The Effectiveness of Dialogic Teaching in Developing Historical and Linguistic Thinking Skills for Student-Teachers of English and History

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Abstract

The problem of the current research was stated in the low level of the English language and History student-teachers' Historical and Linguistic thinking skills. A dialogic teaching- based program in teaching "History of English Literature" and "Historical Texts in English", thus, was designed and implemented to measure its effectiveness in developing the Historical and Linguistic thinking skills for student-teachers of English and History. Eighty-four student-teachers of English and fifty-six student-teachers of History, from the Faculty of Education-Assiut University, were randomly selected and divided into four homogeneous groups: English-major-experimental (40) and control (44); and History-major-experimental (29) and control (27). A scale for measuring Historical thinking and a Linguistic thinking scale were applied to the four groups before and after exposing the experimental groups to the program. A Dialogic-Teaching-based program was used in teaching "History of English Literature" and "Historical Texts in English" for the experimental groups whereas the student-teachers of the control groups were instructed using the traditional methods of teaching. Subjects' scores on the pre-post application of the Historical thinking scale and the Linguistic thinking scale were calculated and analyzed statistically by using T-test and ($\mathbf{ŋ}^2$). Highly significant differences on the post application of the two scales on the control and experimental groups were indicated in favor of the experimental ones. This reflects the effectiveness of the research program. It is recommended that care should be given for developing thinking skills for student-teachers. Dialogic teaching is recommended also to be used in teaching students in other stages.

Key words: Dialogic teaching – Historical thinking – Linguistic thinking

ملخص البحث

هدف البحث الحالي إلى قياس فاعلية برنامج تدريبي قائم على التدريس الحواري في تنمية مهارات التفكير التاريخي واللغوي لدى طلاب شعبتي اللغة الانجليزية والتاريخ بكلية التربية جامعة أسيوط؛ حيث لاحظ الباحثان وجود تدني في مستوى التفكير التاريخي لدى طلاب شعبة اللغة الانجليزية وكذلك تدني في مستوى التفكير اللغوي لدى طلاب شعبة التاريخ. وعنه، تم اختيار مقرري "تاريخ الأدب الإنجليزي" و"نصوص تاريخية باللغة الإنجليزية" كمواد تعليمية لتصميم البرنامج القائم على التدريس الحواري خاصة لما تتطلبه هذه المقررات من مهارات التفكير اللغوي والتاريخي. وتم اختيار أربعة وثمانون (٨٤) طالبا من شعبة اللغة الانجليزية وستة وخمسون (٥٦) طالبا من شعبة التاريخ وتقسيمهم عشوائيا إلى أربعة مجموعات متجانسة كالاتي: مجموعة تجريبية مكونة من أربعين (٤٠) طالبا من طلاب شعبة اللغة الانجليزية، ومجموعة ضابطة مكونة من أربعة وأربعين (٤٤) طالبا من الشعبة نفسها؛ ومجموعة تجريبية مكونة من تسعة وعشرين (٢٩) طالبا من شعبة التاريخ، ومجموعة ضابطة مكونة من سبعة وعشرين (٢٧) طالبا من الشعبة ذاتها، ثم تم تطبيق مقياس التفكير التاريخي على المجموعة التجريبية والضابطة بشعبة اللغة الانجليزية وكذلك مقياس التفكير اللغوي على المجموعة التجريبية والضابطة بشعبة التاريخ؛ قبليا وبعد تطبيق البرنامج القائم على التدريس الحواري على المجموعتين التجريبيتين، وتدريس المجموعتين الضابطتين بالطريقة المعتادة. وتم إجراء المعالجة الإحصائية لنتائج التطبيقين القبلي والبعدي لمقياسي البحث باستخدام اختبار (ت) ومربع إيتا لقياس فاعلية البرنامج المقترح. وأكدت نتائج البحث على وجود فروق ذات دلالة إحصائية بين متوسطي درجات المجموعتين التجريبيتين والمجموعتين الضابطتين في التطبيق البعدي لمقياسي التفكير التاريخي واللغوي لصالح المجموعتين التجريبيتين. وأوصى الباحثان بضرورة الاهتمام بتنمية مهارات التفكير المختلفة لدى الطلاب المعلمين، كما أوصى الباحثان بأهمية استخدام التدريس الحواري في المراحل الدراسية المختلفة.

كلمات مفتاحية: التدريس الحواري – التفكير التاريخي – التفكير اللغوي

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Introduction:

Being crucial for improving achievement, developing thinking skills is considered one of the most important intended learning outcomes of any successful educational program. Most of the recent studies and researches (e.g. Yen & Halili, 2015; Murthy et al, 2016; Ogata et al, 2017) dealt with developing thinking skills as a basis for transferring learning to different contexts. Developing thinking skills enable learners to gain deeper understanding of topics, to be more critical about evidence to think flexibly and to make reasoned judgments and decision rather than jumping to be drawn on when they encounter new situation.

Thinking skills can be defined as "patterns of thinking that help learners go beyond the mere recall of information and enable them to explore and make sense of their world, to reason and problem solve, as well as to plan, create and invent" (Rajeswari, 2015, 234).

At many large colleges and universities like ours, the lecture still seems to be the centerpiece of instruction, where students passively absorb pre-processed information and then regurgitate it in response to periodic exams. While graders and teaching assistants make essay examinations and discussion sections possible, rarely do they effect significant change in the passive nature of the learning experience for these (mostly introductory or survey) classes. Such an environment provides incentives to learn only at the surface (passive) level rather than at the deep (active) level. Therefore, the traditional format seems to encourage students to concentrate on superficial indicators rather than on fundamental underlying principles, thus neglecting deep (active) learning. Active learning refers to "experiences in which students are thinking about the subject matter" as they interact with the instructor and each other (Wylie & Neeley, 2016, 8). This type of learning is important to all disciplines and fields, but it is critical when used all the time without engaging students in real conversations in which exchanging ideas and experience may occur.

Review of Literature

Linguistic Thinking

Amongst the thinking facets are linguistic thinking skills. Linguistic thinking is thinking via a chain of words and notions, sequenced according to a logical structure. There is no obvious link to personal sensory impressions. "It is the accepted form of scientific reasoning, and is associated with the left side of the brain" (Minick, 2017, 39). It refers to the conversion of speech, words and symbols into language, and the use of language to store and categorize memories as linked episodes.

