Review Article

# Effectiveness of Electronic Concept Maps in Improving Speaking Skills among Third primary Grade in Both Taibeh and Westieh Brigades in Irbid Governorate

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## Abstract

The study aimed to identify the effectiveness of electronic concept maps in improving speaking skills in Arabic Language among the third primary grade female students in both Taibeh and Westieh Brigades in Irbid Governorate. The study used the quasi-experimental approach and applied to a sample of the third primary grade female students in Maymona bint Alharith Primary School in Qumaim town in Irbid Governorate reached out (38) female students, who were randomly distributed into both control and experimental groups of (19) female students in each group. The control group was (taught by the ordinary book method), and the experimental group was (taught using electronic concept maps). In order to achieve the objectives of the study, the researcher prepared an observation card to measure the speaking skills which reached out (12) skills distributed on (3) main aspects, and were applied before and after on both groups. By using the appropriate statistical methods, the results of the study showed a statistically significant difference at the level (α ≤0.05) between the means of the experimental group female students' grades and the control group female students' grades in the post-application of the observation card of speaking skills for the experimental group female students. The results recommended that the need for Arabic Language teachers to pay attention in improving Arabic Language speaking skills among the first three primary grades female students by using effective teaching strategies.
Keywords: Electronic concept maps, speaking skills- third primary grade, both Taibeh and Westieh Brigades.

## INTRODUCTION

Arabic Language received great merits than any other language, because it is the language of the Holly Quran which God has preserved that we should protect it and make efforts in order to spread it as it means to acquire information and knowledge and different trends [1].

Alma'oush [2] explained the importance of speaking skills in Arabic Language among primary stage students, where it represents intellectual activity which reflex level of the student culture and the extent of his mental maturity in addition to the ability to present, explain and coordinate speech. Speaking is a social activity used to affect listeners in accepting the speaker and what he conveys of views. Thoqan [3] thinks that concepts maps considered as one of the most important strategies which used in increasing the level of academic achievement among students, improving their attitudes towards learning language and its skills. Albehairy [4] also confirms that electronic concepts maps are expressed means of ideas and plans and not only words, where they depend on images, colors and drawing in expressing an idea or a concept, and they help to think, learn and memorization which lead to a good learning.

Nassar [5] thinks that the majority of students need to see information in order to learn it. At recent days, the term of ( electronic concepts maps) has emerged which is defined as the easiest educational technological ways; it is an educational method or a information input and get it out of mind, and it also helps to plan ideas well.

The relation among electronic concepts map is clear from one hand, and speaking skills from the other hand according to what the study of Huzami [6] study pointed to that the main elements which affect school achievement are thinking skills, creativity improvement in educational situations. The speaking skill contributes in creativity improvement clearly; because it is considered to be the major basis which to be depended on in high thinking processes. The human mind and its different processes need to several resources which support it with experience and information, and mind

doesn't realize things directly, but it needs to a knowledge factor consisted of scientific principles. Alkhouli [7] thinks that speaking skills represent ultimate outcome of Arabic Language teaching, and it is a tool of communication with others to express what he wants, or what it is in his mind. As long as the student has fluency, speaking well and produce language, his interaction and adoption with others will be clear and correct.

So, this study came to improve speaking skills in Arabic Language among primary third grade through using electronic concepts maps in Arabic language teaching.

**The study problem**

Speaking skills improvement is considered to be of the most important general objectives to teach Arabic Language skills since they are help students to express their opinions and feelings, interact with others and form social relations, affect others and direct their behavior to get what they need. Many educators also agree on that student ability improvement on speaking well and correctly is of the major Arabic Language teaching objectives [4].

Since Arabic Language speaking skills are so important in effective linguistic communication, but Arabic Language teachers of this primary stage face many problems, the most important are : a lack in linguistic performance among students lies in unclear ideas, unorganized speaking well in the light of an idea or an objective, more errors in selecting linguistic lexical, methods and linguistic synthesis, slang talking, no color in voice that suits meaning in addition to other aspects according to what many studies results have confirmed that dealt with Arabic Language speaking skills among students of different school stages such as studies of [8-10].

