

The Effect of Using Mind Maps on Developing Spelling Skill for First Intermediate Stage Students in English

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Abstract:

The present study aims at investigating the effect of using mind maps on developing spelling skill for first intermediate stage students in English . The researchers had chosen two schools intentionally from female intermediate displaced schools in Erbil city during the academic year 2018-2019. The sample includes (60) subjects divided into two groups. The experimental group was taught by using mind maps , while the control group was taught by using the traditional method . The design of the experiment was pre-posttest equivalent groups design . The reliability factor of the spelling test had been computed by using Cronbach's Alpha formula. The independent and dependent t-test had been used to analyse the results. The results showed the superiority of experimental group over the control group in the spelling test in English. In addition ,the experimental students' performance has developed in spelling skill.

اثر استخدام الخرائط الذهنية في تنمية مهارة الاملاء لدى طلبة الصف الاول متوسط في مادة اللغة الانكليزية

الملخص: تهدف الدراسة الحالية الى الكشف عن اثر استخدام الخرائط الذهنية في تنمية مهارة الاملاء لدى طلبة الصف الاول المتوسط في مادة اللغة الانكليزية . اختارت الباحثتان مدرستين بصورة قصدية من المدارس المتوسطة للبنات الخاصة بالنازحين في مدينة اربيل للعام الدراسي 2018-2019 . تكونت عينة البحث من (60) طالبة قد تم تقسيمهن الى مجموعتين . المجموعة سالتجريبية درست باستخدام تقنية الخرائط الذهنية ، بينما المجموعة الضابطة درست باستخدام الطريقة التقليدية . تصميم التجربة هو تصميم الاختبار القبلي - البعدي للمجموعات المتكافئة . تم التأكد من ثبات اداة البحث باستخدام معادلة الفا كرومباخ ، ولقد تم معالجة البيانات احصائيا باستخدام الاختبار التائي لعينتين مستقلتين ،وعينتين مترابطتين . ولقد اظهرت النتائج تفوق المجموعة التجريبية على المجموعة الضابطة في اختبار الاملاء في مادة اللغة الانكليزية . بالاضافة الى تطور اداء طلبة المجموعة التجريبية في مهارة الاملاء .

1-Introduction:-

Spelling of some words in the English language must be memorized because the words don't follow any specific rule (Forlini,1990:609).So it is a complex sensory motor process(Al-rifai and Mizhir, 2012:131).The mastery of it depends on auditory and visual impressions which face with articulatory and graphic motor responses.

However, spelling is not reflections of a learner's intelligence, but is an important skill that learners need to master in order to progress in their writing and as their vocabulary broadness . The teacher can use many techniques for developing his/her learners' spelling. One of these techniques is a mind map which represents a group of new words generated from one word or idea , prepared by the learners themselves and directed by the teacher.

This technique discovered by Tony Buzan (1968). He considered a mind map as a special kind of brain friendly diagram that helps the learner to think ,imagine ,and plan short information . It creates the radial thinking (Jbeil,2013:1081).Radiant thinking

usually begins with the center, and various ideas and solution radiating out from that point.

A mind map" is a visual representation of the hierarchical information that includes a central idea surrounded by branches of associated topics" . The drawing of mind maps requires the use of two sides of the brain (Al- mukhtar,2016:19). In this case, this technique considers the learner center of the teaching – learning process.

Moreover , it helps the learners to develop their personalized maps with pictures , colorful lines that stimulate their interest and creativity.

2-The Research Problem:-

Poor spelling often results from bad habits developed in early school year. On visiting some intermediate displaced schools , the researchers noticed the weakness of students' performance in spelling skill . This is due to many reasons like :-

1-The communicative method , which is a adopted now , focuses on oral communication rather than written forms of language.

2- The students displaced schools don't have enough time for a lot of practice on spelling skill .

Therefore, the researchers have formulated the problem of the research to the following question :-

What is the effect of using mind maps on developing spelling skill for first intermediate stage students in English?

3- Aims of the Research:-

The current research aims at introducing a mind map as a new technique for teaching and knowing how to use it in teaching foreign language as well as investigating the effect of using it on the first intermediate students' spelling skill in English.

4- The Hypotheses:-

In the light of research aims , the researchers attempt to test the following:-

1-There is no statistically significant difference between the mean scores of post test for the experimental and control groups in developing English spelling skill test.

