposive sample of the study.
• Designed the material which include units objectives, the reading texts, certain pictures, a worksheet, a poster, and activities using “Think, Write, Pair and share” strategy.
• Prepared marking writing rubric and lateral thinking test. Content validity and reliability were established for both tools.
• Accompanied the teachers of the intended sections to explain the aim of the study and to explain the task clearly.
• The pre-tests were given in the two chosen schools.
• Applied the “Think, Write, Pair and share” strategy on the experimental groups.
• The post-tests were given for the two groups.
• Collected the data for statistical analysis and for identifying the findings.
3.9 Variables of the Study:

3.9.1 Independent variables:

* Teaching method ("Think, write, pair and share" strategy, traditional method)
* Gender (male & female).

3.9.2 Dependent Variables:

* English writing skills.
* Lateral Thinking.

3.10 Statistical Analysis

When the data were gathered, they were processed through the SPSS in order to find reliability using Person correlation, and means and standard deviation for the writing skills rubric and lateral thinking test (pre-test and post-test) for both, the experimental and control groups were also examined. Furthermore, the analysis of covariance (2-way ANCOVA) and adjusted means and standard errors were used to compare the means of the students’ performance in writing skills rubric and lateral thinking test to answer the questions.
Chapter Four:  
Research Findings:

This study was designed to investigate the effects of using the “Think, Write, Pair and Share” strategy on tenth graders’ English Writing skills and their lateral thinking. It is also to identify if the effects differ according to the interaction between the “Think, Write, Pair and Share” strategy and gender.

This chapter provides a comprehensible presentation of the present study results and data analyses. The data included information derived from the students’ scores of the writing evaluation rubric and their responses to the Lateral thinking test. The findings of the study are presented in this chapter according to the research questions.

4.1 Results Related to the First Question

Is there an effect of using "Think, Write, Pair and Share" strategy on the development of 10th graders’ English writing skills? And does this effect differ due to the method of teaching, gender, and the interaction between them?

To answer the question, mean scores and standard deviations were calculated of the learners’ scores in the four groups- the control and the experimental ones- on the writing skills according to the method of teaching and gender. Tables (4.1, 4.2) will show the mean scores and standard deviations.

Table 4.1: Means and standard deviation of learners’ scores in the writing skills according to group:

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>10.2069</td>
<td>13.3276</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>4.51414</td>
<td>4.28947</td>
</tr>
<tr>
<td>N</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td><strong>Control group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>10.5690</td>
<td>12.0345</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>4.32906</td>
<td>4.03479</td>
</tr>
<tr>
<td>N</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>10.3879</td>
<td>12.6810</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>4.40705</td>
<td>4.19648</td>
</tr>
<tr>
<td>N</td>
<td>116</td>
<td>116</td>
</tr>
</tbody>
</table>

Data shown in the table (4.1) reveal that there are apparent differences between the learners’ mean scores on the writing skill rubric between the two groups (control and experimental).
Table 4.2: Means and standard deviation of learners’ scores in the writing skills according to gender:

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>10.3175</td>
<td>12.6667</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>4.53952</td>
<td>4.32547</td>
</tr>
<tr>
<td>N</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Female</td>
<td>10.4717</td>
<td>12.6981</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>4.28595</td>
<td>4.07896</td>
</tr>
<tr>
<td>N</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>10.3879</td>
<td>12.6810</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>4.40705</td>
<td>4.19648</td>
</tr>
<tr>
<td>N</td>
<td>116</td>
<td>116</td>
</tr>
</tbody>
</table>

The table (4.2) also shows that there are apparent differences between the learners’ mean scores on the writing skill rubric according to gender.

Table 4.3: (2-way ANCOVA) results of the learners’ scores in the writing skill rubric according to the teaching method, gender and the interaction between them:

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean squares</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre (covariate)</td>
<td>1768.085</td>
<td>1</td>
<td>1768.085</td>
<td>945.737</td>
<td>0.000</td>
</tr>
<tr>
<td>Group</td>
<td>74.172</td>
<td>1</td>
<td>74.172</td>
<td>39.674</td>
<td>0.000</td>
</tr>
<tr>
<td>Gender</td>
<td>0.176</td>
<td>1</td>
<td>0.176</td>
<td>0.094</td>
<td>0.760</td>
</tr>
<tr>
<td>Group * Gender</td>
<td>.234</td>
<td>1</td>
<td>.234</td>
<td>0.125</td>
<td>0.724</td>
</tr>
<tr>
<td>Error</td>
<td>207.518</td>
<td>111</td>
<td>1.870</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20679.000</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected total</td>
<td>2025.198</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Statistically significant at (α≤ 0.05)

Results related to group:
Table (4.3) shows that F value was (39.674) for the differences between mean scores of learners’ level in the two groups in the writing skill rubric (experimental, control), and the significant level was (0.000), so there are significant differences between learner in the two groups (experimental, control). To identify the source of these differences, table (4.4) between the adjusted means scores for the post-test, according to group:

Table 4.4: Adjusted means and standard errors of the post-test scores by groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted means</th>
<th>Std. errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>13.480</td>
<td>0.181</td>
</tr>
<tr>
<td>Control</td>
<td>11.874</td>
<td>0.180</td>
</tr>
</tbody>
</table>

Data shown in table (4.4) reveals that the adjusted means for the experimental group was (13.480) and that is more than the control group, which was (11.874). Accordingly, the differences between the two groups are in favor of the experimental group.
Results related to gender:
From table (4.3), it is clear that there are no significant differences between the males and females in terms of their scores in the writing skill rubric, since F value was (0.094) for the differences between mean scores of learners’ level in the writing skill rubric, and the significant level was (0.760).

Results related to the interaction between group and gender:
The results of the (2-way ANCOVA) in table (4.3) show that F value for the interaction between the group and gender was (0.125) and the significant level was (0.724) and this is more than the (α≤ 0.05), so there are no significant differences for the interaction between groups and gender.

Table 4.5: The effect size of the writing skills:

<table>
<thead>
<tr>
<th>Writing skills rubric</th>
<th>ETA Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test * group</td>
<td>0.002</td>
</tr>
<tr>
<td>Post-test * group</td>
<td>0.024</td>
</tr>
</tbody>
</table>

Table (4.5) shows that the ETA squared for the post test is (0.024), it is clear that there is an effect of the strategy on the post test.

4.2 Results Related to the Second Question
Is there an effect of using "Think, Write, Pair and Share" strategy on the development of 10th graders’ lateral thinking skills? And does this effect differ due to the method of teaching, gender and the interaction between them?