Throughout the researcher's field views of the fact of Arabic Language learning and teaching with its different skills in general, and speaking skills in particular, and since the researcher's work as a teacher of primary teaching stage, she observed clear decline in different linguistic skills and speaking skill in particular among primary third grade. So, the current study problem is specified in showing the effectiveness electronic concepts maps in improving Arabic speaking skills among primary third grade in Taibeh and Westieh Brigades in Irbid Governorate. The study problem can be defined in the following major question:

What is the effectiveness of electronic concepts maps in improving Arabic Language speaking skills among primary third grade female students in both Taibeh and Westieh Brigades in Irbid Governorate?

In the light of the previous question, the current study tries to test the following theory:

There are no statistically significant differences at the significant level (0.05≥α) among means of the experimental group female students grades (electronic concepts maps) and the control group female students grades (the ordinary book method) in post-practice of speaking skills observation card.

**The Study Objectives**
- To identify effectiveness of electronic concepts maps in improving speaking skills in Arabic Language among primary third grade female students in both Taibeh and Westieh Brigades in Irbid Governorate.
- To identify if there are statistically significant differences at the significant level (0.05≥α) among means of the experimental group female students' grades and the control group female students' grades in post-practice of speaking skills.

**Importance of the study**
The importance of the study emerges in two aspects which are:

**The Theoretical Importance**
- The current study represents a response to what educators demand that the need to use modern strategies and methods in both learning and teaching processes.
- Its importance emerges clearly in what it will add of literature about using modern teaching methods in teaching Arabic Language.

**The Practical Importance**
- The results of the current study benefits Arabic Language teachers how to employ electronic concepts maps strategy in teaching Arabic Language.
- They benefit planners of Arabic Language curricula and books in including the curricula with models of concepts maps in teaching Arabic Language.

**Terms of the study**
**Effectiveness**
It is terminologically defined as: "A state resulted from doing things and correct procedures based on work achievement according to high standard which effectiveness is measured based on them" [11].

It is procedurally defined in this study as: a measurement resulted from the use of electronic concepts maps in improving speaking skill.

**Concepts Maps**
They are defined as :"a planning tool to show a set of concepts meaning within a net of relations where concepts are ordered hierarchically from more general to less, and the link among concepts is completed

through lines written on them a sentence or a word that has a scientific meaning called linking words" [12].

They are procedurally defined as: "A planner of a group of concepts, which start with the major idea, then the minor successive, according to a specific form and connects among them words to explain relation among them".

**Speaking**
**Talking**

Alkhateeb [13] defined it as "pronounced speech which express the student feelings and thoughts and what he wants to convey of information and others' ideas in a correct way".

It is procedurally defined as: flow of speech, meaning and sequence of ideas in order to convey it to others in a suitable, correct and accurate form.

**The Study Limits**
**Objective limits**: The third unit of primary third grade Arabic Language curriculum.

**Time limits:** The study has been applied in the second semester of the academic year 2019.

**Human limits**: A sample of primary third grade female students of Maymona bint Alharith Mixed Primary School.

**Spatial limits**: Maymona bint Alharith Mixed Primary School.

## LITERATURE REVIEW AND RELATED STUDIES
### Electronic Concepts Maps

There are two styles of concepts maps: electronic and non-electronic; the non-electronic where they used in them paper, pencils and colors manually and they are presented, and the teacher here is restricted to the design and the mechanism of presentation. While the electronic maps depends on their design and presentation on using electronic programs, and they don't require a skilled user in drawing; because they create maps with flowing arcs of branches, and they allow to drag and throw pictures from drawings library in order to add new abilities to the map [14].

The concepts maps are considered to be from sorts of drawing plans; they are organizing of major and minor concepts of educational subjects in shapes show the relations among them, and maps can be different shapes according to what they contain of information [15].

They also depend on the Theory of Cognitive Representation, Theory of Structural Knowledge Theory and Meaningful Learning Theory of Ozabel [16]. Meaningful learning is achieved when a learner

creates links or relations between new knowledge and the previous knowledge related to him.

Amadieu [17] pointed out that concepts maps help to do some mental functions such as acquirement, preservation and recalling of knowledge and encouragement for discover knowledge and reinforce outcomes.