2- There is no statistically significant difference between the mean scores of pre and post test for the experimental group in English spelling skill.

5-Limits of the Research:-

The current research is limited to the following :-

1-A sample involved the first year intermediate female students from displaced schools in Erbil Governorate ,during the first term of academic year(2018-2019).

2-concerning the teaching material the researchers are limited to units(1-6)of book(English for Iraq) for 1st intermediate level with the students' book.

6-Definition of Basic Terms:-

6.1. Mind map:-

- Siucezuk(2005, 317) states that "it is an expression of multidirectional thinking , as well a natural function of the human mind . It is also a powerful graphic technique which provides a universal key to unlock the potential of the brain ".

- Al-Masudi(2014:112) defines it as" a creative map which represents the pupils' vision for teaching material and the relationships which are hold by himself between the parts of the material ".

In the current research , mind map is a diagram to represent words linked to and arranged radially around a central key word. It is used for generating , and visualizing the words.

6.2. Spelling:-

-Webster(1986,733) states that " the forming of words from letters". -Al Rifia and Mizhir(2012,131-132) say " it is a complex sensory motor process the efficiency of which is based on repeated motor reactions to sensory stimuli".

In the current research , spelling skill is the students' ability to spell words in correctway.

7.Theoratical Background :-

7.1. Background of mind map;-

The idea of mind map is not new in the field of education . Meanwhile ,it dates back to the third century . Early Greeck philosophers used graphic design

to diagram diverse concepts, words, and ideas that related to central thought (Feread ,2015:21) . Then , Jean developed new diagram depending on Monluis Severins Boethius who based on copies of the original manuscript . Original manuscript is lost but the copies that exist are considered reliable.

Tony Buzan in 1957 worked on about radiant thinking and mental literary . His work is based on results of human brain research by Dr. Roger .W.Sperry. The research shows the principles of left and right brain hemisphere functioning . Buzan found out the best response for the human brain to the key word, colors ,pictures and the direct connection between two or more concepts (Stankovic and etal , 2011,238). Therefore , mind map is considered a brilliant expression of thought . So it can be used in every aspect of life for improving learning and clearer thinking and increasing human performance .

7.2. Characteristics of mind map:-

There are five essential characteristics of mind mapping :-

1-The main idea is crystallized in a central image .Thus it's form is radiate from the central to branches.

2-sub topics that relate with the main idea are represented as twigs of the relevant branch.

3- Each student has special mind map , this means there is no two mind maps are alike .

4- Mind maps help to develop creative thinking .

5- Mind map usually considers as incomplete map . The student can complete it .

(Al-Masudi,2014:112-113) (Al –Jaraf , 2011:4)

7.3.Adavantages of mind map:-

The advantages of mind map are as follows:-

1-Speed:- The learners draw their ideas as key words , and arrows for reviewing their ideas fast.

2- Remember more:- mind maps can stimulate learners ' brain in new ways than normal linear notes . It gives the learners freedom to think .

3- facilitate the studying process and makes it fun :- Using this technique helps the learners have fun because they can use colors, images ,numbers, lists

4-Connected facts:- A mind map is often created a round a single word or text placed in center to which associated ideas ,words . In addition to the shape of it which look like the bra incell.

6- Perfect overview of students' ideas :- Mind map can help the learners to create a deeper understanding of topics.

(tee&etal ,2014:29) (Gooding , 2017:1-3)

7.4.Disadvantages of mind map:-

Cindy(2017:1)shows disadvantages in the following points:-

1-Its' size is limited,

2- Its' hard to read by others , especially the learners who are logical thinking ,

3-It takes a lot of precious time.

7.5 Steps of mind mapping:-

The following steps should be followed when the learner want to draw any mind map:-

1-Write a subject word or main idea in the center of paper .This will give the learner freedom to spread out in all direction and express himself freely,

2-make brain storming for finding words connected with the main idea,

3- from the main idea , draw a thick curved lines so as to add any words or ideas related with main idea,

4- Then create sub –branches that stem from the main branches and write the secondary key word .The learner can add colors , shapes , pictures, or write sentences.
(Saeedi and Alarams ,2008:34)

7.6.TheDifferences Between Mind map and Concept map:-

Eppler (2016:210) mentioned the following points to distinguish between mind map and concept map .

