The Effect of Implementing Multi Wikis in Teaching the Written Composition on the Developing Some Critical Thinking Skills and Collaborative Writing of First Year Secondary Students

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ABSTRACT: The problem of this study is represented by one main question: what is the effect of implementing multi wikis in teaching the written composition on the developing some critical thinking skills and collaborative writing of first year secondary students?

This main question includes the following minor questions:

1. What are the critical thinking skills there are suitable for teaching written composition using multi wikis to first year high school students?

2. What are the written composition topics suitable for first year secondary students?

3. What is the outline of the suggested program in teaching written composition using multi wikis on the development of some critical thinking skills and collaborative writing skills of first year secondary students?

4. What is the effectiveness of the language program based on the wiki used in developing the critical thinking skills and collaborative writing on teaching written composition to students?

The sample was consisted of 40 students' secondary school taken from Ain Shams School for Males and 30 Arabic language teachers and supervisors. The results indicated that:

1. There are statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors and Specialists in methods of teaching Arabic language in the items of the questionnaire of the critical thinking skills relevant for teaching written composition to first year high school students by using the multi wikis as k2 test shows.

2. There are statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the items of the questionnaire of the Topics written composition relevant for teaching written composition to first year high school students by using the multi wikis as k2 test shows.

3. There are no statistically significant differences between the means of the experimental and control groups in the pre-test of critical thinking skills of written composition, students' marks in the pre – test.

4. There are statistically significant differences between the means of students' marks in the experimental and control groups in the post-test of critical thinking skills of written composition, students' marks in the post- test.

KEYWORDS: The Written Composition, Critical Thinking Skills, Collaborative Writing, Web 2.0, Wikis.

INTRODUCTION

Linguists believe that thinking and composition are two facets of one mental process. Their development and enhancement are interrelated and connected at the same time with man's life experiences and expertise. Composition could not be considered lively except when it provokes feelings, emotion and memories. It is well known that the compositions used by students without being meaningful or reflecting a personal feeling or experience is considered a dead phrase no matter how rhetorically significant it might be. **[9]** & **[17]**.

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Thus, the importance of composition as a field of competition between students and a way to solve problems and maintain profit for the society as a whole is clarified. It allows the society members to take various decisions and solve different problems.

Written composition has special prominence since it is an essential part of Arabic language acquisition. It could be considered the lab in which all the structures and rules governing the language functions and sound statements are applied. It is a means of communication between human beings no matter what type of composition is utilized. The functional composition connects people to help in organizing their lives and fulfill their needs while creative composition transfers emotions and psychological concepts to other through an interesting literary style.

It is rather essential for students to learn how to express themselves in natural situations or in functional ones that are closely related to their lives and reality as it provides opportunities for communication and activation, which are considered two of the prerequisites of good composition. Composition is closely related to the students' lives and reality so the tremendous information technology revolution should be positively utilized in enhancing students' written composition abilities. **[6]**

The internet nowadays is similar to a window that a man uses to be in connection with the modern world. It is a wonderful medium that exhibits the reality of the world and facilitates means for dealing with it. Some of the helpful facilities provided by the internet are the Wikis and electronic publishing devices. **[2]**

Wikis are one of the revolutionary tools of the internet that came after the e-mail and which is looked at as one of the recent written composition, publishing and communication devices on the World Wide Web. A wiki is an electronic written material that combines the concepts of traditional writing and the filling system provided by the electronic publishing devices. **[4]**

Wikis provide a workspace to generate and communicate ideas and to construct, edit, and preserve shared knowledge in a readily accessible and open environment

Research on assessment of students' web 2.0 activities has revealed that wikis are commonly used tools and their effectiveness as tools for online collaborative learning has been identified. However, studies show that the use of a wiki does not in itself result in true collaboration and, in the context of wikis; a distinction needs to be made between collaborative working and co-operative working Students' engagement with collaborative tasks using a wiki is dependent on a number of factors, including the availability of other online communication tools that students are more familiar with, the nature of the task, the context within which it takes place and students' confidence in their own abilities . **[10]**

Consequently, to be in accordance with the world of today and its scientific and technological means, and in light of the rapidly increasing numbers of internet users after providing most of the Egyptian schools with the required technological infra-structure (large numbers of computers that are connected to the internet), and in response to the findings of related studies that emphasized the development of some thinking skills when teaching written composition in light of the technological devices, the idea of the recent study emerged. It is concerned with designing a program through the use of Wikis to develop some critical thinking skills in teaching written composition to first year secondary students.

THEORETICAL FRAMEWORK

The term 'Web 2.0' was officially coined in 2004 by Dale Dougherty, during a discussion on a potential future conference about the web. There are a number of web-based services and applications that demonstrate the fundamentals of the Web 2.0 concept whereby the content of the internet is authored and changed by the every-day user of the internet. The best known are examples include: video sharing, blogs, wikis and social networking sites **[4]**. In the field of education, these applications may enable both learners and teachers to achieve the aims and objectives of education through building knowledge, developing self-learning skills and enhancing collaborative learning skills. Wiki is one of the applications that can achieve some of the educational advantages, for example, wikis can be used in class projects, and are particularly suited to the incremental accretion of knowledge by a group, or the production of collaboratively edited material, including material documenting group projects. Learners can flag areas of the Wiki that need attention, and provide feedback on each other's writing **[6]**. According to Neumann and Hood (2009); Ebersbach et al, wiki allows the quick and easy change of the content that can be saved, viewed, edited, and commented on by other people through a web browser. In the field of education "wikis enable instructors to create interactive activities for their students, and to present course information such as resources, external links, project information, and frequently asked questions" **[1]**.