As language is closely intertwined with conceptual activity, linguistic thinking plays an integral part in communicative activities and meaning making processes (Pae, 2012, 51). Linguistic thinking is the major component of what makes human cognition distinctive (Goddard, 2003, 396). It seems to play an important role in how learners process and manipulate patterns (Logan & Tandoc, 2018).

Al-Tuwaijry (2015, 94) declared that linguistic thinking skills define the students' abilities to do the following:

(1) Collecting and organizing information through specifying the aims, recalling material, and recognizing and comparing ideas.

(2) Processing and analyzing information through paraphrasing, illustrating new vocabulary, reasoning, recognizing texts, relating ideas to the sentences, and analyzing feelings and motivations.

(3) Applying information of grammatical rules and ideas in real life situations.

(4) Evaluating information through judging the given material, giving evidence, highlighting errors, and providing personal opinion.

(5) Generating information through stating another title for the given text, extracting main and secondary ideas from the text, deducing new ideas from the text, getting the meaning of new vocabulary from context, and identifying metaphors in the text.

(6) Integrating and blending ideas in writing an integrated literary essay, and mastering creative writing.

Honda & O'Neil (2017, 57) declared that thinking linguistically is very important in teaching and acquiring language. They stated that thinking linguistically can be developed through:

1- Motivating and supporting linguistic inquiry.

2- Using the problem-set-based approach in making pluralization and helping students to use top-down and bottom-up strategies.

3- Connecting previous experiences to new linguistic aspects.

Historical Thinking

Historical thinking is also considered important to history education for several reasons. Studying history provides opportunities to teach process skills, such as critical thinking, data analysis, making or identifying generalizations, discovering biases, and recognizing perspectives. More recent studies have also introduced the concept of historical empathy, or understanding the deeper context of historical events (e.g. Chowen, 2005).

Historical thinking is considered as "the ability to reflect, synthesize, and construct understandings of history based on evidence" (Salinas et al, 2011, 186)

Historical and critical thinking development demands giving students opportunities to analyze multiple perspectives, allowing them to discover the necessity of using multiple sources when conducting research, and guiding them in learning how to construct historical narratives through the creation of a digital historical biography (Waring & Robinson, 2010, 22-23).

Waring & Robinson (2010) stated that historical thinking involves the following skills:

1- Investigating Evidence to develop facts and stories about the past.
2- Analyzing primary sources.
3- Considering multiple perspectives of historical events.
4- Determining the credibility of online sources.
5- Engaging in an authentic historical assessment activity.

Tally & Goldenberg (2005, 6) integrated reflexive habits of mind with historical thinking in the following areas:

1- Observation: Scanning and parsing the document, observing details.

2- Sourcing: Considering who made the document and what their motives are.

3- Inferencing: Making inferences, speculating, guessing about meaning.

4- Evidence: Citing evidence when making inferences or drawing conclusions.

5- Question posing: Cultivating puzzlement, keeping track of one's questions.

6- Corroboration: Comparing what is found to what one already knows, other documents, etc.

Dialogic Teaching

For many years, educational researchers have criticized recitation as a prevalent instructional approach used to conduct group discussions of assigned readings (e.g. Alexander, 2008). Recitation, during which teachers ask "known information questions" and control key aspects of communication, has been shown to impede student engagement and learning, especially at higher levels of cognitive complexity (Alexander, 2008; Galton, 2007). Stressing the important role of language in the development of higher order thinking, contemporary theory and research suggest that classroom communication needs to become more dialogic (Reznitskaya, 2012; Alexander, 2008).

Any discussion of dialogic approaches to learning and teaching owes a debt to the Russian psychologist Lev Vygotsky (1896–1934) who emphasized social and cultural influences on one's development, and especially recognized language as the driving force behind cognitive development. Vygotsky emphasized that all learning is located in a social, cultural and historical context (Lyle, 2008, 223).

Dialogic teaching is predicated on five principles designed to ensure that interaction is dialogic as opposed to transmissive which is commonly found in many classroom today. These principles of dialogic teaching require teaching to be: (a) collective in that teachers and students work together to address learning tasks; (b) reciprocal so that teachers and students attend to each other, share ideas, and consider alternative perspectives; (c) supportive where students assist each other's learning; (d) cumulative in that teachers and students build on each other's ideas to construct coherent investigations; and (e) purposeful with

teachers ensuring that discussions are designed to achieve specific educational goals (Alexander, 2008). In the dialogic classroom, Alexander (2008) reports, teachers use more high-level questions that probe students' thinking and encourage them to analyze and speculate on ideas, student-teacher exchanges are longer with students building on the ideas of others or challenging different propositions with evidence, teachers provide students with more thinking time to respond to questions, and teachers questions are more focused and genuinely open with less emphasis on questions that cue for specific responses. In turn, Alexander notes, students attend more to what other students have to say and talk more purposefully towards solving problem issues, there is more student to student interaction, and there is greater participation of less-able students in class discussions.

Background of the Problem

1. Through observing the grades of some student-teachers of English and History in the Faculty of Education, the researchers have noticed that they were obviously low in two courses: "History of English Literature" and "Historical Texts in English". Moreover, reviewing the literature has revealed that poor thinking skills may lead to low achievement, reduces the individual's ability to learn from direct experiences, and prevent individuals from recognizing opportunities and making informed decisions (e. g. Tally & Goldenberg, 2005; Walker et al, 2016; Kiruba et al, 2018). This led the researchers to assume that some of the student-teachers' thinking skills need to be improved.

2. To identify thinking skills that needs to be improved, the researchers applied a Historical thinking questionnaire on a sample of the student-teachers of English. A Linguistic thinking questionnaire was also applied on a sample of the student-teachers of History (See Tables 1 & 2). The results of the two questionnaires indicate that most of the student-teachers of English need to develop many of their Historical thinking skills and that most of the student-teachers of History need to develop many of their Linguistic thinking skills.