	Mind map	Concept map
1	It is a multi colored and image centered radial diagram that represents semantic or other connections between portions of learned material hieratically.	It is a top-down diagram showing the relationship between concepts including cross connections among manifestation.
2	It uses as learning support tool for students that is to summarize key words , or key course topic.	It uses for pre-analytic idea rapid note –taking to structure the main contents of topic hierarchically.
3	It shows systematic relationships among sub –concepts relating to one main concept .	It shows sub-topics of a domain in creative manner.
4	It is always radial.	It is always branching

7.7.Literature review:-

1-Suyanto's study(2010)

The research investigated the effectiveness of mind map to teach English writing skill viewed from their IQ. It was an experimental study in the seventh grade students of SMPNI . The sample consisted of (72) male and female students who had been chosen randomly from Sebelas maret Surakarta university during the academic year 2009-2010. Experimental group included (14 boys and 22 girls) which was taught by using mind mapping . While the control group included (10 boys and

24 girls) which taught by using modeling technique. The researcher analyzed the data using ANOVA and TUKEY test .The result showed that mind mapping technique is more efficient than modeling technique to teach writing . (Suyanto,2010;1-86)

2- Al-Obaids' study(2013)

The research investigated the using of mind map strategy on developing some skills of reading comprehension for the second year intermediate school female students in Islamic education . The sample of the study included

(76)subjects. The experimental group included(36) students studied by using mind maps. Whereas the control group included (40) students and taught by the traditional method . The results showed that there were statistical differences in favor of the experimental group. This result is due to use mind maps.(Al-Obaidi,2013:a-b)

3- Al –Awidi and Jaradats' study(2015)

The researchers investigated the effect of electronic mind mapping technique on the enhancement of English reading comprehension for ninth grade students in Jordan . The sample included (60)students who had been chosen randomly from two schools in Irbid during the academic year (2013-2014) . The researchers used the two groups equivalent pre-post test design. Each group consisted of (30)students . The experimental group was taught English lessons by electronic mind mapping . While the control group was taught the same lessons by conventional technique . Then a reading comprehension test was applied . The findings showed the superiority of the experimental group

over the control group .Further more , the effect size of electronic mind maps was medium in teaching reading text.(Al-awidi&Jaradat,2015:469-480)

8-The Research Sample:

The researchers have used the pre-post and equivalent groups as the experimental design. Therefore, the researchers have chosen deliberately two displaced schools in Erbil namely , Al Athraa and Maryam al –tahera intermediate schools for two reasons:-

- 1-both schools locates in Ankawa and have two shifts,
- 2-they are similar in social and economic aspects.

The researchers excluded (2) repeaters from both groups to avoid their effect on the results of the research , hence the number of the sample was (60)students.

8.1.Equivalence of the Groups :-

The researchers made equivalence between two groups in following variables:-

8.1.1 Students' age:-

The researchers measured student's age by months at the beginning of the academic year2018-2019. The researchers used t-test of independent

sample. The results showed that there was no statistically significant difference between the two groups according to age variable the calculated t-value was (0,287) which is less than the tabulated t-

value which was (2,002) at (0,05) level of significance and (58) degrees of freedom as shown in table (1).

Table(1) T-Test Results for Students 'Age

Groups	Number	Mean	S.D.	T-Value	
				Calculated	Tabulated
Experimental	30	147,633	8,984	0,287	2,002
Control	30	148,333	9,893		

8.1.2. Students' Achievement in English in the preceding year

After applying t-test of independent samples . The results indicated that there was no statistically significant difference between the two groups in this variable .The calculated t-value was (0,655) which is less than the tabulated t-value which was (2,002) at (0,05) level of significance and (58) degrees of freedom as shown in table (2).

Table(2)T-Test Results for Students ‘Achievement

Groups	Number	Mean	S.D.	T-Value	
				Calculated	Tabulated
Experimental	30	79,300	10,596	0,655	2,002
Control	30	77,467	11,088		

8.1.3. Pre -test for students Spelling Skill.

The researchers used t-test for measuring the students' spelling skill. The results showed that there was no statistically significant difference between the two groups in spelling skill test .The calculated t-value was (0,517)which is less than the tabulated t-value which was (2,002)at(0,05) level of significance and (58)degrees of freedom as shown in table(3).