Wiki based collaborative learning; communities of practice can establish a collective repository of expertise in a subject area which is refined over time by the contributions and problem-solving of interested individuals **[11]**. Wikis make the learners act as an editorial team and this can help students overcome shyness or uncertainty about their opinions. Franklin and van Harmelen (2007) pointed out the use of wiki for both teachers and students for the creation of annotated reading lists, incremental accretion of knowledge, and the documentation of group projects. Wikis can be used by teachers to supply scaffolding for writing activities and then provide feedback on student generated content. They provide the opportunity for feedback on each other's writing (peer appraisal) through asynchronous communication and online group collaboration. Whilst the use of wiki as an educational method is still comparatively new (Wang and Beasley, 2008) "wikis have become an integral part of education, especially in secondary and higher education" **[14]**.

Furthermore, Wiki-based collaborative writing emerges from the   interactions of wiki functionality, wiki content, and collaborative learning. Wiki functionality is used to structure the content of the wiki by means of a simplified HTML language. **[11]**.

 It includes a discussion page for written communication and reflections, and a history log that tracks all students' actions11th International Conference on Cognition and Exploratory Learning in Digital Age **[22]**.

Carried out on the wiki. Among a plethora of wiki tools, MediaWiki was chosen as a platform for collaborative writing as it incorporates all features mentioned above. MediaWiki is restricted to First Year Secondary Students, making it appropriate for education. Wiki functionality enables students to create a wiki that can be evaluated using usability criteria. Collaborative learning, which describes a process generated by student groups, enables the collective creation of wiki content. The content dimension is important for many reasons. It may stimulate students to be engaged in collaborative learning. It may also motivate them to critically discuss and use Wiki functionalities to create and edit the content collaboratively. Finally, it may challenge students to take into account the characteristics of the target users. **[19]**.

Figure (1) shows the interactions of wiki functionality, wiki content, and collaborative learning.
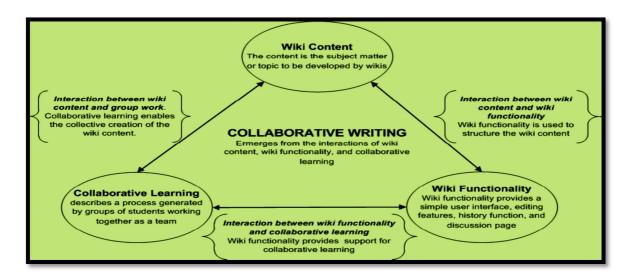

Figure (1) Collaborative writing results from interactions of content functionality, and collaborative learning.

Students carry out actions on the wiki when they perform collaborative writing. Figure (2) shows taxonomy with originally 13 categories of actions, of which the following 10 are used to analyze collaborative writing activities. [11]
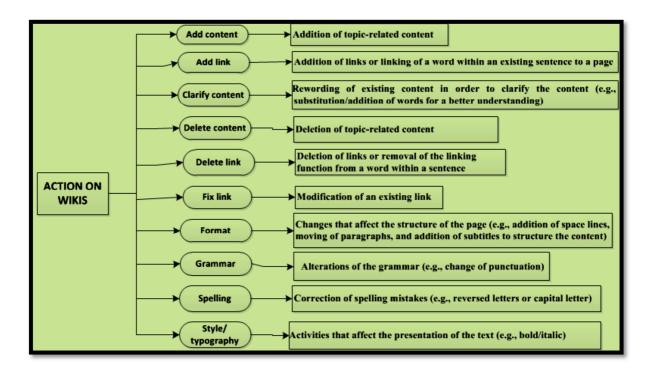
Figure (2) Taxonomy of category actions

Genuine collaborative writing is a matter of changing, clarifying and reworking each other's contributions to the wiki [21]. In contrast, work where participants divide the wiki task in subtasks among themselves, and develop the content independently of each other without changing the content produced by Peers cannot be considered as genuine collaboration. The wiki history log provides in-depth information about the types of actions that the students carry out on the wikis. The log is an instrument that helps instructors to assess students' collaborative writing activities in terms of work distribution, type of actions across the categories of the taxonomy described above, and timing of contribution as well.

Furthermore, critical thinking is an important issue in education and the development of critical thinking skills should be one of the primary goals for educators at all levels [2]. (Gelder (2005) asserts that improving students' critical thinking skills can be considered a universal goal of all educational endeavors. Chiu (2009, p. 43) describes critical thinking as "A skill of potential value for those who should objectively evaluate what they can and do dredge up from the ocean of online information currently available on the Internet". Chiu adds, teachers who wish to maximize the influence of online programs on the improvement of critical thinking are recommended to take the role of facilitators. [10].