Table (1)

The Pilot group's scores on the Historical thinking

skills questionnaire [1] (N= 65)

Skills	Sub-skills	Means	Standard Dev.	Skills means	Skills SD	Total means	Total SD
Understanding Historical Events (50)	Observation (15)	4.5	1.8	15.1	3.3		
	Collecting evidence (20)	5.8	1.8				
	Inferencing (15)	4.7	1.8				
Analyzing Historical Events (35)	Analyzing sources (20)	5.5	1.8	10.6	2.7		
	Analyzing perspectives (15)	5.1	1.9			47.5	6.4
Temporal and Spatial Awareness (30)	Temporal awareness (15)	5.3	1.9	10.5	2.9		
	Spatial awareness (15)	5.2	1.9				
Evaluating Historical Events (35)	Criticizing events (15)	5.2	1.9	11.3	2.6		
	Configuring personal view (20)	6.1	1.9				

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[1] **Total score = 150**

Table (2)

The Pilot group's scores on the Linguistic thinking skills questionnaire[1] (N= 41)

Skills	Sub-skills	Means	Standard Dev.	Skills means	Skills SD	Total means	Total SD
Reading Comprehension (75)	Explanation (40)	17.8	4.5	33.7	5.1	90.6	7.1
	Criticism (35)	16	3.5				
Linguistic Analysis (45)	Collecting information (25)	12.1	3.2	21.5	4.3		
	Processing information (20)	9.4	2.5				
Linguistic Investigation (50)	Applying information (20)	9.6	1.8	23.2	4.1		
	Composing and synthesizing (30)	13.5	3.7				
Temporal and Spatial Awareness (40)	Temporal awareness (20)	5.6	1.6	12.1	2.5		
	Spatial awareness (20)	6.5	2.1				

3. Since traditional methods of teaching may not be effective enough in developing thinking skills, a flexible training enhancement is needed. Dialogic Teaching has been proved to be successful in solving many learning and educational problems (Sedova et al, 2014; Elhassan et al, 2017; Jay et al, 2017). Through using Dialogic Teaching, a student-teacher can exchange experiences, ideas and opinions with his/her colleagues. Such exchanges provide student-teachers with the opportunity to learn to explain, ask different types of questions, explore and evaluate ideas, argue, reason and justify, and negotiate outcomes (Gillies, 2016).

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[1] **Total score= 210**

Statement of the Problem

Through observing the grades of some student-teachers of English and History in the Faculty of Education, the researchers have noticed that they were obviously low in two courses: "History of English Literature" and "Historical Texts in English". This problem may be a result of not being offered enough opportunities or intentional training neither to develop their thinking skills. The present research was an attempt to investigate the effectiveness of Dialogic Teaching in developing Historical and Linguistic thinking skills for student-teachers of English and History.

Objectives of the Research:

The current research aimed at:

1- Identifying the historical thinking skills needed for the student-teachers of English in the Faculty of Education.
2- Identifying the linguistic thinking skills needed for the student-teachers of History in the Faculty of Education.
3- Measuring the effectiveness of using dialogic teaching in developing the historical thinking skills for the student-teachers of English.
4- Measuring the effectiveness of using dialogic teaching in developing the linguistic thinking skills for the student-teachers of History.

Questions of the Research:

The problem of the research was to find answers to the following questions:

1. What are the historical thinking skills needed for the student-teachers of English in the Faculty of Education?

2. What are the linguistic thinking skills needed for the student-teachers of History in the Faculty of Education?

3. What is the form of a dialogic teaching program needed to develop Historical and Linguistic thinking skills for student-teachers of English and History?

4. How far using a dialogic teaching program is effective in developing Historical thinking skills for student-teachers of English?

5. How far using a dialogic teaching program is effective in developing Linguistic thinking skills for student-teachers of History?

Hypotheses of the Research:

1- There is statistically significant difference between the mean scores of the English-major-control and experimental group in the post application of the Historical thinking scale (in favor of the experimental group).

2- There is statistically significant difference between the mean scores of the History-major-control and experimental group in the post application of the Linguistic thinking scale (in favor of the experimental group).

Significance of the Research

1. The present research provided a dialogic teaching framework that may help educators in enhancing learning situations.

2. It may help faculties of preparing teachers in considering developing different thinking skills for the student-teachers.

3. The research provided a scale for measuring Historical and Linguistic thinking skills that may be beneficial for identifying the Historical and Linguistic thinking skills needed for student-teachers.

Delimitations of the Research:

The present research is delimited to the following:

1. Some of the 2nd grade-student-teachers of English, from the Faculty of Education-Assiut University.

2. Some of the 2nd grade-student-teachers of History, from the Faculty of Education-Assiut University.

3. The courses of "History of English Literature" and "Historical Texts in English".

4.   The following Historical thinking skills:

a- *Understanding the historical events* related to the English language literature through observing, collecting evidence about, and inferencing the Historical events.

b- *Analyzing Historical events*: through analyzing sources and perspectives related to the Historical events.

c- *Temporal and Spatial Awareness* of the Historical events.

d- *Evaluating Historical events* through: criticizing and configuring personal view.

5.   The following Linguistic thinking skills:

a- *Reading comprehension*: through explaining and criticizing Historical texts in English.

b- *Linguistic analysis* of the Historical texts in English through collecting and processing information.

c- *Linguistic investigation* through applying information and composing and synthesizing a Historical research using English language.

d- *Temporal and Spatial Awareness* of the Historical texts in English.

Methods

The Experimental Design

The present research followed the pre-post quasi experimental design. The treatment and the non-treatment groups were exposed to pre-post means of collecting data (Historical thinking scale and Linguistic thinking scale). A program based on dialogic teaching, designed and built by the researchers, was used to develop the treatment groups' Historical and Linguistic thinking skills.

Participants

The participants of the research were selected from among 2nd grade-student-teachers of English and History, the Faculty of Education-Assiut University. Eighty-four student-teachers of English and fifty-six student-teachers of History were involved in the research according to their performance in the Historical and Linguistic scales to insure equivalence of the groups. Repeaters and pilot group members were excluded. Forty English-major and twenty-nine History-major student-teachers of the research group members were randomly assigned to the experimental group and other forty-four English-major and twenty-seven History-major student-teachers were assigned to the control group. The experimental group subjects were exposed to the dialogic-teaching program by the researchers. Subjects of the control groups were trained and instructed during the semester using the conventional methods of lecturing followed by the lecturers. They were not exposed to the dialogic-teaching program.