To answer the question mean scores and standard deviations were calculated for the learners’ scores in the four groups-the control and the experimental ones-on the Lateral thinking test according to the method of teaching and gender. Tables (4.6, 4.7) show the mean scores and standard deviations:

Table 4.6: Means and standard deviation of learners’ scores in the lateral thinking test pre and post-tests according to group:

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>Means</td>
<td>31.4310</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>15.87574</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>58</td>
</tr>
<tr>
<td>Control group</td>
<td>Means</td>
<td>34.5517</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>18.03911</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>58</td>
</tr>
<tr>
<td>Total</td>
<td>Means</td>
<td>32.9914</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>16.99028</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>116</td>
</tr>
</tbody>
</table>

Data shown from the table (4.6) reveals that there are apparent differences between the learners’ mean scores on the lateral thinking test between the two groups (control and experimental).
Table 4.7: Means and standard deviation of learners’ scores the lateral thinking test pre and post-tests according to gender:

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>30.2381</td>
<td>40.3651</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>16.36155</td>
<td>20.83135</td>
</tr>
<tr>
<td>N</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>36.2642</td>
<td>49.1509</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>17.29512</td>
<td>16.02570</td>
</tr>
<tr>
<td>N</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>32.9914</td>
<td>44.3793</td>
</tr>
<tr>
<td>Std. deviation</td>
<td>16.99028</td>
<td>19.21985</td>
</tr>
<tr>
<td>N</td>
<td>116</td>
<td>116</td>
</tr>
</tbody>
</table>

The table (4.7) also shows that there are apparent differences between the learners’ mean scores on the lateral thinking test pre and post-test according to gender.

Table 4.8: (2-way ANCOVA) results of the learners’ scores in the lateral thinking test according to the teaching method, gender and the interaction between them:

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean squares</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre (covariate)</td>
<td>28297.66</td>
<td>1</td>
<td>28297.66</td>
<td>351.912</td>
<td>0.000</td>
</tr>
<tr>
<td>Group</td>
<td>3404.566</td>
<td>1</td>
<td>3404.566</td>
<td>42.339</td>
<td>0.000</td>
</tr>
<tr>
<td>Gender</td>
<td>294.792</td>
<td>1</td>
<td>294.792</td>
<td>3.666</td>
<td>0.058</td>
</tr>
<tr>
<td>Group * Gender</td>
<td>134.884</td>
<td>1</td>
<td>134.884</td>
<td>1.677</td>
<td>0.198</td>
</tr>
<tr>
<td>Error</td>
<td>8925.652</td>
<td>111</td>
<td>80.411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>270946.000</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected total</td>
<td>42481.310</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* statistically significant at (α≤ 0.05)

Results related to group:

Table (4.8) shows that F value was (42.339) for the differences between mean scores of learners’ level in the two groups in the lateral test (experimental and control), and the significant level was (0.000), so there are significant differences between learner in the two groups (experimental and control). To identify the source of these differences, table (4.9) shows the adjusted mean scores for the post-test according to group:

Table 4.9 Adjusted means and standard errors of the post-test scores by group:

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted means</th>
<th>Std. errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>49.968</td>
<td>1.186</td>
</tr>
<tr>
<td>Control</td>
<td>39.034</td>
<td>1.184</td>
</tr>
</tbody>
</table>

Data shown in table (4.9) reveals that the adjusted means for the experimental group was (49.968) and that is more than the control groups, which was (39.034). Accordingly, the differences between the two groups are in favor of the experimental group.
Results related to gender:

From table (4.8), it is clear that there are no statistically differences at ($\alpha \leq 0.05$) in the mean scores of 10th graders’ lateral thinking skills due to gender since the significant level is (0.058) are more than 0.05.

Results related to the interaction between group and gender:

The results of the (2-way ANCOVA) in table (4.8) show that F value for the interaction between the group and gender was (1.677), and the significant level was (0.198), and this is less than the ($\alpha \leq 0.05$), so there are significant differences for the interaction between groups and gender, as shown in table (4.10)

Table 4.10: The differences of the interaction between group and gender

<table>
<thead>
<tr>
<th>gender</th>
<th>Group</th>
<th>Adjusted means</th>
<th>Std. errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Experimental</td>
<td>49.432</td>
<td>1.590</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>36.317</td>
<td>1.618</td>
</tr>
<tr>
<td>Female</td>
<td>Experimental</td>
<td>50.503</td>
<td>1.759</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>41.751</td>
<td>1.761</td>
</tr>
</tbody>
</table>

From the table above, it is clear that the differences for the interaction between group and gender are in favor of the female in the experimental group.

Table 4.11: The effect size of the Lateral thinking test:

<table>
<thead>
<tr>
<th>Lateral thinking test</th>
<th>ETA Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test * group</td>
<td>0.009</td>
</tr>
<tr>
<td>Post-test * group</td>
<td>0.045</td>
</tr>
</tbody>
</table>

Table (4.11), shows that the ETA squared for the post-test is (0.045), it is clear that there are an effect of the strategy on the post test.

4.3 Summary of Results

1. There were statistically significant differences in the mean scores of 10th graders’ writing skills in the English language refer to the teaching method in favor of the experimental group.
2. There were no statistically significant differences in the mean scores of 10th graders’ writing skills in the English language due to gender and the interaction between gender and group.
3. There were statistically significant differences in the mean scores of 10th graders’ Lateral thinking in the English language refer to the teaching method in favor of the experimental group and the interaction between group and gender in favor of the female in the experimental group.
4. There were no statistically significant differences in the mean scores of 10th graders’ Lateral thinking in the English language due gender.
Chapter Five

Discussion, Conclusions and Recommendations

Introduction
This study aimed at investigating the effect of using "Think, Write, Pair and Share" strategy on 10th graders English writing skills and their lateral thinking. It is also to identify if this effect differs according to the interaction between "Think, Write, Pair and Share" strategy and gender. For this purpose, the researcher conducted the current study on a sample of four groups: two experimental (male and female) taught by using "Think, Write, Pair and Share" strategy and two control group taught traditionally. The researcher conducted two instruments: a writing evaluation rubric and a lateral thinking test. These instruments were applied before the intervention of the study and after it for both the experimental and the control groups. After the implementation, the data was analyzed and the researcher comes up with the following results:

5.1 Discussion of the Findings Related to the First Research Question:

Is there an effect of using "Think, Write, Pair and Share" strategy on the development of 10th graders’ English writing skills? And does this effect differ due to the method of teaching, gender, and the interaction between them?

The study showed that there are statistically significant differences in the mean scores of 10th graders’ writing skills in the English language refer to the teaching method in favor of the experimental group.

The researcher believes that the reason behind that is the use of "Think, Write, Pair and Share" strategy, which engaged students as they study. This strategy appears to be effective for teaching writing as it gives students opportunity to participate in the teaching learning process. It encourages students to be involved in learning new concepts and topics of writing and at the same time, it allows discussion with their friends in which they can think about relevant words or phrases that can be developed into a good piece of writing. The slow learners taught by this strategy got benefit by asking their friends for ideas, words or phrases, which makes it easier for them to write without anxiety. The students also have more time to correct their words with their pairs. Working in pairs or in groups, decrease the difficulty in the process of writing. In fact, if students work alone, they cannot realize about the misspelling, grammar, punctuation, etc, all the items really affect in writing a text. To improve students' writing skills it is necessary to study and practice more. Through "think, write, pair and share" strategy, students have two opportunities to write. The first time after they think independently then he will improve his writing after pairing and sharing their ideas with their friends. Moreover, the steps of this strategy are similar to the
writing process in which the students should think, write and discuss so it helps in improving students' writing skills. "Think, Pair and Share" strategy is ideal for teachers and students who are new to collaborative learning. It can be used in a variety of contexts. However, to be effective, students must consider a question or an issue, and they should derive some benefits from thinking about it with partners.