Over the past decade, researchers have speculated that there may have been a relationship between the use of online discussions and the development of critical thinking skills [3]. One hypothesis is that Internet-based communication provides a social context for learning that gives learners time to think about their contributions and organize their thoughts prior to responding. It is believed that developing students' ability to reflect on their own learning process can help them progress in learning. Higher-order thinking skills promote higher-order learning skills which in turn enable students to reach higher levels of language proficiency. [7]

Gilster and Gilster (1997) view critical thinking as the most important skill when using the Internet, because the Internet is full of false, incomplete, obsolete, etc. information. So, including that the Internet contains an immense range of information that is posted by individuals and organizations, and the difficulty of ensuring the quality of this information. Students need to learn critical evaluation skills which enable them to identify information that meets their needs.

According to Yang, Newby, and Bill (2005), states that Socratic questioning is an effective means for promoting critical thinking in asynchronous online discussions. Such discussions give learners time for "thoughtful analysis, composition, negotiation, and reflection as their discussion of an issue evolves and allows instructors to model, foster, and evaluate the critical thinking skills exhibited during the discussion." According to them, because reflection takes time that the Internet-based discussions are more helpful to critical thinking than face-to-face discussions occurring in real time. [13]

In conclusion, wikis are powerful teaching and learning devices, enabling collaboration, peer appraisal and teacher assessment by utilising the potential of the Web 2.0 aspects of the internet in teaching the rules of the written composition.

REALIZING THE PROBLEM OF THE STUDY

The researcher observes that there are a lot of students (especially secondary school students) who suffer from weakness and difficulties in learning and applying rules of the Written Composition Skills. This is due to a number of reasons such as:

- There are some defects in the traditional methodology which is still used in teaching the rules of the written composition.
- In addition, teachers are not interested in developing the different thinking skills of students when teaching them written composition.
- Not to mention students' lack of some critical thinking skills.

The findings of previous studies by **[5]** ⅋ **[8]** ⅋ **[9]** & **[12]** ⅋ **[15]** & **[16]** & **[17]** & **[18]** & **[20]** & **[24]** mentioned these reasons.

All this led the researcher to choose the topic of his study. The researcher put the previous studies into three categories:

1- The first refers to the studies whose focus is using multi wikis in the educational process.
2- The second category refers to the studies whose concern is developing the critical thinking skills in the different branches of language.
3- The third category refers to the studies whose concern is developing the written composition skills for Secondary Stage Students.

PROBLEM OF THE STUDY

The problem of this study is represented by one main question: what is the   effect of implementing multi wikis in teaching the written composition on the developing some critical thinking skills and collaborative writing of first year secondary students?

This main question includes the following minor questions:

1. What are the critical thinking skills there are suitable for teaching written composition using multi wikis to first year high school students?
2. What are the written composition topics suitable for first year secondary students?
3. What is the outline of the suggested program in teaching written composition using multi wikis on the development of some critical thinking skills and collaborative writing skills of first year secondary students?
4. What is the effectiveness of the language program based on the wiki used in developing the critical thinking skills and collaborative writing on teaching written composition to students?

AIMS OF THE STUDY

This study aims at the following:

1. Identifying the critical thinking skills which are relevant for teaching written composition to first year high school students.
2. Preparing language program based on the wiki for developing critical thinking skills and collaborative writing to first year high school students.
3. Realizing the effect of using the language program based on the wiki in developing critical thinking skills and collaborative writing on teaching written composition to first year high school students.

SIGNIFICANCE OF THE STUDY

The present study may be useful for the following:

1. High school supervisors and teachers of Arabic language and other experts will be able to identify the critical thinking skills which are relevant for teaching written composition to first year high school students.
2. The sample students will know how to use the wiki in learning the rules of the written composition.
3. Researchers in the field of curricula and methodology of Arabic language will know how to use the wiki not only in the written composition but also in the other branches of Arabic language.

HYPOTHESES OF THE STUDY

The hypotheses of the study are:

1. There are no statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors and Specialists in methods of teaching Arabic language in the items of the questionnaire of the critical thinking skills relevant for teaching written composition to first year high school students by using the multi wikis as k2 test shows.
2. There are no statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the items of the questionnaire of the Topics written composition relevant for teaching written composition to first year high school students by using the multi wikis as k2 test shows.
3. There are no statistically significant differences between the means of the experimental and control groups in the pre-test of critical thinking skills of written composition, students' marks in the pre - test
4. There are no statistically significant differences between the means of students' marks in the experimental and control groups in the post-test of critical thinking skills of written composition, students' marks in the post- test.

LIMITS OF THE STUDY

The study is limited to the following:

1. a sample of first year high school students in secondary school for Males and Ain Shams Secondary School which are affiliated to Fayoum Directorate of Education.
2. a sample of high school supervisors and teachers of Arabic language.
3. Some written composition topics (friendship, reading, modern technology in our personal lives, the importance of sports in our lives, women and their role in society, free composition).
4. The first term of the school year 2016-2017.

STEPS OF THE STUDY

The study follows the following steps

Firstly: To answer the first question, namely, what are the critical thinking skills there are suitable for teaching written composition using multi wikis to first year high school students?