Control Variables

A- Age: Since the student-teachers were enrolled in the same academic year, they were supposed to be of the same age level that ranged from 19 to 21 years old.

B- Academic level: The participants were homogenous in terms of their academic level, as they were all 2nd year student-teachers in the faculty of Education.

D- Pre-Testing: Both treatment and non-treatment groups were subjected to Historical and Linguistic thinking scales. Tables (3, 4, 5 & 6) showed the insignificance of the differences between the scores of the control and experimental groups in the pre-testing.

Table (3)

Difference in the mean ranks of the English-major-control and experimental groups' scores in the pre application of the Historical Thinking Questionnaire

Skills	Group Type	N.	Mean	Std. Deviation	T
Observation	Experimental	40	5.95	1.753	0.39
	Control	44	5.82	1.369	
Collecting evidence	Experimental	40	6.45	1.377	1.63
	Control	44	6.95	1.446	
Inferencing	Experimental	40	5.40	1.499	1.57
	Control	44	5.93	1.591	
Understanding Historical Events	Experimental	40	17.8	3.006	1.51
	Control	44	18.7	2.464	
Analyzing sources	Experimental	40	5.98	1.405	0.14
	Control	44	6.02	1.621	
Analyzing perspectives	Experimental	40	5.38	1.779	0.85
	Control	44	5.68	1.537	
Analyzing Historical Events	Experimental	40	11.35	2.413	0.69
	Control	44	11.7	2.258	
Temporal awareness	Experimental	40	5.55	1.568	1.58
	Control	44	6.09	1.567	
Spatial awareness	Experimental	40	5.73	1.710	0.65
	Control	44	5.95	1.555	
Temporal and Spatial awareness	Experimental	40	11.28	2.491	1.49
	Control	44	12.05	2.251	
Criticizing events	Experimental	40	5.55	2.160	0.73
	Control	44	5.86	1.786	
Configuring personal view	Experimental	40	6.4	1.692	1.59
	Control	44	6.95	1.493	
Evaluating Historical Events	Experimental	40	12.05	2.449	0.22
	Control	44	11.93	2.555	
Total Score	Experimental	40	52.48	6.763	1.56
	Control	44	54.39	4.347	

Table (4)

Difference in the mean ranks of the English-major-control and experimental groups' scores in the pre application of the Historical Thinking Test

Items	Group Type	Number of Subjects	Mean	Std. Deviation	T
Q1	Experimental	40	3.65	1.41	1.24
	Control	44	3.24	1.59	
Q2	Experimental	40	3.30	1.73	0.69
	Control	44	3.05	1.59	
Q3	Experimental	40	3.19	1.87	0.17
	Control	44	3.26	1.80	
Q4	Experimental	40	3.50	2.15	1.55
	Control	44	4.22	2.11	
Q5	Experimental	40	3.30	2.07	0.75
	Control	44	3.66	2.32	
Q6	Experimental	40	8.51	2.26	0.09
	Control	44	8.47	2.19	
Total Score	Experimental	40	25.45	4.91	0.42
	Control	44	25.89	4.81	

Table (5)

Difference in the mean ranks of the History-major-control and experimental groups' scores in the pre application of the Linguistic Thinking Questionnaire

Skills	Group Type	N.	Mean	Std. Deviation	T
Explanation	Experimental	29	11.90	3.89	0.03
	Control	27	11.93	2.42	
Criticism	Experimental	29	11.07	3.35	0.79
	Control	27	11.70	2.57	
Reading Comprehension	Experimental	29	22.97	5.07	0.59
	Control	27	23.63	3.00	
Collecting information	Experimental	29	8.48	2.91	1.59
	Control	27	9.56	2.04	
Processing information	Experimental	29	7.14	2.64	1.00
	Control	27	7.78	2.08	

Skills	Group Type	N.	Mean	Std. Deviation	T
Linguistic Analysis	Experimental	29	15.62	3.54	1.81
	Control	27	17.33	3.55	
Applying information	Experimental	29	7.76	2.31	0.04
	Control	27	7.78	1.69	
Composing and synthesizing	Experimental	29	10.48	2.37	0.66
	Control	27	10.07	2.29	
Linguistic Investigation	Experimental	29	18.24	3.23	0.49
	Control	27	17.85	2.67	
Temporal awareness	Experimental	29	6.00	1.36	0.09
	Control	27	6.04	1.81	
Spatial awareness	Experimental	29	6.45	1.55	2.56
	Control	27	7.52	1.58	
Temporal and Spatial awareness	Experimental	29	12.45	1.92	1.87
	Control	27	13.56	2.49	
Total Score	Experimental	29	69.28	7.93	1.49
	Control	27	72.37	7.54	

Table (6)

Difference in the mean ranks of the History-major-control and experimental groups' scores in the pre application of the Linguistic Thinking Test

Items	Group Type	Number of Subjects	Mean	Std. Deviation	T
Q1	Experimental	40	3.65	1.41	1.24
	Control	44	3.24	1.59	
Q2	Experimental	40	3.30	1.73	0.69
	Control	44	3.05	1.59	
Q3	Experimental	40	3.19	1.87	0.17
	Control	44	3.26	1.80	
Q4	Experimental	40	3.50	2.15	1.55
	Control	44	4.22	2.11	
Q5	Experimental	40	3.30	2.07	0.75
	Control	44	3.66	2.32	
Total Score	Experimental	40	25.45	4.91	0.42
	Control	44	25.89	4.81	

Instruments and Materials of the Research

To achieve the aims of the current research, the researchers developed and used the following instruments and materials:

I- A Dialogic-Teaching-Program which consists of:

a. A Lecturer's Guide Book.

b. Chapter1: "The Literature of Medieval England" from *The History of English Literature* Course, modified using dialogic teaching activities.

c. Chapter 6: " Landmarks of Europe in the Middle Ages" from *Historical Texts in English* Course, modified using dialogic teaching activities.

(Developed by the researchers)

II- A Scale for assessing the Historical Thinking skills of the student-teachers of English which consists of:

a. A historical thinking questionnaire.
b. A historical thinking test.

(Prepared by the researchers)

III- A Scale for assessing the Linguistic Thinking skills of the student-teachers of History which consists of:

a. A linguistic thinking questionnaire.
b. A linguistic thinking test.