Moreover, "think, write, pair and share" strategy increases the kinds of personal communications that are necessary for the students to internally process, organize, and retain ideas. Most activities in classroom can be performed by students working in pairs or in groups. Working in this way means more students are directly involved; more students are talking, while the teacher talks less; students can help each other; and not least, the atmosphere is more relaxed and conductive to good language learning.

Applying "Think, Write, Pair and Share" technique can be academically and socially beneficial. Students will need thinking skills as well as the ability to work collaboratively when they enter the modern world. Think, Write, Pair and Share is a teaching technique that mirrors the way that adults work in teams towards common goals: each individual contributing ideas and then working cooperatively towards a synthesis of those ideas.

Writing activities can be pleasurable and sociable ones by applying such a method in which students share their thoughts and explore more and more about the given topic. Through the process of writing, the writer should start by thinking about the topic and share his thought with others to enrich his knowledge and starts writing. Writing alone will not be creative as writing within groups.

This study agrees with the results of Suwandi and Ardini (2011) that there are statistically significant differences in the mean scores of students' writing skills in English language due to the teaching method in favor of the experimental group. Likewise, these results agree with the study of Agusferani, Rahmah and Sutisna (2013), Manilk and Ginting (2011), Sihaan and Ginting (2012), Mazda (2013) and Sumarish and Sanjaya (2013). These studies investigated that "Think, Write pair and Share" strategy significantly improves students' writing skills.

5.2 Discussion of the Findings Related to the Second Research Question:

Is there an effect of using "Think, Write, Pair and Share" strategy on the development of 10th graders’ lateral thinking skills? And does this effect differ due to the method of teaching, gender and the interaction between them?
The results of the study revealed that there were statistically significant differences in the mean scores of 10th graders’ Lateral thinking skills refer to the teaching method in favor of the experimental group and the interaction between group and gender in favor of the female in the experimental group.

In a "Think, Write, Pair and Share" strategy, students are given think time to reflect on a question silently, so that they have more time to process the question, the language, or think of the language needed to convey the answer. The idea of ‘wait or think’ time is a powerful factor in improving student responses to question. Students' responses have reasons and justifications because they think and discuss them. Students are more willing to take risks and suggest ideas because they have already ‘tested’ them with their partner. This is a great way to motivate students and promote higher-level thinking.

"Think, Write, Pair and Share" strategy encourages students to make their thinking visible by asking them to write or draw their ideas before and after sharing. By this way, he will have many chances to saddest and give alternatives. The students will consults each other about their thought. They will try to convince others with their responses.

Learning through lateral thinking encourages to work individually then to share within groups. It is best to start with the generation of individual ideas. For example, after students see a short film, each individual would commit his own ideas to paper. Then read them back to the whole groups. After this individual generation of ideas, they will be discussed in groups and new ideas might be added.

It is clear that there is a similarity between "think, write, pair and share" strategy and the steps followed through practicing lateral thinking skills. Both require to work individually first then to pair and share within groups. The point here is to let students exchange ideas and to come up with the suitable one.

None of the previous studies that the researcher surveyed is consistent with this finding. Lateral thinking skills have no studies that investigate the effect of any teaching strategy on it that what makes my study different.

**The interaction between gender and group:**

The results also illustrate that there were statistically significant differences in the mean scores of 10th graders’ Lateral thinking skills refer to the interaction between group and gender in favor of the female in the experimental group.

Although both genders performed better in the lateral thinking test, the female in the experimental group scored the best. The results attributed to the fact that female students spend more time dealing with information and more time in studying so they have various views to things. They also have more positive attitude toward learning more than the male students learn. The strategy attracted their attention, excited their interest and gave them the opportunity to suggest and generate ideas and thoughts. Moreover, female students are more responsible toward their learning. Lateral thinking test was a chance for them to express their creativity in thinking.
None of the previous studies that the researcher surveyed is consistent with this finding. Lateral thinking skills have no studies that investigate the effect of any teaching strategy on them that what makes my study different.

5.3 Conclusions

Through this chapter, there were statistically significant differences in the mean scores of 10th graders’ writing skills in the English language refer to the teaching method in favor of the experimental group. In addition, there were statistically significant differences in the mean scores of 10th graders’ Lateral thinking in the English language refer to the teaching method in favor of the experimental group and the interaction between group and gender in favor of the female in the experimental group. Therefore, the researcher thinks that think, write, pair and share is an effective strategy to use in English classes. It helps in solving many problems that students face during teaching – learning process.

5.4 Recommendations

Based on this study, the researcher suggested the following recommendations:

For the curriculum designers:
- To develop well-organized materials that involves the use of "Think, Write, Pair and Share" strategy as away to verify the teaching methods used in school.
- To provide teachers of English regularly with printed training materials which display techniques and strategies used in teaching English that focused on higher thinking skills.
- To increase the number of English lessons per week to give teachers enough time to engage students in using meaningful strategies in their learning.

For supervisors:
- To hold training sessions for teachers about the use of "Think, Write, Pair and Share" strategy in order to be used as a way of teaching in schools.
- To provide teachers with a teacher guide and training material, which are useful for the application.

For teachers:
- To provide students with opportunities to practice the strategy.
- To create a classroom climate, in which learners experiment language learning. they reflect how specific strategy that was taught and practiced facilities their learning process, and how active they are in practicing the strategy.
- To choose authentic materials that students might encounter in their real –life.
- To maximize strategy learning, use a variety of cooperative learning structures.
- To focus more on writing skills.

For the researchers:
- To conduct similar studies on other levels, areas and environments.
- To conduct similar studies using this strategy on different variables.
- To conduct more studies dealing with lateral thinking.
References


Agusferani F., Rahmah M.and Sutisna E. (2013). Improving students’ writing ability to write narrative text through write pair share. E-Jural Fera Agus. 1-6


Sumarsih, M. Pd. and Sanjaya, D. (2013). TPS as an Effective Technique to Enhance the Students’ Achievement on Writing Descriptive Text. English Language Teaching; Vol. 6(12) pp106-113


Appendices
Appendix No 1

The Referee of the Activities of "Think, Write, Pair and Share" Strategy

Dear Dr./Mr./Mrs. -----------------------------

The researcher is conducting a quasi experimental research to identify the Effects of Using 'Think, Write, Pair and Share" Strategy on tenth graders' English language writing skills and their lateral thinking in Governmental Schools in Bethlehem District.

This is part of the requirements toward achieving master's degree in English Teaching Methods. The study will be applied in the second semester of the academic year 2016.

The researcher prepared a teachers' guide in the form of activities to illustrate how to teach writing skills to 10th grade students by "Think, Write, Pair and Share" Strategy. The material consists of nine lessons prescribe in the book and three ones prepared by the researcher to enrich the experiment.

I appreciate your effort if you would kindly judge the instruments and give your opinion. Thank you very much for your cooperation.