1. The researcher read and analyzed some of the previous papers and studies written on the topic of the present study extract their findings and how to use them in the present study.
2. He prepares a questionnaire on the critical thinking skills that are relevant for teaching written composition using multi wikis to first Year high school students.
3. Giving the questionnaire in its initial form to a group of referees who are specialized in curricula and Arabic language methodology to check its reliability, objectivity and suitability for application.
4. Applying the questionnaire on a sample of Arabic language teachers and supervisors to identify the critical thinking skills that have the highest values in a K test.
5. Writing the questionnaire's results in special tables and analyzing them statistically.

Secondly: to answer the third question, namely, what are the written composition topics suitable for first year secondary students?

The researcher carried out the following:

1. Preparing a list of the written composition topics suitable for first year secondary students and judging it by the jury members, in addition to carrying out the suggested modifications.
2. Writing the questionnaire's results in special tables and analyzing them statistically.

Thirdly: to answer the third question, namely, what is the outline of the suggested program in teaching written composition using multi wikis on the development of some critical thinking skills and collaborative writing skills of first year secondary students?

The researcher carried out the following:

1. The findings of the previous step.
2. Designing the suggested program specifying its aims, content areas, and components in light of the critical thinking skills and collaborative writing skills and written composition topics lists suitable for first year secondary students.
3. Identifying the essentials and standards of the wikis to clarify the procedure used in creating and using it.
4. Setting the general aim of the suggested program.
5. Setting the behavioral objectives of the suggested program for the sake of teaching written composition using multi wikis to first year high school students.
6. Selecting a relevant design for the Wiki page.
7. Preparing the contents of the suggested program.
8. Preparing the scenario of the suggested program.
9. Preparing the educational aids that are relevant for the required teaching written composition using multi wikis
10. Preparing the relevant means of evaluation
11. Setting a time plan for teaching written composition by using the wiki
12. Checking the accuracy (editing) the suggested program and referring it to a committee of referees.
13. Training the study sample on preparing and using the wikis in writing composition and developing their critical thinking skills and collaborative writing skills.

Fourthly: to answer the Fourth question, namely, what is the effectiveness of the suggested program in teaching written composition using multi wikis on the development of some critical thinking skills and collaborative writing skills of first year secondary students?

1. The researcher randomly selected a sample of first year high school students and divided them into an experimental group and a control group.
2. He controlled the study's variables
3. Analyzing the study sample pre composition writings to measure the availability of the critical thinking skills and collaborative writing skills in their writings.
4. He prepared a test of critical thinking skills of teaching written composition using multi wikis to first year high school students, and referred it to a group of referees specialized in curricula and Arabic language methodology; then he modified it in the light of their recommendations in order to ensure its suitability for application.
5. The researcher applied the test to the sample students to set the test time and the factors of easiness, difficulty and identification for each of the test items and to check the validity of the test.
6. He applied the test as a pre-test to the two sample group of first year high school students both experimental and control.
7. Training the experimental group on the use of multi wikis in writing composition.
8. Analyzing the study sample (experimental group) post composition writings to measure the availability of the Critical thinking skills and collaborative writing skills in their writings.
9. He applied the test as a post-test to the two sample groups of first year high school students, both experimental and control.
10. He recorded the results of the pre and post-tests of critical thinking skills in special tables and explained and analyzed them statistically.
11. He presented recommendations and suggested topics for further research in the light of the previous results.

SAMPLE OF THE STUDY

Type of sample: first year high school students in Ain Shams school for Males

Group: two groups one experimental and another control.

Total: 40 students' secondary school

Number: 30 Arabic language teachers and supervisors

Table 1. shows Sample of the study

Type of sample	school	Group	Total
first year high school students	Ain Shams Secondary school for Males	Experimental	20
first year high school students	Ain Shams Secondary school for Males	Control	20
Arabic language teachers and supervisors			30

TERMINOLOGY OF THE STUDY

1- WEB 2.0:

Web 2.0 is the term given to describe a second generation of the World Wide Web that is focused on the ability for people to collaborate and share information online. Web 2.0 basically refers to the transition from static HTML Web pages to a more dynamic Web that is more organized and is based on serving Web applications to users. **[1]**.

The present study adopts the definition of Web 2.0 as A collective term for certain applications of the Internet and the World Wide Web, including blogs, wikis, video sharing services, and social media websites such as Facebook and MySpace, which focus on interactive sharing and participatory collaboration rather than simple content delivery.

2- WIKIS:

Wikis: Websites that enable users to contribute collaborate and edit site content. Wikipedia is one of the oldest and best-known wiki-based sites. **[23]**.

The present study adopts the definition of Wikis as A type of collaboration website that allows students to upload, edit, and remove content present on a webpage. The goal of these sites is to form a comprehensive meaning, definition, or answer on a specific subject matter. Some popular wiki websites are Wikipedia and Wiki Answers.

3- CRITICAL THINKING:

Facione (1990, p. 3) defines critical thinking as: "purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological,or contextual considerations upon which that judgment is based. **[24]**

Critical thinking is a multi-step process. It can be defined as an active, intellectual process where the individual will observe, analyse and reflect on new knowledge and integrate it into their current understanding. Critical thinking can be applied in a variety of lg platforms such as reading, written work and discussions. **[20]**

"In this study, critical thinking consists of five skills: organizing data, classifying, inference, deductive, and evaluation. Students were engaged in lessons and writing tasks that enhanced their ability to apply these skills.