### Educational applications of concepts maps

The concept maps of The Expansionist Theory refers to (Reigeluth) which states that learning is happened from part to whole, benefited from ideas which Ozabel dealt especially with what is called advanced organizers which help a learner to integrate the new information of an individual with taught experiences to become a main part of him, and thus, education is meaningful where content expansionist organizing requires from learners to practice the high mental processes in order to determine the major and minor ideas which the educational content includes, in addition to connect concepts, principles and procedures altogether and understand relations between them. Reigeluth's call those maps clearly in one of the main components of his theory which is(Synthesizing) is only explanation of relations that connect educational content elements together [18], and based on that, Abdel Hadi [19] mentioned several educational applications of concept maps which are as follows:

- They are evaluation tools within the objectives that Bloom defined for cognitive learning.
- The educational material is produced to students through organized formula to students' abilities; which means graded in their generality and comprehensively.
- Link the school subject and its concepts with student's factual life.
- They help a teacher to plan for the learning subject by preparing a map of the school subject from more generalization to less in order to achieve a meaningful learning to students.

### Speaking Skills

Speaking represents all what a student has learnt in Arabic Language, its structures and vocabularies. Some considered it to be the noblest aim if teaching Arabic Language. A student acquires a cognitive and linguistic wealth, and learns correct linguistic performance rules through practicing recipient functional which is represented by listening and reading, then comes the next stage which a student uses what he has acquired of linguistic wealth and what he has learnt of controls in expressing his ideas and opinions [20].

It is meant by speaking or what is called in language teaching aspect the oral expression is the pronounced speech which a speaker expresses about what is inside him, what is in his mind of feelings and

senses, what his mind full of visions and ideas and what he wants to provide others with information or such these things fluently, with correctness in expressions and accuracy in performance [1].

The relation between language skills (listening, speaking, reading and writing) together appears to be integral. The reading achievement leads clearly to accuracy in speaking and it also grows linguistic wealth, and it gives a strong aspect of ability to speaking. Speaking is considered to be an effective base that is required to enrich writing. Structures and styles in speaking are used in writing, and speaking skill is also required a training on listening, and thus, it is an integrated relation. The fact of teaching speaking skill aims to direct speaker towards use of the proper language of the intended party, satisfaction and affecting with the ability to use evidence. In order that speaking becomes successful, there must be an evaluation for speaking or feedback such as listeners' observation, positives and negatives [21].

**Related Studies**

The study of Albehairi [4] aimed to study the impact of electronic mental maps in improving some of the critical reading skills in Arabic language among the third primary female students in Egypt. To achieve the objective of the study, the researcher used quasi-experimental approach. The tools of the study were represented by: a list of critical reading skills and the test of critical reading skills prepared by the researcher. The experimental material consisted of an electronic program based on electronic mental maps, and through statistical process of the study data using (T.Test), The study results showed that there are statistically significant differences between both means of the sample study grades in the post and pre application in critical reading skills as a whole for the post application.

The study of [22] aimed to identify educational role of electronic concepts maps. The study sample consisted of (38) students in (San Britain) School in the south area of London in United Kingdome. The study tools consisted of both interview and observation. After the quantitative analysis of information, the study results pointed to those directing students to electronic concepts maps strategy helped them to strengthen the tendency of scientific thinking and innovation among them.

The study of [23] aimed to identify the major role which electronic concepts maps can do in motivating people on thinking well. The study sample consisted of (26) students of Health College in Johannesburg in South Africa. To achieve the study objective, the researcher adopted the experimental approach through applying the following tools to the study sample: a measurement of electronic concepts maps prepared by the researcher. The statistical process

o data is completed by using the statistical analysis program (SPSS). The study results revealed that the majority of the sample individuals showed their appreciation of using electronic concepts maps and they helped them in improving their high thinking skills in improving university education in South Africa.

Ala'dheeb [24] conducted a study aimed to identify the effectiveness of electronic mental maps to improve achievement and cognitive thought skill of biology for the first secondary grade. To achieve the objective of the study, the researcher adopted the experimental approach. The study sample consisted of (40) students of the first mid-grade during the academic year 1436/1437 H. distributed into two groups. The study tools consisted of: an achievement test to measure the effectiveness of electronic mental maps to improve pre –post achievement, and after the statistical process of data using proper statistical methods of the study data (T.Test), the results of the study showed differences in means of grades of the post-test for the experimental group which adopted the electronic mental maps. The researcher recommended that the need to provide teachers with training workshops in general to train them on preparing electronic mental maps and employ them in teaching, and to conduct more studies and procedural researches which aim to investigate the impact of electronic mental maps in specific skills in other school subjects.