Ilham Mahmoud Abu Ali
Appendix No 2

Teacher's guide

Lesson plan using the "Think, Write, Pair and Share" Strategy:
English for Palestine
Grade 10

Unit Eight (Good news from the doctors) Period 4
Period duration: 40 minutes

Materials
Pupil's Book, worksheet

Word Formation: Noun, Verb

Objectives
1. Students identify the main idea of the reading text.
2. Students give alternatives for the given questions.
3. Students identify the main vocabulary.
4. Students point out to the essential notes from the text.
5. Students will write their own piece of writing about the main topic.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level questions about the topic:</td>
<td></td>
</tr>
<tr>
<td>- Describe the pictures, which shown in the text?</td>
<td></td>
</tr>
<tr>
<td>- How can doctors help people with disabilities?</td>
<td></td>
</tr>
<tr>
<td>- Why is it important to invent and develop new medicines?</td>
<td></td>
</tr>
<tr>
<td>- Why can disabled people live normal lives these days?</td>
<td></td>
</tr>
<tr>
<td>- Suggest more facilities could government take into account to help disabled people?</td>
<td></td>
</tr>
<tr>
<td>Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Students think independently about the questions for 8 minutes.</td>
</tr>
<tr>
<td></td>
<td>- Students write their thoughts and answers for 7 minutes.</td>
</tr>
<tr>
<td></td>
<td>- Students work in pairs to discuss their thoughts for 5 minutes.</td>
</tr>
<tr>
<td></td>
<td>- Students share their thoughts with the class for 20 minutes</td>
</tr>
</tbody>
</table>

Assessment
Ask students to compare between medicine in the past, the present and the future by writing a well -organized paragraph.

Here are some clues
Traditional ways of treatment, lots of hospitals and doctors, health care, vaccination, healthy life style, lots of diseases, research to get rid of diseases, dealing with disabled people ----
The wonders of modern medicine by Jenan Rashidi

When I reported Waleed’s operation, lots of you said that you wanted to read more about medicine. So I met Dr Mark Way of the London Medical College. We talked about various new inventions and discoveries. ‘The speed of development is huge,’ he said, and he added that it would continue in every area, including new medical operations and powerful new medicines. ‘And,’ he pointed out, ‘it isn’t just high-tech developments: there’s also much better basic health care around the world.’ That meant, he said, that people were living longer, healthier lives than their parents and grandparents had lived. Then we talked about disabled people. Dr Way said that they had accepted their disabilities in the past, whereas some could now recover. For example, medical science was helping people to hear and see again.

‘But can doctors do the same for all disabled people?’ I asked. ‘Sadly, no – at least not yet,’ he replied. ‘But here’s another important point: disabled people today are being helped to live like everyone else. For example, many modern buildings have special ramps for people in wheelchairs.’ We discussed the new artificial legs that some disabled athletes had recently started using and we agreed that they were fantastic. ‘But,’ he said, ‘at our Centre, we’re more interested in new ‘body parts’ that connect with our brains.’ This was news to me, so I asked Dr Way to tell me more. He explained that if someone lost an arm in an accident, they were now able to provide a new bionic arm. It looked, bent and turned like a normal arm, he said. And it could understand messages from the brain that made it move. ‘So the big point is this,’ he said. ‘In the past, disabled people couldn’t live normal lives, whereas today more and more can and do.’
Unit Eight (Good news from the doctors)  

Period duration: 40 minutes  

Materials  
Pupil's Book, work sheet  

Objectives  
1. Students identify the main idea of the discussion.  
2. Students answer and suggest alternatives for the given questions.  
3. Students use reported speech correctly.  
4. Students write a local newspaper report using the reported verbs with past tense.  

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
</table>
| Begin by asking high level questions about the topic:  
- What is the issue of the meeting?  
- What do you think the kind of health care that our community needs?  
-Do you agree with Malik or Chandra?  
-If you do not agree with both Malik and Chandra, what do you suggest as a Palestinian?  
Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills) | -Students think independently about the questions for **8 minutes**.  
-Students write their thoughts and answers **7 minutes**.  
-Students work in pairs to discuss their thoughts for **5 minutes**.  
-Students share their thoughts with the class **20 minutes** |

Assessment  
Ask students to write a local newspaper report using the reported verbs in exercise one with past tense.
The lesson:

1 Work in groups. Practice the discussion at the local Community Hall.

Rob Hall First, thank you, everyone, for coming to the meeting. It’s an important meeting because we’re going to discuss the kind of health care that we think our community needs. The government want to close our old, local hospital and other similar small hospitals in the area. Instead of that, they want to build one big, new, high-tech hospital for everyone in the whole area. Not everyone agrees with the government’s plans though. Some people in the community want to keep our local hospital. Let me introduce two people who are going to tell us more about these different views – first Malik Sharif and then Chandra Shastri.

Malik, please. Malik Thank you, Rob. Well, modern medicine is very, very expensive, and it’s simply not possible to provide the best services and equipment in every little town. The only way that we can have the very best is through one big hospital that everyone will use. That hospital will be able to offer life-saving operations that the local hospital never can. And we can use the local hospital land to build new houses.

Chandra Yes, but the new hospital will be 50 kilometres away and that is much too far. Most people don’t need life-saving operations most of the time. People want a service that is good, but simpler and more local. The thing that we really want is a more modern local hospital.

2 Now write a local newspaper report. Use the reporting verbs in brackets and put them in the past simple. Start like this.
First, Rob Hall thanked everyone for coming to the meeting. He pointed out that it was ...

3 Work in pairs. Do the tasks.
1 Write four simple things that you want to say to four different friends – a piece of information, a request, a Wh question and a Yes / No question.
2 Take turns to call the friends. The calls are answered by a parent.
   Student A Could I speak to (name), please?
   Student B I’m sorry, but he / she is (at volleyball practice) right now. Can I take a message?
3 Student A gives a message and Student B writes it down.
4 At the end, compare the messages that each gave and the other wrote down. They should be the same!
### Unit Eight (Good news from the doctors)

**Period duration: 40 minutes**

**Materials**
Pupil's Book, work sheet

**Objectives**
1. Students identify the main idea of the text.
2. Students suggest alternatives for the given questions.
3. Students identify the main vocabulary.
4. Students point out to the essential notes from the text.
5. Students rewrite the story with new end.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level questions about the topic:</td>
<td>- Students think independently about the questions for 8 minutes.</td>
</tr>
<tr>
<td>- Why did Passepartout buy a gun?</td>
<td>- Students write their thoughts and answers .7 minutes.</td>
</tr>
<tr>
<td>- What were the difficulties that they face across the journey?</td>
<td>- Students work in pairs to discuss their thoughts for 5 minutes.</td>
</tr>
<tr>
<td>- If you were in the train, would you agree with the driver's suggestion? If not what would you do?</td>
<td>- Students share their thoughts with the class.20 minutes</td>
</tr>
<tr>
<td>- Suggest alternative suggestions to help the passengers in the train?</td>
<td></td>
</tr>
<tr>
<td>Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills)</td>
<td></td>
</tr>
</tbody>
</table>

**Assessment**
Ask students to rewrite the story but with a different end. (The train and the passengers must be saved)
The lesson:

By train from San Francisco

It was 7:00 am on 3rd December when Fogg, Aouda and Passepartout left the General Grant in San Francisco. The train did not depart for New York until six that evening, so they had some time. First, they went to a hotel near the port to have breakfast. ‘I’ve heard that the Sioux have attacked some trains this winter,’ said Passepartout to Fogg. ‘So shall I buy some guns to take with us on the train?’ Fogg gave Passepartout some money to get the guns while he and Aouda went to see the city. Then Mr Fix suddenly appeared. He pretended to be amazed to see them and said, ‘What? Have we just been across the Pacific together and not met on the ship?’ Fogg politely invited Fix to look round the city with them, and the detective happily accepted. In the afternoon, they returned to the hotel to meet Passepartout, and then they all went to the railway station. The train left on time and started its long and dangerous journey across America.