(Prepared by the researchers)

I- Dialogic-Teaching-Program:

The program aimed mainly to develop the Historical thinking skills and the Linguistic thinking skills of the student-teachers of English and History. To establish the validity of the program, it was judged by a panel of 11 specialists in the field of teaching history of English literature, historical texts in English, curricula and methods of teaching

English, and curricula and methods of teaching History. They were required to give their points of view in regard to the suitability of the program to the group of the research, and the suitability of the suggested activities, resources, content area, and evaluation techniques to the specific and behavioral objectives of the program. Judges asserted the creativity and variedness of the designed activities. They all approved its suitability for the subjects and the objectives of the research. They also asserted the variedness and relatedness of the behavioral objectives to the general ones, to the content and to the evaluation techniques.

II. Historical Thinking Scale:

It aims at identifying historical thinking skills of student-teachers of English. It consists of two instruments: the historical thinking questionnaire and the historical thinking test.

Building the scale went through the following procedures:

1- Reviewing the literature on developing and assessing historical thinking skills (VanSledright & Maggioni, 2016; Salinas et al, 2011; Lyle, 2008).

2- Performing a content analysis of the History of English Literature course to decide the percentage of each skill to be covered by the scale.

3- Preparing a list with the main Historical thinking skills needed to the student-teachers of English.

4- Preparing a table of specifications for the test.

5- Writing the initial draft of the scale.

6- Deciding the validity and reliability of the scale by using Factor analysis, internal consistency and the Cronbach Alpha's Coefficient.

The questionnaire consists of four main skills, with nine sub-skills. Thirty items indicating Historical thinking skills were included in the questionnaire. Student-teachers of English were supposed to choose one out of five alternatives that indicate how far they master the historical thinking skills. The student-teachers, therefore, were given a score from 1 to 5 according to their choices in the questionnaire. The total score of the questionnaire was 150 with minimum score of 30.

The Historical thinking test consists of six essay questions, with 15 items. The total score of the test was 100.

Piloting the Scale

The scale was piloted to a group of 94 student-teachers of English to test its validity and reliability. Modifications were made according to the student-teachers' notes while applying the scale.

Reliability of the Historical Thinking Questionnaire

To assure the reliability of the Historical Thinking Questionnaire, *coefficient alpha* was used. Coefficient alpha is (0.727) which is acceptable.

Validity of the Historical Thinking Questionnaire

The Pearson Correlation Formula was used to determine the *Internal Consistency* of the questionnaire. The correlations between the main skills, sub-skills, and the total score were determined as shown in Table (7) and found acceptable.

Factor analysis was also used to decide the validity of the questionnaire through determining the principal components and rotating horizontally using Varimax with Kaiser Normalization. Table (8) shows the results of the factor analysis which indicate acceptable loadings of the items with the main skills of the questionnaire.

Table (7)

Internal Consistency of the Historical Thinking Correlations between the main skills, sub-skills, and total scores (N=94)

Skills	Understanding Historical Events	Analyzing Historical Events	Temporal and Spatial awareness	Evaluating Historical Events	Total Score
Observation	0.509**	0.010	0.100	0.217*	0.363**
Collecting evidence	0.622**	0.042	0.145	0.020	0.295**
Inferencing	0.467**	0.025	0.005	0.047	0.295**
Understanding Historical Events	---------	0.050	0.157	0.162	0.585**
Analyzing sources	0.076	0.730**	0.004	0.031	0.333**
Analyzing perspectives	0.007	0.685**	0.082	0.108	0.281**
Analyzing Historical Events	0.050	---------	0.053	0.096	0.435**
Temporal awareness	0.220*	0.006	0.698**	0.068	0.163
Spatial awareness	0.011	0.068	0.667**	0.008	0.292**
Temporal and Spatial awareness	0.157	0.053	---------	0.045	0.331**
Criticizing events	0.023	0.005	0.224*	0.642**	0.433**
Configuring personal view	0.189	0.120	0.269**	0.693**	0.262*
Evaluating Historical Events	0.162	0.096	0.045	---------	0.516**

** Significant at 0.01
* Significant at 0.05

Table (8)

Factor analysis results of the Historical thinking questionnaire (N=94)

Skills Eigenvalue	Understanding Historical Events 2.497		Analyzing Historical Events 2.424		Temporal and Spatial awareness 2.361		Evaluating Historical Events 1.943	
Variance before rotation	8.230		8.080		7.871		6.476	
Variance after rotation	7.995		7.910		7.533		7.220	
	Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings
	(1)	0.3	(11)	0.3	(18)	0.4	(25)	0.4
	(2)	0.3	(12)	0.4	(19)	0.3	(27)	0.5
	(6)	0.4	(15)	0.3	(20)	0.4	(28)	0.3
	(7)	0.5	(16)	0.5	-	-	-	-
	(8)	0.6	(17)	0.4	-	-	-	-
	(10)	0.6	-	-	-	-	-	-

Reliability of the Historical Thinking Test

To assure the reliability of the Historical Thinking Test, coefficient alpha was used. Coefficient alpha is (0.713) which is acceptable.

Validity of the Historical Thinking Test

The Pearson Correlation Formula was used to determine the **Internal Consistency** of the test. The correlations between the different questions and the total score were determined as shown in Table (9) and found acceptable.

Table (9)

Internal Consistency of the Historical Thinking Test Correlations between the different questions and total scores (N=94)

Questions	Total Score
First Question	0.221^*
Second Question	0.210^*
Third Question	0.556^{**}
Fourth Question	0.453^{**}
Fifth Question	0.448^{**}
Sixth Question	0.577^{**}

** Significant at 0.01
* Significant at 0.05

Factor analysis was also used to decide the validity of the test through determining the principal components and rotating horizontally using Varimax with Kaiser Normalization. Table (10) shows the results of the factor analysis which indicate acceptable loadings of the items of the test.