Table(3) Results for pre- test of Students' spelling skillt

Groups	Number	Mean	S.D.	T-Value	
				Calculated	Tabulated
Experimental	30	5,500	2,345	0,517	2,002
Control	30	6,167	2,640		

8.1.4. Fathers' Education

Attainment:-

The frequency of each attainment of education for fathers was computed .Then the researchers used chi-square to test the statistical differences. No statistically significant difference was found between two groups in fathers' educational attainment. The calculated chi-square value was(0,104)which was less than tabulated value(5,99)at(0,05)level of significance and (2)degrees of freedom as shown in table (4).

Table(4)Chi-Square Results for fathers ‘Attainment

Groups	Primary and less	Secondary	Bachelor and Master	Chi-Square	
				Calculated	Tabulated
Experimental	18	5	7	0,104	5,99
Control	19	5	6		

8.1.5.Mothers' Education Attainment:-

In this variable n no statistically significant difference was found between two groups in fathers' educational attainment. The calculated chi-square value was (0,279)which is less than tabulated chi square value (5,99)at(0,05)level of significance and (2)degrees of freedom as shown in table (5).

Table(5)Chi-Square Results Mothers' Attainment

Groups	Primary and less	Secondary	Bachelor and Master	Chi-Square	
				Calculated	Tabulated
Experimental	19	6	5	0,279	5,99
Control	17	7	6		

8.2. Lesson planning :

The lesson plan for each unit was prepared ,in terms of two techniques of teaching the researchers were keen to present the same words to both groups . The plans were presented to a group of experts specialized in methodology .The plans were accepted some instructions were taken in to consideration by the researchers.

8.3. Validity:-

It refers to the extent to which a test measures what it is supposed to measure (Heaton ,1990:159).The researchers prepared spelling test by using the same words that were taught for the experimental and control groups . It includes two parts . The first part was a completion test while the second part

was to pick out the incorrect spelling word .Therefore , the researchers showed a test to a group of experts to judge the validity of items .An agreement of 80%between experts was an indicator of the validity of the items. They also put forward some notes and suggestions to improve them.The researchers used the same test in pre and post test .The pre-test is used before the experiment with two groups to find out the equivalence between them for achieving the first hypothesis while the post test is used to find out the development of students performance for achieving the second hypothesis .

8.4.Relibility:-

Reliability is the extent to which a test yield a consistent , reproducible measure of performance (Santrock,2003;394).To

find out the reliability of the tool , the researchers applied it to a pilot sample consisting of (15) students .The researchers applied Alpha-Crombach and the reliability was (0,74) which is both good and acceptable .Thus, the test was approved in its final form.

8.5.Statistical Means;

The researchers used the following statistical means:-

Two sample- test of the tailed type for independent samples which is used to test the differences between two groups for the purpose of equivalence and to test the differences between arithmetic means of students results in the spelling test was applied.

Two dependent t-test samples which is used to test the differences between the pre and post test for the experimental group to find out the extent of the development of students' spelling skill. Chi-Square to test the differences of parents' attainment for two groups for the purpose of equivalence. (Steel and Torrie, 1981; 478).

9. Results and Discussions :

To verify the first null hypothesis of the research, the researchers computed the mean scores and standard deviation for the groups in terms of their spelling skill, and applied the t-test for two independent samples, as shown in table (6).

Table (6); T-test Results for both groups in the spelling skill

Groups	Number	Mean	S.D.	T-Value	
				Calculated	Tabulated
Experimental	30	21,833	3,966	7,645	2,002
Control	30	15,200	2,618		

Its obvious from table(6)that the calculated T- value (7,645)is higher than the tabulated T-value which is statistically significant under (58)degrees of freedom . This means that there is a statistically significant difference between the means of the two group . Thus , the first null hypothesis is rejected and the alternative hypothesis is accepted.

This result may be due to organize the words mentally making the words easier to acquire . This case leads the pupils to construct many words free from mistakes .

To test the second null hypothesis , the researchers computed the mean scores and standard deviation of pre-post tests for the experimental group and applied T-test for dependent groups as shown in table (7).

Table (7): T-test Results of pre –post tests for the experimental group

Group	Number	Mean		The difference between pre-post test	S.D.	t-value	
Experimental	30	Pre-test	Post-test			Calculated	Tabulate
		5,500	21,833	6,333	4,581	19, 527	2,045

It is clear from table (7) the calculated T-value (19,527) is higher than tabulated T-value which is (2,045) at (0,05) level of significance under (29) degrees of freedom. This means that there is a statistically significant difference between the pre-post tests. Thus, the second null hypothesis is rejected. This result may be due to the following reasons:-

1-The students prepare their mind map by themselves.