The study of Bani Domi and Ala'mr [25] aimed to identify the impact of teaching through using electronic maps in acquiring the tenth primary grade female students to scientific concepts in South Almazar Brigade. The both researchers selected the study sample by the intentional method of the tenth primary grade female students of Mu'ta Secondary for girls. The study sample consisted of (90) female students of three sections, each section contains (30) female students distributed randomly into three groups: the first experimental group which was taught by the Wiki, the second experimental group, which was taught using electronic maps, while the control group was taught by the ordinary method. To achieve the objective of the study, the following tools are used: Wiki site, electronic maps and scientific concepts acquiring test. The results of the study showed statistically significant differences between the experimental group from one side, and the both experimental groups from the other side and for both experimental groups. There were statistical significant difference between both experimental groups; which means there were differences in the post-test between both electronic maps strategies and the technique of Wiki in acquiring the tenth primary grade female students to scientific concepts.

**Comments on the Previous Studies**

After revision of the previous studies, the current study agreed in dealing with using electronic concepts maps in teaching such as with the studies of

Albehairi [4], Ala'dheeb [24] and Bani Domi and Alamr [25].

The current study is distinguished from the studies in its try to identify particularly electronic concepts effectiveness in improving Arabic Language speaking among the third primary grade female students which makes it unique compared to other studies. The researcher benefited from the previous tools, literature and studies in reaching out to define the study plan and approach and choosing the study tools and statistical processes methods.

## The study Approach
The study adopted the experimental approach in its quasi-experimental design.

## The quasi-experimental design of the study
The researcher used the quasi-experimental design based on existence of two groups: experimental and control. The control group studied the selected learning unit using (the ordinary book method), while the experimental group studied the same unit using (electronic concepts maps), with the pre and post-application of the study tool (observation card) on both groups.

**Table-1: Quasi- experimental design of the study**

| Study groups | Pre-test | Teaching method | Post-test |
|---|---|---|---|
| Control group | Observation card | Teaching using book method | Observation card |
| Experimental group | | Teaching using electronic concepts maps | |

## The study sample
The study sample consisted of (38) female students of the third primary grade of Maymona bint Alharith School in both Taibeh and Westieh Brigades in Irbid Governorate, which was divided into a control group of (19) female students which was taught using the ordinary book method, and an experimental group of (19) female students which was taught using electronic concepts.

## The study tool
To achieve the study objectives, a set of research tools were prepared which were represented in:
- Determining a list of intended speaking skills.
- Speaking skills observation card.

## First: Speaking skills observation card.
Speaking skills observation card is prepared according to the following steps:

## Determine the objective of the tool

Which was measurement of the degree of the third primary grade female students' empowerment of Arabic Language speaking skills through observation of female students' performance of these skills.

## Preparation of speaking skills list
Since one of the study objectives is to improve speaking skills among the third primary grade female students, the researcher analyzed the content of the learning unit to reach out the included speaking skills, and preparing a list of that where (12) speaking skills were determined, distributed to the aspects of: (vocabularies, synthesis, methods, vocabulary pronunciation, linguistic synthesis and meaning demonstration) to acquire them to the third primary grade.

## Analysis Reliability
The researcher reanalyzed after two weeks of the first analysis, where the coefficient correlation was counted according to Cobber Equation [26]:

$$\text{Coefficient correlation} = \frac{\text{Agreement points}}{\text{Agreement points + disagreement points}} \times 100$$

## Validity of speaking skills list
To ensure the validity of the list, the researcher verified of the validity of content first through the resources and previous studies related to speaking skills, its different classifications and analysis to present it in its primary shape to a group of arbitrators specialized in curricula and Arabic teaching methods and measurement and evaluation, where they asked to give their opinions in the list in terms of property of the skill to the third grade, the extent of each skill belonging to speaking level which was classified under and the clarity of each skill formula in the linguistic aspect.

## Validity of Arbitrators
The researcher verified the observation card validity through presenting it to a number of skilled arbitrators of the faculty staff of teaching methods and curricula department and Arabic Language supervisors, in order to view their opinions about the property of observation card items, belonging of each skill to the aspect and clarity of skill formulation.

All of the test items got an agreement percentage for their remaining exceeded (80%). The researcher adopted the directions that the arbitrators pointed to in terms of reformulate some of the

observation card items which will provide it an indicator of virtual validity.

## Reliability of the observation card

The reliability of the observation card was verified through analysts' reliability. The analysis results showed a high reliability percentage of the analysts' reliability to evaluate female students evaluation on the observation card, where the percentage reached out (98.5%), which is exceeded percentage of (70%) decided to analysis reliability.