4- COLLABORATIVE WRITING:

Collaborative writing is understood as a social and recursive process that involves a group whose challenge is to achieve a single written document through interaction and negotiation of meaning (Cassany, 2001; Landone, 2004; Van Waes, 2004). Students work in small groups and start sharing ideas, debating positions and proposing arguments before starting the production of a text. In this context, group formation is very formal: Groups can be made up of a very small number of students, usually three to six people. **[21]**

One definition is: activities involved in the production of a document by more than one author, then pre-draft discussions and arguments as well as post-draft analyses and debates are collaborative components.**[19]** Based on this definition, the collaborative authoring process includes the writing activity as well as group dynamics. Another definition is "...any piece of writing, published or unpublished, ascribed or anonymous, to which more than one person has contributed, whether or not they grasped a pen, tapped a keyboard, or shuffled a mouse." **[11]**.

"In this study, collaborative writing activities consist of group tasks: task division, brainstorming, editing, general discussion, and goal setting. Task division relates to assigning tasks and communicating the associated requirements and deadlines. Brainstorming is generating and recording ideas to be used in production of the text. Editing involves members indicating their comments about and enhancements for the text. These comments and suggestions will be used to revise the existing text. General discussions can include formal team meetings as well as casual, impromptu conversations. Determining what the purpose or goal of the document is goal setting. Also, goal setting can include establishing the timeliness and activities that relate to task division.

FIELD STUDY

Firstly: The results of the questionnaire of critical thinking skills:

To prove the first hypothesis which states that there are no statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the questionnaire items as the K2 test shows, the questionnaire was given to a number of the staff of Arabic Methodology and Curricula Department and was modified according to their remarks. Some of the questionnaire's compositions were re-phrased to ensure their reliability, comprehensiveness and relevance to the critical thinking skills of teaching writing composition to first year high school students. After checking the questionnaire's reliability, it was applied to 30 Arabic language teachers and supervisors to test its reliability. The researcher used kuder -Richardson formula for test reliability. The following are the results of the questionnaire and the truthfulness of the first hypothesis:

Table 2. The observed and expected frequencies and the x^2 values for the opinions of Arabic language teachers and supervisors regarding the critical thinking skills of teaching written composition to first year high school students:

Arrange	Statistical	K^2	Expected repetition	The relative weight	Total	Appropriateness						Skill no.
						%	Lo	%	Medium	%	High	
5	**	15.8	10.00	0.86	30	10	3	23.33	7	66.67	20	1
1	**	34.2	10.00	0.93	30	3.333	1	13.33	4	83.33	25	2
9	**	9.8	10.00	0.82	30	10	3	33.33	10	56.67	17	3
17	-	2.4	10.00	0.73	30	20	6	40.00	12	40.00	12	4
8	**	12.2	10.00	0.82	30	3.333	1	46.67	14	50.00	15	5
19	-	0.6	10.00	0.70	30	26.67	8	36.67	11	36.67	11	6
12	**	9.6	10.00	0.80	30	6.667	2	46.67	14	46.67	14	7
3	**	23.4	10.00	0.90	30	3.333	1	23.33	7	73.33	22	8
4	**	23.4	10.00	0.90	30	3.333	1	23.33	7	73.33	22	9
6	**	12.8	10.00	0.84	30	6.667	2	33.33	10	60.00	18	10
20	-	2.4	10.00	0.60	30	46.67	14	26.67	8	26.67	8	11
10	**	9.8	10.00	0.81	30	6.667	2	43.33	13	50.00	15	12
2	**	29.4	10.00	0.90	30	10	3	10.00	3	80.00	24	13
16	-	6.2	10.00	0.79	30	16.67	5	30.00	9	53.33	16	14
13	*	7.8	10.00	0.80	30	10	3	40.00	12	50.00	15	15
14	*	7.8	10.00	0.80	30	10	3	40.00	12	50.00	15	16
7	**	11.4	10.00	0.83	30	10	3	30.00	9	60.00	18	17
15	*	7.4	10.00	0.79	30	10	3	43.33	13	46.67	14	18
18	-	5	10.00	0.72	30	16.67	5	50.00	15	33.33	10	19
11	*	8.6	10.00	0.81	30	10	3	36.67	11	53.33	16	20

(**) Statistically significant at the level, 0.01
*(*) Statistically significant at the level, 0.05*
(-) The lack of a statistically significant.
- The degree of freedom when the ratio 0.05 is equal to (5.991), and when the ratio 0.01 is equal to (9.210)

A) As table no. (2) Shows, Arabic language teachers and supervisors realize the importance and relevance of the following critical thinking skills:

According to the previous analysis of the observed and expected frequencies and k2 values of the views of Arabic language teachers and supervisors regarding the critical thinking skills relevant for teaching written composition to first year high school students, it becomes clear that n=20 and d.h=2, and that DF at the ratio of 0,05 is 5,991 to be statistically significant, and at the ratio of 0,01 is 9,210 to be statistically significant. This means that Arabic language teachers and supervisors realize the importance of critical thinking skills relevant for teaching written composition to first year high school students which has the following numbers (1,2,3,5,7,8,9,10,12,13,15,16,17,18,20) at the ratios of 0,01 and 0,05. These are the skills which have the highest values in K2 test with a frequency more than 80% because these skills are the most relevant for teaching written composition to first year high school students (sample of the study)

Table 3 Shows the critical thinking skills which have frequency more than 80% in the five essential levels:

Table 3. Critical thinking skills relevant for teaching written composition to first year high school students which have the highest values in k2 test regarding the views of Arabic language teachers and supervisors.