This trip usually took seven days, so Fogg planned to be in New York to catch a ship across the Atlantic Ocean on 11th December. The passengers ate and slept on the train as it moved slowly across California and into the mountains. At one place, the train had to stop for three hours because ten or twelve thousand buffalo were walking slowly across the railway line! By 11:00 am on 7th December, the train was near the highest point in the wild, snowy mountains. But then it stopped. Passepartout – and lots of other passengers – got off to find out why. Ahead, there was a red signal. Beside it, the driver was talking seriously with a man who had been sent from the next station to stop the train. He was saying, ‘You can’t go on. The bridge ahead is damaged and won’t support the train’s weight.’

A telegram had been sent for a new train to come from farther east and pick up everyone from the next station. But the passengers would have to walk for six hours through the snow to get there. ‘Six hours!’ cried Passepartout, thinking of Fogg’s timetable. ‘Walk? In this snow?’ cried the other travellers. But then the driver said, ‘There is a way of getting across. If we go at full speed, there’s a good chance that we’ll succeed.’ ‘What a crazy idea!’ Passepartout thought. However, everyone else liked the driver’s exciting plan, so that was the end of the discussion. ‘Take your seats, everyone!’ shouted the driver. They all jumped on the train again, and the train went back nearly a mile. Then it started to move forward again, faster and faster until it was doing 100 miles per hour. It almost flew over the bridge! There was only one problem just after they had crossed, the whole bridge fell with a huge crash into the water below.
Unit Nine (Which way at 16) Period 1

Period duration: 40 minutes

Materials
Pupil's Book, work sheet

Objectives
1. Students identify the main idea of the text.
2. Students suggest alternatives for the given questions.
3. Students identify the main vocabulary.
4. Students point out to the essential notes from the text.
5. Students write a letter.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level questions about the topic:</td>
<td>- Students think independently about the questions for 8 minutes.</td>
</tr>
<tr>
<td>- Describe the pictures?</td>
<td>- Students write their thoughts and answers 7 minutes.</td>
</tr>
<tr>
<td>-What is the writer calling for?</td>
<td>- Students work in pairs to discuss their thoughts for 5 minutes.</td>
</tr>
<tr>
<td>-As a Palestinian, what do you think is better academic or vocational route? Why?</td>
<td>- Students share their thoughts with the class 20 minutes</td>
</tr>
<tr>
<td>Teacher must be sensitive to the learners' needs when creating pairs.(language skills ,writing skills)</td>
<td></td>
</tr>
</tbody>
</table>

Assessment
Ask students to write a letter to the prime minister of Palestine in which they suggest some ways to improve the economic field so that lots of choices and careers will be available for the graduates.
Your name is Arwa and you live at Jerusalem –Hebron street, Bethlehem, state of Palestine.
The lesson:

Which way now?

So you’re in Grade 10, a year of hard work and important choices. Should you take the academic route? Or should you follow the vocational route to become a carpenter or a nurse perhaps? If you lived in Germany or France, things would be organized differently. There, you would continue with most of your subjects until you graduated. However, the Palestinian system offers choices, and these must match your interests and abilities. If you choose the right group of subjects, they’ll carry you towards the right career. Choose badly, and you’ll become bored and do badly. With careful thinking, that shouldn’t happen. If it did, you might leave school with weak qualifications and a future in a ‘dead-end’ job. It would be a disaster! So start thinking now. Some people may say you should become a doctor or an engineer because they are ‘good’ jobs. Don’t listen. A job will only be good if it is right for you! And remember this: people are respected if they do their work well – whatever their jobs.
Unit Nine (Which way at 16 )

Period duration: 30 minutes

Materials
Pupil's Book, work sheet

Objectives
1. Students answer the given question correctly.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level question about the topic:</td>
<td>- Students think independently about the questions for 3 minutes.</td>
</tr>
<tr>
<td>- If you have to stay at school till 18, why do you have to start thinking about a</td>
<td>- Students write their thoughts and answers .3 minutes.</td>
</tr>
<tr>
<td>career when you are only 16? Teacher must be sensitive to the learners' needs</td>
<td>- Students work in pairs to discuss their thoughts for 5 minutes.</td>
</tr>
<tr>
<td>when creating pairs. (language skills, writing skills)</td>
<td>- Students share their thoughts with the class. 10 minutes</td>
</tr>
</tbody>
</table>

Assessment:
Ask students to write a well-organized paragraph in which they describe their future careers.
The lesson:

Work in pairs. Think and discuss:

If I have to stay at school till I'm 18, why do I have to start thinking about a career when I'm only 16?
Unit Nine (Which way at 16 )                                        Period 4

Period duration: 40 minutes

Materials
Pupil's Book, work sheet

Objectives
1. Students identify the main idea of the text.
2. Students answer and suggest alternatives for the given questions.
3. Students identify the main vocabulary.
4. Students point out to the essential notes from the text.
5. Students write a comparative paragraph.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level questions about the topic :</td>
<td>-Students think independently about the questions for 8 minutes.</td>
</tr>
<tr>
<td>- Describe the pictures?</td>
<td>-Students write their thoughts and answers. 4 minutes.</td>
</tr>
<tr>
<td>- Why is deciding the right way difficult for the new generation?</td>
<td>-Students work in pairs to discuss their thoughts for 8 minutes.</td>
</tr>
<tr>
<td>- Imagine your life in 1700, how could it be like?</td>
<td>-Students share their thoughts with the class. 20 minutes</td>
</tr>
<tr>
<td>- What is the point necessary when you decide any way in your life?</td>
<td></td>
</tr>
<tr>
<td>Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills)</td>
<td></td>
</tr>
</tbody>
</table>

Assessment
Ask students to write a comparative paragraph between life in the past and today. Compare: education, careers, transportation and opportunities.
The lesson:

**Your life, your choice**

*Dr Bell:* Now, I know that all of you in Year 10 are thinking beyond this year to the future. And so we’ve invited an expert here today to talk about career decisions. Everyone, please welcome Dr Kate Rossi.

*Dr Rossi:* Thank you, and hello. Well, deciding the right way ahead can be very difficult and stressful – especially for your generation. Why? Because there have never been so many choices to make before.

But let’s start with the opposite – a world without choices. Think back 300 years. If you had all been born in 1700, very few of you would have had any education. At 16, nearly all of you would have been hard at work at home or on the land.