Table (10)

Factor analysis results of the Historical thinking Test (N=94)

Questions	First		Second		Third		Fourth		Fifth		Sixth	
Eigenvalue	1.753		1.571		1.517		1.353		1.205		1.126	
Variance before rotation	11.687		10.476		10.114		9.019		8.035		7.504	
Variance after rotation	10.164		9.665		9.595		9.467		9.232		8.712	
	Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings
	(7)	0.7	(5)	0.6	(1)	0.6	(10)	0.7	(3)	0.7	(2)	0.7
	(8)	0.3	(6)	0.7	(12)	0.6	(13)	0.7	(9)	0.7	(4)	0.4
	(11)	0.7	(14)	0.7	---	---	---	---	---	---	(15)	0.5

II. Linguistic Thinking Scale:

It aims at identifying linguistic thinking skills of student-teachers of History. It consists of two instruments: the linguistic thinking questionnaire and the linguistic thinking test.

Building the scale went through the following procedures:

1- Reviewing the literature on developing and assessing linguistic thinking skills (Logan & Tandoc, 2018; Warford & Kunda, 2018; Nishimura et al, 2016).

2- Performing a content analysis of the Historical Texts in English course to decide the percentage of each skill to be covered by the scale.

3- Preparing a list with the main Linguistic thinking skills needed to the student-teachers of History.

4- Preparing a table of specifications for the test.

5- Writing the initial draft of the scale.

6- Deciding the validity and reliability of the scale by using Factor analysis, internal consistency and the Cronbach Alpha's Coefficient.

The questionnaire consists of four main skills, with eight sub-skills. Forty two items indicating Linguistic thinking skills were included in the questionnaire. Student-teachers of History were supposed to choose one out of five alternatives that indicate how far they master the linguistic thinking skills. The student-teachers, therefore, were given a score from 1 to 5 according to their choices in the questionnaire. The total score of the questionnaire was 210 with minimum score of 42.

The Linguistic thinking test consists of five objective questions, with 101 items. The total score of the test was 100.

Piloting the Scale

The scale was piloted to a group of 50 student-teachers of History to test its validity and reliability. Modifications were made according to the student-teachers' notes while applying the scale.

Reliability of the Linguistic Thinking Questionnaire

To assure the reliability of the Linguistic Thinking Questionnaire, *coefficient alpha* was used. Coefficient alpha is (0.817) which is acceptable.

Validity of the Linguistic Thinking Questionnaire

The Pearson Correlation Formula was used to determine the *Internal Consistency* of the questionnaire. The correlations between the main skills, sub-skills, and the total score were determined as shown in Table (11) and found acceptable.

Factor analysis was also used to decide the validity of the questionnaire through determining the principal components and rotating horizontally using Varimax with Kaiser Normalization. Table (12) shows the results of the factor analysis which indicate acceptable loadings of the items with the main skills of the questionnaire.

Table (11)

Internal Consistency of the Linguistic Thinking Correlations between the main skills, sub-skills, and total scores (N=50)

Skills	Reading Comprehension	Linguistic Analysis	Linguistic Investigation	Temporal and Spatial awareness	Total Score
Explanation	0.756**	0.034	0.126	0.417**	0.487**
Criticism	0.762**	0.404**	0.766**	0.221	0.799**
Reading Comprehension	------	0.290*	0.425**	0.127	0.849**
Collecting information	0.575**	0.686**	0.453**	0.224	0.655**
Processing information	0.223	0.624**	0.035	0.225	0.003
Linguistic Analysis	0.290*	------	0.332*	0.342*	0.519**
Applying information	0.456**	0.481**	0.629**	0.094	0.652**
Composing and synthesizing	0.197	0.059	0.804**	0.242	0.404**
Linguistic Investigation	0.425**	0.332*	------	0.244	0.702**
Temporal awareness	0.143	0.284*	0.264	0.674**	0.095
Spatial awareness	0.020	0.161	0.051	0.634**	0.157
Temporal and Spatial awareness	0.127	0.342*	0.244	------	0.192

** Significant at 0.01

* Significant at 0.05

Table (12)

Factor analysis results of the Linguistic thinking Questionnaire

(N=50)

Skills	Reading Comprehension		Linguistic Analysis		Linguistic Investigation		Temporal and Spatial awareness	
Eigenvalue	5.247		4.710		4.095		3.331	
Variance before rotation	12.493		11.215		9.749		7.931	
Variance after rotation	11.178		10.724		10.189		9.299	
	Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings
	(1)	0.5	(17)	0.8	(25)	0.3	(38)	0.3
	(2)	0.7	(21)	0.3	(27)	0.7	(39)	0.5
	(5)	0.6			(30)	0.5	(41)	0.4
	(9)	0.7			(32)	0.4	(42)	0.4

Reliability of the Linguistic Thinking Test

To assure the reliability of the Linguistic Thinking Test, coefficient alpha was used. Coefficient alpha is (0.809) which is acceptable.

Validity of the Linguistic Thinking Test

The Pearson Correlation Formula was used to determine the **Internal Consistency** of the test. The correlations between the different questions and the total score were determined as shown in Table (13) and found acceptable.

Table (13)

Internal Consistency of the Linguistic Thinking Test Correlations between the different questions and total scores (N=50)

Questions	Total Score
First Question	0.679**
Second Question	0.421**
Third Question	0.763**
Fourth Question	0.743**
Fifth Question	0.540**

** Significant at 0.01

Table (12)

Factor analysis results of the Linguistic thinking Test (N=50)

Questions	First		Second		Third		Fourth		Fifth	
Eigenvalue	12.642		9.297		7.627		6.597		6.294	
Variance before rotation	12.517		9.205		7.551		6.531		6.232	
Variance after rotation	12.088		8.500		7.561		7.462		6.426	
	Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings
	(3)	0.3	(18)	0.3	(37)	0.3	(56)	0.3	(81)	0.6
	(10)	0.3	(19)	0.5	(39)	0.3	(62)	0.4	(82)	0.6
	(11)	0.9	(21)	0.3	(41)	0.3	(64)	0.6	(87)	0.3
	(12)	0.9	(22)	0.5	(44)	0.6	(70)	0.4	(88)	0.4
	(14)	0.3	(24)	0.8	(46)	0.7	(72)	0.3	(97)	0.3
	(16)	0.9	(25)	0.8	(47)	0.4	(77)	0.3	(99)	0.4
	---	---	(30)	0.3	(49)	0.3	(78)	0.3	---	---
	---	---	(31)	0.4	(50)	0.3	---	---	---	---
	---	---	---	---	(51)	0.4	---	---	---	---
	---	---	---	---	(54)	0.3	---	---	---	---

Factor analysis was also used to decide the validity of the test through determining the principal components and rotating horizontally using Varimax with Kaiser Normalization. The results of the factor analysis shown in Table (14) above indicate acceptable loadings of the items of the test.