## THE STUDY RESULTS AND DISCUSSION
### The result of the study theory test

There were no statistically significant differences at the level (0.05≥α) between means of the experimental group female students' grades (electronic concepts maps) and the control group female students' degrees (the ordinary book method) in the post-application of the observation card of speaking skills.

To test validity of this assumption, the indication of differences between both experimental and control group in the aspects of speaking skills and the whole grade on the observation card was counted using (T.Test) of the differences indication between means of dependent groups as follows:

**Table-2: Results of (T.Test) of differences in the post-performance of both experimental and control groups on the observation card of speaking skills (aspects and whole degree)**

| Aspect | Groups | Number | Mean | Standard Deviation | Freedom grades | T. value | Significant indication |
|---|---|---|---|---|---|---|---|
| Methods, vocabs and linguistic synthesis | Experimental | 19 | 13.36 | 13.36 | 36 | 5.69 | 0.01 |
|  | Control | 19 | 8.41 | 8.41 |  |  |  |
| Vocabs. linguistic synthesis pronunciation | Experimental | 19 | 7.95 | 7.95 | 36 | 5.24 | 0.01 |
|  | Control | 19 | 6.14 | 6.14 |  |  |  |
| Meaning demonstration | Experimental | 19 | 8.05 | 8.05 | 36 | 5.30 | 0.01 |
|  | Control | 19 | 6.00 | 6.00 |  |  |  |
|  | Control | 19 | 9.45 | 9.45 |  |  |  |
| whole degree of Speaking skills | Experimental | 19 | 9.79 | 4.06 | 36 | 6.87 | 0.01 |
|  | Control | 19 | 6.85 | 7.98 |  |  |  |

As shown in Table-2 there were statistically significant differences at the level (0.05≥α) between means of both the experimental and control group female students' degrees of post-performance of the observation card of speaking skills on all aspects and whole degree of the card for the experimental group female students because its mean is higher and the differences direction tends towards the higher mean.

To identify the size effect of the independent variable (electronic concepts maps) in causing differences that have been reached out in the dependent variable- after releasing it from the sample effect- the size of effect was counted through counting (Eta squares) （η²）, the results were as follows:

**Table-3: Values of (Eta squares)(η²)**

| Aspect | T. Value | Freedom degrees | Effect size |
|---|---|---|---|
| Methods, vocabs. And synthesis | 5.75 | 36 | 0.44 |
| Synthesis and vocabs. Pronunciation | 5.25 | 36 | 0.42 |
| Meaning demonstration | 5.30 | 36 | 0.40 |
| Whole degree | 5.43 | 36 | 0.42 |

As shown in Table-3 which shows Eta Squared (η²) vales ranged from (0.40) to (0.44), which means that the study sample individuals whole variance percentage that refers to teaching strategy effect ranged from (40%) to (44%), which means that the independent variable had a high effect in improving these aspects of speaking skills and the whole degree and responsible for differences among them between the experimental and control groups performance. This indicates the refusal of the study theory and acceptance of the alternative theory as follows:

There are statistically significant differences at the level (0.05≥α) between means of the experiment group female students' grades (electronic concepts maps) and the control group female students' degrees (the ordinary book method) in the post-application of the observation card of speaking skills.

This result which confirmed that there were differences among the control and experimented groups female students' performance and for the experimental

group female students in all aspects of measured speaking skills among the third primary grade female students may be due to effectiveness of using electronic concepts maps in improving speaking skills among the third primary grade female students in both Taibeh and Westieh in Irbid Governorate.

The current results with their indication on effectiveness of using electronic concepts maps in improving speaking skills among the third primary grade female students agree with the results of studies that employed like these qualities of concepts maps to improve some Arabic language skills among students such as the studies of Albehairi [4] and Ala'dheeb [24].

The current result in its indication on the benefit of using manual concepts maps in improving speaking skill among students agree with the results of Albehairy study [4] and Jacobs [23].

## RECOMMENDATIONS AND SUGGESTIONS

In the light of the study results, the researcher recommended the following:

- Pay attention of teaching Arabic Language speaking skills through using effective teaching strategies.
- Employing electronic concepts maps programs in teaching school materials because of the effect of these programs in improving learning process among students.
- Conducting studies about effectiveness of electronic concepts maps in teaching Arabic Language skills among students in higher grades of the primary education stage.

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