You would probably have had very few choices: your lives would simply have followed your parents’.
What if you had been born in 1900 instead? Generally speaking, you would have had more choices and chances by then. You would have been able to travel – though only by train: cars were for the rich and planes were for the very brave. Several years of school would have given you more possibilities – although you would probably have left at 13. There would have been more goods to buy in the shops, but not a TV or a computer: these and many other things did not exist. Life would have been limited in another way, too: there would have been far fewer career opportunities. Could you have become a TV technician or a computer programmer or a shopping centre manager? No, because these and thousands of other jobs had not yet been invented. And so back to today. Yes, it’s harder to choose than ever before, but it’s wonderful that you have the chance. So think carefully and choose responsibly. You only have one life: use it well.
Unit Nine (Which way at 16)  
Period 7  

Period duration: 30 minutes  
Materials  
Pupil's Book, work sheet  
Objectives  
1. Students ask and answer questions using conditional sentences type 3.  
2. Students write sentences using conditional sentences type 3 about themselves.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
</table>
| Begin by asking high level question about the topic:  
-If you had lived 300 years ago, what do you think your life would have been like?  
Teacher must be sensitive to the learners' needs when creating pairs.(language skills, writing skills)  
| -Students think independently about the questions for **7 minutes**.  
-Students write their thoughts and answers for **5 minutes**.  
-Students work in pairs to discuss their thoughts for **8 minutes**.  
-Students share their thoughts with the class. **20 minutes** |

Assessment  
Ask students to write statements about themselves in Palestine using conditional sentences type 3.
The lesson:

Work in pairs. Make statements about yourselves in Palestine.

*If I had been born at that time in Palestine, I'm sure I wouldn't have gone to school, either.*
**Unit Nine (Which way at 16)**

**Period duration: 30 minutes**

**Materials**
- Pupil's Book, work sheet

**Objectives**
1. Students ask and answer questions using conditional sentences type 2.
2. Students write sentences using conditional sentences type 2 about themselves.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level question about the topic: -What would you do if you could go anywhere in the world? Why? Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills)</td>
<td>-Students think independently about the questions for 7 minutes. -Students write their thoughts and answers for 5 minutes. -Students work in pairs to discuss their thoughts for 8 minutes. -Students share their thoughts with the class. <strong>20 minutes</strong></td>
</tr>
</tbody>
</table>

**Assessment**
Ask students to write statements about themselves using conditional sentences type 2.
The lesson:

Work in groups. Ask and answer questions. Use Type 2 conditionals.

Student A (Name), what would you do if you could go anywhere in the world?
Student B If I (can go) anywhere, I (visit) Japan, and I (climb) Mt Fuji.
   (Name), what would you do if you could go anywhere in the world?
Student C If I (can go) …

Use these other ideas.
…, I (travel) to New Zealand and I (go) camping on South Island
…, I (fly) to Nepal, and I (climb) the highest mountains in the world
…, I (drive) across East Africa, and I (watch) the amazing wildlife there
Additional Material:

Period duration: 40 minutes

Materials
Work sheet

Objectives
1. Students suggest solutions and alternatives for the given problem "Traffic Jam"
2. Students write cause and effect paragraph about Traffic Jam.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level question about the topic:</td>
<td>- Students think independently about the questions for 8 minutes.</td>
</tr>
<tr>
<td>- Describe the pictures?</td>
<td>- Students write their thoughts and answers. 4 minutes.</td>
</tr>
<tr>
<td>- Describe the streets in your area?</td>
<td>- Students work in pairs to discuss their thoughts for 8 minutes.</td>
</tr>
<tr>
<td>- What causes traffic jam?</td>
<td>- Students share their thoughts with the class. 20 minutes</td>
</tr>
<tr>
<td>- Suggest solutions and alternatives to overcome this problem?</td>
<td></td>
</tr>
</tbody>
</table>

Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills)

Assessment
Ask students to write cause and effect paragraph about Traffic Jam.

The lesson:

[Images of traffic jams]
Period duration: 40 minutes

Materials
Work sheet

Objectives
1. Students give suggestions to improve the Palestinian educational system.
2. Students write a letter to the minister of education.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin by asking high level question about the topic:</td>
<td>- Students think independently about the questions. <strong>8 minutes</strong>.</td>
</tr>
<tr>
<td>- What are the weaknesses of the current educational system?</td>
<td>- Students write their thoughts and answers. <strong>4 minutes</strong>.</td>
</tr>
<tr>
<td>- What improvements would you like to suggest for the new educational system?</td>
<td>- Students work in pairs to discuss their thoughts. <strong>8 minutes</strong>.</td>
</tr>
</tbody>
</table>

Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills)

- Students share their thoughts with the class. **20 minutes**

Assessment
Ask students to write a letter to the minister of education Dr. Saidem in which they give suggestions for the new educational system.

Your name is Ali and you live in Jerusalem – Hebron street, Bethlehem, state of Palestine.
**Period duration:** 40 minutes

**Materials**
- Work sheet

**Objectives**
1. Students give suggestions and solutions to get rid of rubbish.
2. Students write a persuasive paragraph.

<table>
<thead>
<tr>
<th>Teacher Direction</th>
<th>Student Direction</th>
</tr>
</thead>
</table>
| Begin by asking high level questions about the topic:  
- Do you have rubbish problems? 
- What suggestions would you offer to reduce the amount of rubbish and to get rid of it? | - Students think independently about the questions. **8 minutes.**  
- Students write their thoughts and answers. **4 minutes.**  
- Students work in pairs to discuss their thoughts. **8 minutes.**  
- Students share their thoughts with the class. **20 minutes** |

Teacher must be sensitive to the learners' needs when creating pairs. (language skills, writing skills)

**Assessment**
Ask students to write a persuasive paragraph, which includes solutions and suggestions to get rid of rubbish.
Defining the strategy (for the teacher)

Think-Pair-Share: Santa et al (1996) (cited in Agusferani, Rahmah & Sutisna 2013:5), defined it as a discussion strategy that can be used as pre-writing activity, problem solving strategy, or as a follow-up activity. Each student becomes an active participant. "It can be assumed that write pair and share is one of teaching strategy, which is given a good time for students to brainstorm their ideas, sharing their ideas by working out the problem to their pair, at the end they are able to produce good writing that they have already made.

The researcher added a fourth phase to the technique to achieve the aim of the study which is writing. The first phase is thinking in which we can improve students thinking skills and how they see things. Then they write ideas to improve their writing skills. The last two phases pairing and sharing are away to develop their social interaction.

Think, Pair and Share strategy (TPS) as a cooperative learning technique that encourages individual participation and is applicable across all grade levels and class sizes. Students think through questions using three distinct steps:
1. Think: Students think independently about the question that has been posed, forming ideas of their own.
2. Pair: Students designed in pairs to discuss their thoughts. This step allows students to articulate their ideas and to consider those of others.
3. Share: Students share their ideas with a larger group, such as the whole class. Often, students are more comfortable when presenting ideas to a group with the support of a partner. In addition, students' ideas have become more refined through this three-step process.
Appendix No 3

The "Think, Write, Pair and Share" Students' worksheet

<table>
<thead>
<tr>
<th>Name</th>
<th>My final piece of writing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>What will we share?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What does my partner think?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Down your thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What's the issue /question /topic?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What do I think about it?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Appendix No 4

The Referee of the Lateral Thinking Test

Dear Dr./Mr./Mrs. -----------------------------

The researcher is conducting a quasi experimental research to identify the Effects of Using ‘Think, Write, Pair and Share’ Strategy on tenth graders' English language writing skills and their lateral thinking in Governmental Schools in Bethlehem District.