2-mind maps give interesting shapes for the students.

9- Conclusions:-

The following conclusions have been arrived at:

1-The mind map technique produced positive effect especially on the developing of spelling skill in English by First intermediate students.

2- Mind map is effective in developing students performance level through reducing numbers of students spelling mistakes.

10. Recommendations:

According to the results of current research, the researchers would like to provide the following recommendations:-

1-Teachers of English should give special attention to teaching spelling skill since this will help the students to spell English words successfully.

2- Mind maps technique should be introduced in methodology subject in Basic Education Collage.

11. Suggestions :

The following suggestions for further studies can be put forward:-

- 1-Asimilar study with male students .
- 2-carrying out similar studies on writing skill.
- 3-Carrying out another study of using mind maps at the primary level.
- 4 – Carrying out similar studies by using electronic mind maps.

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Appendix (1)

A Model Daily Lesson Plan

The Experimental Group

Topics :Unit 2,Lesson1 Class :First

Intermediate Time Alloted:45minutes

Method of Teaching: Mind map

Behavioral Objectives:-The student will be able to:-

1-know the meaning of weather words,

2-read aloud the weather words with correct pronunciation,

3-spell correctly the new words,

4-give sentences related to weather words,and

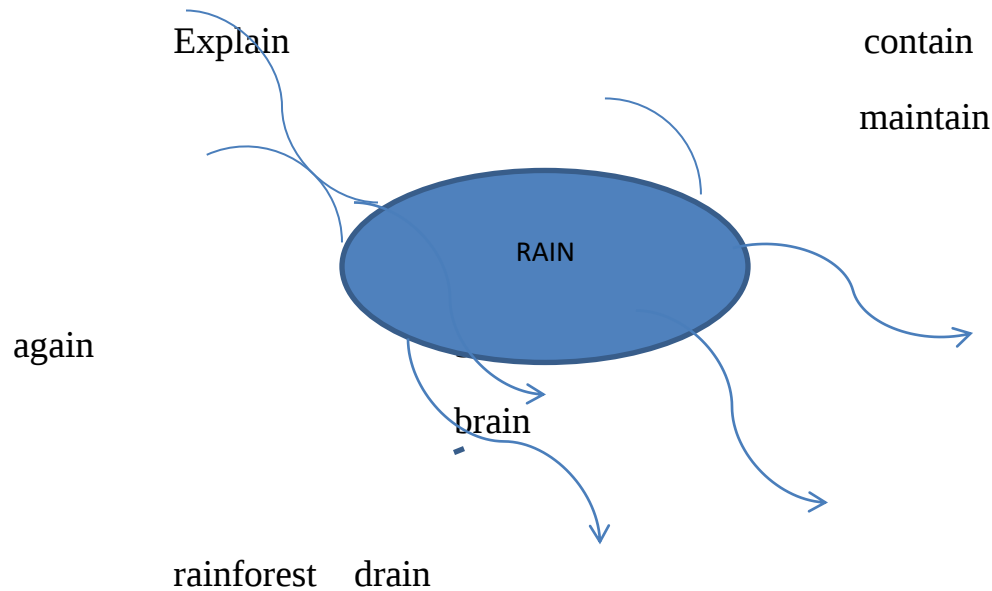
5-match the weather words with each season of the year.

Teaching Aids:-white board and colored pens, cards ,and pictures, pens ,white paper ,and rubber..

Introduction :-The teacher reviews the material presented in the previous lesson by asking her students some questions about lesson (10)like:-Who is the bird watcher? Where does she live?.....etc. Here the teacher explains the idea behind

mind map for helping her students draw their mind map.

Presentation:- The teacher tells the students that in this lesson we will learn the seasons of the year .At the beginning asks them to read the word then asks them to draw their mind map and asks them to write down the for example, at the center of the map .After that asks them to explore others words derived from it .The students make storm brainning for finding words similar to the word(rain)in spelling .This can be achieved by adding other letters to the main word remove letter for making new word with different meaning ,and as follows:



The students draw zigzag lines and write the connected words which are related to the main word .Then , they color these lines to distinguish the information or write sentence.

After the students finish drawing their mind maps ,theteacher choses some maps and gives notes about them .

Homework:- The teacher gives a new word and asks her students to draw other mind map.