N	Critical thinking skills which have a frequency rate of 80% or more	Relative Weight
Firstly	**Organizing Data skills**	
	Identifying the significance of subject of written expression.	**0.86**
	Identifying background information about subject of written expression.	**0.93**
	Identifying the aims of studying the subject of written expression.	**0.82**
Secondly	**Classifying skills**	
	Categorizing syntactic concepts according to using them in the Paragraph.	**0.82**
	Identifying similarities between syntactic structures in the Paragraph.	**0.80**
	Setting clear criteria for syntactic judgment in the Paragraph.	**0.90**
Thirdly	**Inference Skills**	
	Giving evidence of the accuracy of syntactic judgments in the Paragraph.	**0.90**
	Relating the student's language environment to the subject of written expression	**0.84**
	Identifying the reason of including the syntactic concept in the mentioned example in the Paragraph.	**0.81**
Fourthly	**Deductive Skills**	
	Deducing the syntactic concept controlling syntactic in the Paragraph.	**0.90**
	Using some syntactic structures in correct phrasing.	**0.80**
	Identifying the relationship between the main idea and sub ideas in the Paragraph.	**0.80**
Fifthly	**Evaluation Skills**	
	Identifying the misuse of syntactic concept in some sentences in the Paragraph.	**0.83**
	Determining the correct spelling and pronunciation of word endings in language constructions in the Paragraph.	**0.79**
	Correcting syntactic mistakes when using the compositions of a specific syntactic concept in the Paragraph.	**0.81**

As for skills no. (4, 6, 11, 14, 19), they have a frequency less than 80% in K2 test. Thus the researcher excluded them. The table no (4) shows the critical thinking skills which have less than 80% in K2 test.

Table 4. The critical thinking skills which have a frequency less them 80% in K2 test according to the views of Arabic language teachers and supervisors

N	the critical thinking skills which have less than 80% in k2 test	Relative Weight
Firstly	Organizing Data skills	
	Identifying the usage of syntactic concept's compositions in the Paragraph.	0.73
Secondly	Classifying skills	
	Finding missing points in the syntactic concept which negatively affect its function in the Paragraph.	0.70
Thirdly	Inference Skills	
	Determining the declension of some words in syntactic structure in the Paragraph.	0.60
Fourthly	Deductive Skills	
	Syntactic relations' analysis of the concept in language construction in the Paragraph.	0.79
Fifthly	Evaluation Skills	
	Determining the declension of some words in syntactic structure in the Paragraph.	0.72

The previous tables of K2 values for the views of Arabic language teachers and supervisors regarding the critical thinking skills for teaching written composition to first year high school students show that there are statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors. Thus the researcher tested the truthfulness of the first hypothesis which states that there are no statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the items of the questionnaire of the critical thinking skills relevant for teaching written composition to first year high school students by using the wiki as k2 test shows. The alternative hypothesis is adopted. It states that there are statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the items of the questionnaire of the critical thinking skills relevant for teaching written composition to first year high school students by using the wiki as k2 test shows.

Secondly: The results of the questionnaire of topics written expression:

To prove the first hypothesis which states that there are no statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the items of the questionnaire of the topics written expression relevant for teaching written composition to first year high school students by using the multi wikis as k2 test shows,

The questionnaire was applied to 20 Arabic language teachers and supervisors to test its reliability.The researcher used kuder -Richardson formula for test reliability. The following are the results of the questionnaire and the truthfulness of the first hypothesis:

Table 5. The observed and expected frequencies and the K2 values for the opinions of Arabic language teachers and supervisors regarding the topics written expression relevant for teaching written composition to first year high school

Arrange	Statistical	K2	Expected repetition	The relative weight	Total	Appropriateness							topic no.
						%	Lo	%	Medium	%	High	
5	**	17.5	6.67	0.92	20	0	0	25.00	5	75.00	15	1
8	**	12.4	6.67	0.87	20	10	2	20.00	4	70.00	14	2
6	**	13.3	6.67	0.88	20	5	1	25.00	5	70.00	14	3
3	**	29.2	6.67	0.93	20	10	2	0.00	0	90.00	18	4
7	**	12.7	6.67	0.88	20	0	0	35.00	7	65.00	13	5
9	*	7.6	6.67	0.83	20	10	2	30.00	6	60.00	12	6
1	**	34.3	6.67	0.98	20	0	0	5.00	1	95.00	19	7
10	*	6.4	6.67	0.80	20	20	4	20.00	4	60.00	12	8
2	**	28.9	6.67	0.95	20	5	1	5.00	1	90.00	18	9
4	**	24.1	6.67	0.93	20	5	1	10.00	2	85.00	17	10
11	-	2.5	6.67	0.75	20	25	5	25.00	5	50.00	10	11