This is part of the requirements toward achieving master's degree in English Teaching Methods. The study will be applied in the second semester of the academic year 2016.

The researcher reviewed many resources such as de Bone (1970, 1971, 1992 and 2006) to develop the lateral thinking test that suits the purpose of the current study. The instrument was translated to Arabic to be understood by 10th graders.

I appreciate your effort if you would kindly judge the instruments and give your opinion. Thank you very much for your cooperation.

Ilham Mahmoud Abu Ali
اختبار التفكير الجانبي

الوقت: 45 دقيقة

الاسم: .................................................................

الطلبة الأعزاء،

تجري البحوثة دراسة بعنوان أثر استخدام استراتيجية "فكر، اكتب، زاوج، شارك" في تنمية مهارات الكتابة باللغة الإنجليزية والتفكير الجانبي لدى طلبة الصف العاشر. ويهدف هذا الاختبار إلى قياس التفكير الجانبي لدى الطلبة. يحتوي الاختبار على 20 فقرة موزعة ضمن قسمين.

القسم الأول: يتوجب على الطالب إعطاء بدلات للأشكال المطروحة:

1. اقترح عدد بدلات لوصف الأشكال الآتية:

![شكل 1](image1)

![شكل 2](image2)

![شكل 3](image3)

2. دفق في الشكل، وأكتب الاحتمالات التي تشاهدها في هذا الشكل؟

![شكل 4](image4)

3. دفق في الشكل، وأكتب الاحتمالات التي تشاهدها في هذا الشكل؟

![شكل 5](image5)
4. قسم المربعات التالية إلى أربع أجزاء متساوية في المساحة والشكل.

5. أماك الأشكال التالية، عليك إزالة خطين لتحصل على مربعين في الم بصورة.

القسم الثاني: يتوجب على الطالب إعطاء حلول وإجابات للمواقف المطروحة.

6. في إحدى اللقاءات سأل الأستاذ طلبه إذا كان هناك 4 عصافير على الشجرة وقرر 3 منها الطيران، فكم عصفور بقي على الشجرة؟ ولماذا؟

7. اقترح عدة حلول لمشكلة السمنة:

8. هناك ست بيضات في سلة، وهناك ست أشخاص اقتسموا البيضات ببيضة لكل شخص مع هذا بقيت بيضة واحدة في السلة كيف يمكن لهذا أن يحدث؟

9. رجل يقف على جزيرة بدون طعام ولا مياه، بالرغم من ذلك فهو غير قلق على حياته، لماذا؟
إذا كنت وحيداً في الصحراء ولهك مصباح زيت، وشمعة، وحطب، ومعك عود ثقاب واحد، فما الذي ستشعه أول، ولمّا؟

11. طالبين جالسين على طرف الطاولة مقابل بعضهما البعض، لماذا لا يستطيعان رؤية بعضهما البعض علمًا بأن لا شيء بينهما إلا الطاولة.

12. رجل تم دفعه من طائرة صغيرة بدون أن يكون معه مظلة، ولكنه يبقى على قيد الحياة ولم يصب بجروح باستثناء بعض الكدمات، لماذا؟

13. كيف يستطيع عشرة أشخاص الوقوف تحت مظلة واحدة دون أن يتبلى أحد منهم؟

14. إمرأة عادية تستطيع السير فوق الماء، كيف يمكنها ذلك؟

15. في العملية الحسابية 1+1 =؟ لا يكون الجواب الصحيح 2، فسر ذلك؟

16. كم شهراً في السنة الميلادية يحتوي على 28 يومًا؟

17. لديك 20 برتقالة وكيسان، كيف تجعل في كل كيس عشرين برتقالة؟

18. متى تستطيع وضع الماء في الغربال وتوصلها إلى 10 أمتار أو أكثر دون أن ينقص منه شيء؟

19. كيف عمر عود ثقاب في علبة مليئة بالبنزين، قم بتشعل البزين، ما هو السبب؟

20. رأي ضابط الشرطة أن سائق الشاحنة يسير في الطريق المعاكس من الشارع وهو ذو اتجاه واحد، ولكن لم يحاول منهع، لماذا؟
Dear students,

The researcher is conducting a study to investigate the effects of using "Think, Write, Pair and Share" Strategy on 10th Graders English Writing Skills and their Lateral Thinking. This test aims at investigating your lateral thinking. The test consists of 20 paragraphs classified into two sections.

Section one: students must suggest alternatives for the given figures

1. Generate as many alternatives as you can to describe the following figures:

   ![Figure 1]

   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................

2. ![Figure 2]

   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................

3. ![Figure 3]

   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................
   ............................................................................................................................

Name----------------------------------------
4. Divide this square into four pieces, which are exactly similar in size, shape and area

5. Remove two lines from these figures to make 2 squares remains

Section two: students suggest solution to the following cases
6. The teacher asked his students, If we have four birds on the tree and 3 of them decided to fly, how many one remains on the tree? Why

7. Suggest solutions to Obesity?

8. There are six eggs in the basket. Six people each takes one of the eggs. How can it be that one egg is left in the basket?

9. A man is alone on an island with no food and no water, yet he does not fear for his life.
10. If you were alone in a deserted house at night, and there was an oil lamp, a candle and
firewood and you only have one match, which would you light first?

11. Two students are sitting on opposite sides of the same desk. There is nothing in
between them but the desk. Why can't they see each other?

12. A man was pushed out of a small aero plane without a parachute, but he survived with
no injuries apart from a few bruises. How was this possible?

13. Four people try to get underneath one small umbrella, but nobody gets wet. How is this
possible?

14. An ordinary woman walks on water. It is not a miracle.

15. 1+1=?  2 is not the correct answer. Clarify?

16. Some months have 30 days; others have 31. How many months have 28 days?

17. You have 20 oranges and two bags. How could you have 20 oranges in each bag?

18. How could you put water in the sieve until it reaches more than ten meters without
being lost?

19. Omar threw a matchstick in a gallon full of gasoline but it didn't light? Why?
20. A policeman saw a man driving a lorry in an opposite one way street, he didn’t stop him? Why?

---
## Appendix No. 7

### Writing skill Evaluation Sheets

<table>
<thead>
<tr>
<th>Category</th>
<th>The first criterion: Conventions of writing : Punctuations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>poor</strong></td>
<td><strong>Acceptable</strong></td>
</tr>
<tr>
<td>1 mark</td>
<td>2 marks</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td></td>
</tr>
<tr>
<td>Little, no or random punctuation</td>
<td>Some correct use of sentence punctuation</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td></td>
</tr>
<tr>
<td>Full stops May be one full stop at the of writing</td>
<td>Full stops Some sentences may be joined by commas</td>
</tr>
<tr>
<td>Capital letters Letter formation may make it hard to distinguish whether capitals are sentence beginning or proper nouns.</td>
<td>Capital letters Letter formation may make it hard to distinguish whether capitals are sentence beginning or proper nouns.</td>
</tr>
</tbody>
</table>