Treatment

After completing pre-application of the research instruments, participants of the experimental groups were subjected to the Dialogic Teaching program. Four weeks of treatment procedures took place in the Fall of 2017. English-major- and History-major-student teachers were massively participating dialogic teaching in learning two related topics; "The Literature of Medieval England" from *The History of English Literature* Course and " Landmarks of Europe in the Middle Ages" from *Historical Texts in English* Course. Five sessions were devoted for implementing the research treatment. The first session aimed at introducing the program intended learning outcomes, providing guidelines for applying dialogic sessions, dividing the student-teachers of the two experimental groups into binary-major groups, and identifying the role of each student-teacher in the small groups. The role of the English-major student-teachers was to help History-major student-teachers in acquiring linguistic thinking skills. On the other hand, the role of the History-major student-teachers was to help English-major student-

teachers in acquiring Historical thinking skills. The next four sessions were devoted to teaching the topics of the two courses alternatively. Two types of grouping were applied: the mono-major and binary-dialogic-major grouping. The student-teachers of each major were asked to participate in preparing a project to be presented in the last session. The project aimed at integrating historical and linguistic thinking skills in conducting a research about some historical events with referring to the aspects of English literature and historical background of a certain age. At the end of the program implementation, the student-teachers of both control and experimental groups were subjected to the post-application of the research instruments to decide the effectiveness of the research program.

Results and Discussion

The statistical analysis of the data and the results were interpreted in terms of the research questions. To accomplish this purpose, each question is presented together with the findings related to it. The **first, second and third questions** were answered in the procedures followed by the researchers and were discussed previously in the *Methods* part. Thus, in the following lines the fourth and fifth questions, which are related to the findings of the research, would be answered and discussed thoroughly with the reference to the previous researches supporting these findings.

Question Four: "How far using a dialogic teaching program is effective in developing Historical thinking skills for student-teachers of English?"

T-test for independent samples was conducted in order to compare the mean scores of the English-major-experimental and control groups on the Historical Thinking Scale. The results of the t-tests proved to be statistically consistent with the question. (See tables 13 & 14).

Table (13)

Difference in the mean ranks of the English-major-control and experimental groups' scores in the post application of the Historical Thinking Test

Items	Group Type	Number of Subjects	Mean	Std. Deviation	t-value
Q1	Experimental	40	10.34	1.41	20.41**
	Control	44	3.66	1.58	
Q2	Experimental	40	12.79	1.49	26.92**
	Control	44	3.38	1.69	
Q3	Experimental	40	12.02	1.40	26.65**
	Control	44	3.27	1.59	
Q4	Experimental	40	14.39	1.74	24.08**
	Control	44	4.27	2.08	
Q5	Experimental	40	12.56	1.39	22.42**
	Control	44	3.68	2.12	
Q6	Experimental	40	23.17	1.47	17.61**
	Control	44	8.62	5.03	
Total Score	Experimental	40	85.28	3.51	53.16**
	Control	44	26.88	6.08	

** Significant at 0.01

Table (14)

Difference in the mean ranks of the English-major-control and experimental groups' scores in the post application of the Historical Thinking Questionnaire

Skills	Group Type	N.	Mean	Std. Deviation	t-value
Observation	Experimental	40	12.60	1.257	17.23**
	Control	44	5.95	2.124	
Collecting evidence	Experimental	40	17.93	0.971	26.40**
	Control	44	6.95	2.459	
Inferencing	Experimental	40	12.80	1.400	17.03**
	Control	44	6.11	2.093	
Understanding Historical Events	Experimental	40	43.33	2.443	35.06**
	Control	44	19.02	3.714	
Analyzing sources	Experimental	40	18.38	1.079	32.11**
	Control	44	6.64	2.070	
Analyzing perspectives	Experimental	40	13.23	1.165	16.68**
	Control	44	5.75	2.607	
Analyzing Historical Events	Experimental	40	31.60	1.630	32.89**
	Control	44	12.39	3.350	
Temporal awareness	Experimental	40	13.28	1.176	16.59**
	Control	44	6.25	2.432	
Spatial awareness	Experimental	40	13.20	1.159	17.55**
	Control	44	6.09	2.311	
Temporal and Spatial awareness	Experimental	40	26.48	2.298	21.31**
	Control	44	12.34	3.576	
Criticizing events	Experimental	40	13.45	1.108	19.60**
	Control	44	5.93	2.182	
Configuring personal view	Experimental	40	18.40	1.081	28.20**
	Control	44	6.91	2.361	
Evaluating Historical Events	Experimental	40	31.85	1.657	33.75**
	Control	44	12.84	3.191	
Total Score	Experimental	40	133.25	5.073	52.24**
	Control	44	56.59	7.919	

** Significant at 0.01

Table (13) shows that the calculated t-value of the total score of the Historical thinking test is (53.16). Thus, it can be said that there is a statistically significant difference at 0.01 level between the mean scores of the English-major-experimental and control group students in the post Historical thinking test favoring the experimental group.

To confirm this finding another statistical treatment done to the data collected from applying the Historical thinking questionnaire. As shown in table (14) the calculated t-value of the total score of the Historical thinking questionnaire is (52.24). This result declare that there is statistically significant difference at 0.01 level between the mean scores of the English-major-experimental and control group students in the post Historical thinking questionnaire favoring the experimental group. So, the fourth question is answered.

Question Five: "How far using a dialogic teaching program is effective in developing Linguistic thinking skills for student-teachers of History?"

T-test for independent samples was conducted in order to compare the mean scores of the History-major-experimental and control groups on the Linguistic Thinking Scale. The results of the t-tests proved to be statistically consistent with the question. (See tables 15 & 16).