(**) *Statistically significant at the level, 0.01*
(*) *Statistically significant at the level, 0.05*
(-) *The lack of a statistically significant.*
 - *The degree of freedom when the ratio 0.05 is equal to (5.991), and when the ratio 0.01 is equal to (9.210)*

A) As table no. (5) Shows, Arabic language teachers and supervisors realize the importance and relevance of the following topics written expression:

According to the previous analysis of the observed and expected frequencies and k2 values of the views of Arabic language teachers and supervisors regarding the topics written expression relevant for teaching written composition to first year high school students, it becomes clear that n=11 and d.h=2, and that DF at the <u>ratio of 0, 05 is 5,991</u> to be statistically significant, and at the ratio of <u>0,01 is 9,210</u> to be statistically significant. This means that Arabic language teachers and supervisors realize the importance of topics written expression relevant for teaching written composition to first year high school students which has the following numbers (1,4,7,9,10) at the ratios of 0,01 and 0,05. These are the topics which have the highest values in K2 test with a frequency more than 90% because these topics are the most relevant for teaching written composition to first year high school students (sample of the study)

Table 6. Shows the topics written expression which have a frequency rate of 90% or more

Topic n	Topics written expression which have a frequency rate of 90% or more in k2 test	Relative Weight
1	The Importance of Reading	0.92
2	Internet and Current Technology	0.93
3	Unemployment and its Dangers on Society	0.98
4	Tourism and its Importance for Society	0.95
5	Citizenship	0.93

As for the topics written expression no. (2, 3, 5, 6, 8, 11) they have a frequency less than 90% in K2 test. Thus the researcher excluded them. The table no (7) shows topics written expression which have less than 90% in K2 test

Table 7. Topics written expression which have a frequency less them 90% in K2 test according to the views of Arabic language teachers and supervisors.

Topic n	Topics written expression which have less than 90% in k2 test.	Relative Weight
1	Clandestine Marriage in Universities	0.75
2	Third World War	0.88
3	Electronic Warfare	0.88
4	Market Strategies	0.83
5	Strategic Planning	0.80
6	The Seriousness of iPhone	0.87

The previous tables of K2 values for the views of Arabic language teachers and supervisors regarding the Topics written expression to first year high school students show that there are statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors. Thus the researcher tested the truthfulness of the Second hypothesis which states that there are no statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the items of the questionnaire of the topics written expression relevant for teaching written composition to first year high school students by using the multi wikis as k2 test shows. The alternative hypothesis is adopted. It states that there are statistically significant differences between the observed and expected frequencies of the marks of Arabic language teachers and supervisors in the items of the questionnaire of the topics written expression relevant for teaching written composition to first year high school students by using the wiki as K2 test shows.

Thirdly: Results of the test of critical thinking skills for written composition to first year high school students.

A) The Third hypothesis which states that there are no statistically significant differences between the means of the experimental and control groups in the pre-test of critical thinking skills of written composition, is proved and adopted. The students' marks in the pre-test were recorded and the mean and standard deviation were given.

The (T) values of the experimental and control groups in the pre-test critical thinking skills of written composition were also given as the following table shows.

Table 8. Means, standard deviations and T values and their significance between the experimental and control groups in the pre- test of critical thinking skills of written composition

Skills	Type of application	The control group		The experimental group		calculated (T) value (*)	level of significance
		Mean	s. deviation	Mean	s. deviation		
Organizing Data	Pre- test	2.65	1.3484	2.75	1.2513	.236	statistically insignificant
Classifying		2.65	1.0399	2.75	1.0195	.299	
Inference		2.5	1.0513	2.75	1.0699	.726	
Deductive		2.5	1.0513	2.65	1.1821	.413	
Evaluation		2.3	1.0313	2.5	1.0513	.591	

(*)- Tabulated T value at the level of 0, 01 is equal to (2.42) and at a level of 0.05 is equal to (1.68) DF = 38

The previous table shows that there are no statistically significant differences between the means of students' marks in both experimental and control groups in all critical thinking skills included in this study. This is because the value of calculated T is less than that of tabulated T at the level of 0,01 which is 2,42, and at the level of 0,05 which is 1,68. This indicates the idea that there is no development in the critical thinking skills of written composition to students of the experimental group whose skills are targeted to be developed by using the suggested program in written composition by wiki. Thus this hypothesis is accepted.