84
<table>
<thead>
<tr>
<th>Description</th>
<th>Poor</th>
<th>Acceptable</th>
<th>Average</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mark</td>
<td>2 marks</td>
<td>3 marks</td>
<td>4 marks</td>
<td>5 marks</td>
</tr>
<tr>
<td>There is a lack of vocabulary and/or most words student uses are incorrect, and inappropriate to the topic of the paragraph - Errors often interfere with the message and the meaning is confusing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a limited range of vocabulary and/or several words student uses are incorrect and inappropriate to the topic of the paragraph, the meaning is still confusing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students use adequate range of vocabulary but could use more new words. Some words are incorrect or inappropriate but the overall meaning is somewhat clear.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students demonstrate good use of vocabulary appropriate to the topic, few words are still incorrect but the overall meaning is clear.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are an attempt to use a reasonable range of vocabulary. Words the student uses are correct and appropriate to the topic and convey the meaning clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Third criterion : Grammar : subject- verb agreement</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>------------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Description</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>Acceptable</td>
<td>Average</td>
<td>Very good</td>
<td>Excellent</td>
<td></td>
</tr>
<tr>
<td>1 mark</td>
<td>2 marks</td>
<td>3 marks</td>
<td>4 marks</td>
<td>5 marks</td>
<td></td>
</tr>
<tr>
<td>Few correct sentences</td>
<td>Correct sentences and many have minimal extension</td>
<td>Correct sentences begin to show variety in structure and type</td>
<td>most sentences are correct. sentences show variety in structure, length and type and have extending phrases and/or clauses or all sentences are correct but repetitive</td>
<td>Sentences are controlled and show variety in structure, length and type and have extending phrases and/or clauses.</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Poor</td>
<td>Acceptable</td>
<td>Average</td>
<td>Very good</td>
<td>Excellent</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
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<td>------------------------------------------------</td>
</tr>
<tr>
<td>1 mark</td>
<td>Ideas are unrelated to the topic Or One brief simple ideas related to the topic</td>
<td>Text has a few simple, unelaborated ideas related to the topic</td>
<td>Text has many simple, unelaborated ideas related to the topic Or An idea is related to the topic and has some basic elaboration</td>
<td>Ideas are relevant and begin to show some complexity And Text has one elaborated idea</td>
<td>Ideas are complex and elaborated</td>
</tr>
<tr>
<td>2 marks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3 marks</td>
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<tr>
<td>4 marks</td>
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<tr>
<td>5 marks</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Source:**
## Appendix No 8

### The Validation Committee

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Juror</th>
<th>Place of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dr. Jamal Nafi</td>
<td>AL-Quds university</td>
</tr>
<tr>
<td>2.</td>
<td>Dr. Omar Abu Sumous</td>
<td>AL-Quds university</td>
</tr>
<tr>
<td>3.</td>
<td>Dr. Afif Zedan</td>
<td>AL-Quds university</td>
</tr>
<tr>
<td>4.</td>
<td>Dr. Suad Al- Abed</td>
<td>Al-quds Open university</td>
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<td>5.</td>
<td>Dr. Ziad Qabajja</td>
<td>AL-Quds university</td>
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<td>Dr. Hassan Hamad</td>
<td>AL-Quds university</td>
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<td>7.</td>
<td>Dr. Janne Kattan</td>
<td>Bethlehem university</td>
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<td>8.</td>
<td>Dr. Nourma Musleh</td>
<td>Bethlehem university</td>
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<td>9.</td>
<td>Dr. Imad Jaber</td>
<td>Bethlehem university</td>
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<td>10.</td>
<td>Mr. Naeem Salah</td>
<td>Palestine AL–Ahliya university</td>
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<td>11.</td>
<td>Mrs. Rula Khaleel</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>12.</td>
<td>Mrs. Maisa Issa</td>
<td>English teacher /Bethlehem District</td>
</tr>
<tr>
<td>13.</td>
<td>Mrs. Iman Thwaib</td>
<td>English teacher /Bethlehem District</td>
</tr>
</tbody>
</table>
الموضوع: توزيع استبانة

لا منع من تسهيل مهمة الطلاب. إلهام محمود أحمد أبو علي "خصص أساليب تدريس - لغة إنجليزية/ جامعة النجاح يطبق الدراسة بعنوان "Strategy on Tenth Graders' English Skills and Their Lateral Thinking" خلال الفصل الدراسي الثاني 2015/2016 م، على أن لا يؤثر ذلك على سير العملية التعليمية، علماً بأن المعلومات لن تستخدم إلا لأغراض البحث العلمي.

مع الاحترام

[Signature]

Bethlehem P.O.Box 98 - Fax (02)-2743276 - Tel (02)-2743368
أثر استخدام استراتيجية "فكر، اكتب، زواج، شارك" في تنمية مهارات الكتابة باللغة الإنجليزية والتفكير الجانبي لدى طالب الصف العاشر في بيت لحم.

إعداد الطالبة: إلها محمود أحمد أبو علي

إشراف الدكتور: غسان سرحان

الخصر

هدفت هذه الدراسة إلى استقصاء أثر استخدام استراتيجية "فكر، اكتب، زواج، شارك" في تنمية مهارات الكتابة باللغة الإنجليزية والتفكير الجانبي لدى طالب الصف العاشر في مدارس حم. طبقت الدراسة على عينة من طلبة الصف العاشر في المدارس الحكومية التابعة لمديرية بيت لحم/محافظة بيت لحم في العام الدراسي 2015-2016؛ تتألف عينة الدراسة من طلبة من طلبة الصف العاشر من مدارس حم. وقد تم اختيار عينة الدراسة من 63 ذكر و53 أنثى في كل من مدرسة بنات العبيدية الثانوية ومدرسة رفيق بيت لحم الثانوية، تم تعيين الطلاب في كل من المجموعة التجريبية والضابطة، درست المجموعة التجريبية باستخدام "فكر، اكتب، زواج، شارك"، ودرست المجموعة الضابطة باستخدام "فكر، اكتب، زواج، شارك". بعد انتهاء التجربة تم استخدام المتوسطات الحسابية والانحرافات المعيارية، وتحليل التغيرات الثانوية لقياس الفروق بين المجموعتين.

وقد أظهرت النتائج وجود فروق دالة إحصائياً في المتوسطات الحسابية لمهارات الكتابة تعزى لطريقة التدريس ولصالح المجموعة التجريبية. كما أظهرت النتائج عدم وجود فروق دالة إحصائياً عند مستوى الدالة لمهارات الكتابة تعزى للجنس والتفاعل بين المجموعة والجنس. ولهذا أظهرت نتائج الدراسة كذلك وجود فروق دالة إحصائياً في التفكير الجانبي تعزى لطريقة التدريس لصالح المجموعة التجريبية. ونجد فروق ثابتاً للتفاعل بين المجموعة والجنس لصالح الإعداد في المجموعة التجريبية. كما وأظهرت النتائج عدم وجود فروق دالة إحصائياً في المتوسطات الحسابية للتفكير الجانبي ثابتاً للجنس.
وانطلاقاً من هذه النتائج، توصي الدراسة بضرورة تدريب المعلمين على استخدام إستراتيجية فكر، اكتشاف، ومشاركة في التدريس. كما توصي الدراسة بضرورة ممارسة الطلبة لمثل هذه الإستراتيجية والتي يتم من خلالها تحفيز مهارات التفكير لديهم. بالإضافة إلى إجراء المزيد من الدراسات على متغيرات ومجتمعات أخرى.