Table (15)

Difference in the mean ranks of the History-major-control and experimental groups' scores in the post application of the Linguistic Thinking Test

Items	Group Type	Number of Subjects	Mean	Std. Deviation	t-value
Q1	Experimental	40	13.62	1.29	11.29**
	Control	44	6.78	2.98	
Q2	Experimental	40	13.31	1.23	11.47**
	Control	44	6.85	2.76	
Q3	Experimental	40	20.41	1.42	9.99**
	Control	44	9.75	5.56	
Q4	Experimental	40	20.01	1.46	13.87**
	Control	44	8.95	4.02	
Q5	Experimental	40	20.08	1.19	14.05**
	Control	44	9.38	3.91	
Total Score	Experimental	40	87.44	3.70	24.88**
	Control	44	41.72	9.13	

** Significant at 0.01

Table (16)

Difference in the mean ranks of the History-major-control and experimental groups' scores in the post application of the Linguistic Thinking Questionnaire

Skills	Group Type	N.	Mean	Std. Deviation	t-value
Explanation	Experimental	29	36.90	1.45	36.75**
	Control	27	12.11	3.31	
Criticism	Experimental	29	32.90	1.78	28.72**
	Control	27	12.19	3.42	
Reading Comprehension	Experimental	29	69.79	2.38	50.35**
	Control	27	24.79	4.19	
Collecting information	Experimental	29	22.79	1.42	22.43**
	Control	27	10.11	2.67	
Processing information	Experimental	29	17.93	0.79	37.53**
	Control	27	8.22	1.12	
Linguistic Analysis	Experimental	29	40.72	1.56	39.40**
	Control	27	18.33	2.60	
Applying information	Experimental	29	18.14	0.88	15.77**
	Control	27	8.37	3.21	
Composing and synthesizing	Experimental	29	27.76	1.02	30.07**
	Control	27	10.70	2.87	
Linguistic Investigation	Experimental	29	45.90	1.32	29.21**
	Control	27	19.07	4.76	
Temporal awareness	Experimental	29	17.90	1.01	16.17**
	Control	27	7.48	3.31	
Spatial awareness	Experimental	29	18.00	0.96	10.50**
	Control	27	8.96	4.53	
Temporal and Spatial awareness	Experimental	29	35.90	1.45	18.17**
	Control	27	16.44	5.57	
Total Score	Experimental	29	192.31	3.05	58.97**
	Control	27	78.15	9.94	

** Significant at 0.01

Table (15) shows that the calculated t-value of the total score of the Linguistic thinking test is (24.88). Thus, it can be said that there is a statistically significant difference at 0.01 level between the mean scores of the History-major-experimental and control group students in the post Linguistic thinking test favoring the experimental group.

To confirm this finding another statistical treatment done to the data collected from applying the Linguistic thinking questionnaire. As shown in table (16) the calculated t-value of the total score of the Linguistic thinking questionnaire is (58.97). This result declare that there is statistically significant difference at 0.01 level between the mean scores of the History-major-experimental and control group students in the post Linguistic thinking questionnaire favoring the experimental group. So, the fifth question is answered.

Discussion:

The significant results of the present research could be due to many factors. Being purposefully involved in self-oriented dialogic-teaching sessions, the student-teachers of both English and History were able to gain more than exchanging information. Through discussing some critical issues related to the Historical texts in English, for example, the History-major student-teachers were asked to present their previous knowledge about the historical background of a certain historical era. Then, English-major student teachers were asked to present reading techniques that might help History-major student-teachers in identifying the main and supporting data given in the Historical text in advance. In this dual exchanging of experience and knowledge a whole enhancement occurred to their thinking skills.

Furthermore, moving simultaneously from Historical to Linguistic analysis of a certain topic, provides student-teachers with opportunities to perform in-depth analysis for that topic from two different perspectives, leading to a genius integration among the student-teachers' thinking skills. In dialogic-teaching sessions, the lecturer did not have exclusive authority over the flow of the discussion, as student-teachers share responsibilities for managing the turn-taking and advancing their inquiry. The binary-major groups were asked to present their project report considering viewing critical analysis of the topic showing highly mastering of both historical and linguistic thinking skills.

As the group of both majors engaged in a collaborative research about certain topic, the lecturer refrains from expressing his/her own position; instead, he/she prompts student-teachers to develop integrated Historical-linguistic skills. The lecturer's role was mainly to direct, regularly prompt student-teachers to listen to each other and make connections among related ideas, and provide feedback when needed.

During the discussion, student-teachers were asked to directly provide elaborate explanations of how they think (historically or linguistically). Supporting their explanations, by giving examples and modeling the procedures followed to Historically or linguistically treat a certain input, was one of the requirements of presenting the final team project made by the student-teachers.

These interrelated attempts by the dialogic-teaching participants to develop a more complete understanding of relevant thinking techniques followed by their colleagues served to improve the quality of the group's project presented at the last session and, as the result, its substantive conclusions. Note that the lecturer's comments were related exclusively to the procedural aspects of dialogic-teaching, as in a dialogic classroom, instructors are "substantively weak," but "procedurally strong" (Reznitskaya, 2012). The pedagogical goal was to focus on the processes of thinking, to engage student-teachers in practicing and forming new "habits of mind," which, in turn, help to develop Historical and Linguistic thinking skills.

Conclusion

To conclude, one of the reasons for the well-documented prevalence of monologic instruction in today's classrooms is the lack of opportunities for teachers to study their own practice in a systematic and deliberate manner (Adler, Rougle, Kaiser, & Caughlan, 2003; Smith et al., 2004). Furthermore, in a comprehensive review of professional development practices, Elmore (2002) argued convincingly that "few people willfully engage in practices that they know to be ineffective; most educators have good reasons to think that they are doing the best work they can" (p. 19). Thus, in order to bring about non-superficial changes in classroom discourse, instructor need to reexamine their own interactions with students, try out and evaluate new behaviors, discover discrepancies between their intended instructional goals and actual practices, and continually question their conceptions of effective

pedagogy (Reznitskaya et al., 2012). Using measurement tools, instructors are able to collect rich information about their practice that can encourage further reflection about knowledge, authority, language, and learning, and, eventually, facilitate the transition to more dialogic instruction. As a society facing serious political, economic, and scientific challenges, we cannot afford to have "orderly but lifeless classrooms" where teachers continue to "avoid controversial topics, simplifying complex issues into bitesized pieces of information," and where students routinely "recall what someone else thought, rather than articulate, examine, elaborate, or revise what they themselves thought" (Reznitskaya et al., 2009, 455).

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