B) To prove the Fourth hypothesis which states that there are no statistically significant differences between the means of students' marks in the experimental and control groups in the post-test of critical thinking skills of written composition, students' marks in the post-test, the mean and standard deviation were recorded and the values of (T) is calculated for the experimental and control groups in the post test as the following table shows:

Table 9. The Means, standard deviations and T values and their significance for the experimental and control groups in the post- test of critical thinking skills of written composition:

Skills	Type of application	The control group		The experimental group		calculated (T) value (*)	level of significance
		Mean	s. deviation	Mean	s. deviation		
Organizing Data	Post - test	3.05	1.0500	4.3	0.9787	3.795	Significant at 0.01 level
Classifying		2.9	0.9119	3.85	1.0399	2.993	
Inference		2.85	0.8127	4.05	0.9445	4.197	
Deductive		2.85	0.7451	4.2	1.1964	4.174	
Evaluation		2.55	0.9445	4.15	0.9880	5.102	

Table no. (9) shows that there are statistically significant differences between the means of students' marks of the experimental and control groups in the post-test of critical thinking skills of written composition and that these differences are in favor of students of the experimental group. These skills are: (Organizing Data skills, Classifying skills, Inference skills, Deductive skills, and Evaluation skills). It is also shown that these differences are not out of chance because the value of calculated T is more than that of tabulated T at the level of 0,01 which is 2,42 and at the level of 0,05 which is 1,68. This indicates the development of critical thinking skills of teaching written composition to students of the experimental group whose skills are targeted to be developed by using the suggested program in written composition by wiki. Thus, this hypothesis is not accepted. The alternative hypothesis which states that there are statistically significant differences between the means of students' marks of the experimental and control groups in the post-test of critical thinking skills of written composition is accepted. The differences are in favor of students of the experimental group.

Table 10. The calculation of (T) value and its significance for the experimental and control groups in the post-test of critical thinking skills of written composition

statistics group	mean	S.D	Calculated (T)	DF	Tabulated(T)		Statistical significance
Experimental N= 20	4.11	0.171026	20.261	38	0.01	0.05	0.01
Control N= 20	2.84	0.181659			2.42	1.68	Significant

The previous table shows that the value of calculated (T) as a whole for the experimental and control groups in the post-test of critical thinking skills is (20.261). This means that the experimental group is superior to the control group in the critical thinking skills included in the study. To show the effect of the suggested program in written composition by wiki on developing the critical thinking skills of written composition to students of the experimental group, the researcher applies the following formula:

$$D = \frac{2T}{\sqrt{FD}}$$

(T) means, the value of calculated (T) for the two groups in the post-test

FD is the degree of freedom (n1+n2) -2). The effect is weak if D is less than or equals 0,2 and moderate if it is 0,5 and strong if it is more than or equals 0,8. Applying the previous formula shows that the effect is 6.57

This means that the suggested program in written composition by wiki has a deep effect on developing the critical thinking skills of teaching written composition to first year high school students.

Table 11. Suggested program in written composition by wiki on developing the critical thinking skills of written composition to first year high school students

statistics	Value of calculated (T) in post-test	Effect (D)	The significance of the effect
Experimental N= 20	20.261	6.57	is very clear because it is more than,8
Control N= 20			

The previous table shows that the effect is (6.57). This means that the suggested program in written composition by wiki is very effective in developing the critical thinking skills of written composition to first year high school students.

Table 12. The degree of the effect for each of the critical thinking skills in the post-test

group / Skills	Statistics	Calculated (t) value	(D)	Total (d)	The degree of influence
Organizing Data	Experimental = 20	3.795	1.23	6.57	Great
Classifying		2.993	0.97		
Inference	Control =20	4.197	1.36		
Deductive		4.174	1.35		
Evaluation		5.102	1.66		

RECOMMENDATIONS AND SUGGESTIONS OF THE STUDY

In view of the study's results, the researcher recommends the following:

1. Using the wiki in the other branches of Arabic.
2. Employing enrichment activities in Arabic language lessons especially written composition.
3. Using the modern methods of teaching written composition, those methods which help develop the different thinking skills-and avoiding traditional rather than thinking skills.
4. Training Arabic language teachers on employing the web Applications in classes assigned specially for written composition at schools.
5. Considering students' preferences when choosing the topics for written composition classes.
6. Preparing a training program for in-service teachers, training them on how to use some of web 2.0 Applications in teaching the branches of Arabic skills and the different thinking skills of teachers.
7. Linking written composition to other branches of Arabic language lesson.
8. Using the various services available on the web in teaching the different branches of Arabic language.
9. Using the methods of developing thinking skills in teaching the branches of Arabic language to all educational stages
10. Preparing training programs integrating the teaching of the branches of Arabic language for the development of students, various thinking skills and their creative thinking.
11. Realizing the importance and usefulness of computer labs by using them in teaching the different knowledge.
12. Establishing a special unit in the ministry for producing educational software, and software programs which educational software, and courses at reasonable prices especially in the branches of Arabic language.

SUGGESTED FURTHER RESEARCH

In view of the study's results, the researcher suggests making the following research studies:

1. The efficiency of using the wiki in developing some reading and thinking skills of second year high school students.
2. Making a comparison between using the e- blog and the wiki in teaching the different branches of the students' thinking skills.
3. Studying the computer's ability to develop the composition and writing skills of prep stage students.
4. Studying the obstacles hindering the use of technological aids in teaching the branches of Arabic language.

5. The effect of free reading on developing some written composition skills and creative thinking skills of second year high school students.
6. Studying the best methods of teaching Arabic language in general and written composition in particular.
7. Employ enrichment activities on students of primary and secondary stages.

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