Collaborative Research-Based Instruction to Enhance University Students' EFL Analytical Writing Skills

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Abstract

The present research aimed at enhancing university students' analytical writing. skills. This was achieved through applying a Collaborative Research-Based instructional approach. The research adopted a two group pre/post test design. The participants were 100 students divided into groups; the experimental (N=50) and the control (N=50). The following instruments were designed and used: An Analytical Writing Skills Checklist (AWSC); An Analytical Writing Skills Pre/Post Test (AWST); Results of the study indicated that there was statistically significant difference at 0.05 level between the mean score of the experimental group on the pre and post administrations of the AWST in favour of the post ones. In addition, the experimental group participants outperformed their counterparts in the control group in the targeted skills. Consequently, the proposed Collaborative Research-Based Instructional approach proved to have a high positive effect on enhancing analytical writing skills for university students.

Keywords: collaborative learning, research-based instruction, analytical writing.

Introduction and Overview

English is the most widely used language owing to globalization that facilitates interaction and communication. As a result, several aspiring

instructive reforms have been implemented to effectively incorporate English into educational curricula to provide the learners with the necessary skills everywhere in the world. Integrating English in education and particularly on university level has become an urgent necessity. This can be achieved through designing English courses in order to accommodate the diverse range of needs of students with varying specializations (Gohar, 2019).

The ability to write effectively is regarded as a predictor of academic achievement. It is necessary for success in higher education. Writing is urgently needed and used by university students for various reasons such as communication, sharing knowledge, facilitating comprehension and learning, reflecting on feelings and beliefs. Having the ability to write effectively is becoming more crucial for success in various fields (Winner, 2013).

University students are asked to work on daily writing assignments. These tasks require higher-order thinking skills in order to help students approach their writing effectively. The breadth of writing emphasizes the need for instructors to find effective approaches to help students become flexible and self-assured writers.

Many students are neither flexible nor confident writers. The poor academic performance and dropout rates in high school means that students are not prepared for post-secondary education. Similarly, it is documented that the ability to write properly increases continuously and instructors have to equip students with proper writing instruction that meets students' need to improve their writing skills (Graham and Hebert, 2010).

The concept of analytical writing

Writing analytically involves a wide range of information to answer specific questions. That is, it necessitates that students determine new approaches, identify important information, achieve their goals and clarify the importance of the new ideas. Analytical writing process adopts conventions and formats that help students to generate their own ideas on writing. Analytical writing emphasizes that students need to select the most effective information that best suits their piece of writing. Students are required to select what they wish to study. This is exactly the same as the concept of self-study and research-based instruction (Winner, 2013).

Furthermore, analytical writing involves actively utilizing information to get a new understanding. Additionally, writing analytically incorporates going beyond the description of processes or phenomena. New understanding that is inferred by carefully considering the evidence, understanding the limitation of available information, formulating assumptions and determining how the new understanding can be effectively applied. Analytical writing is crucial to reveal the importance, accuracy, and usefulness of thinking. The analysis process often requires utilizing data, concepts and other abstract forms of reasoning (Winner, 2013).

Analytical writing as a style is often needed for students at university. It requires analyzing what students read in light of available evidences. It shows the thought processes that students go through to reach a particular conclusion and discuss the meaning of results. This writing style often follows a brief description and focuses on answering questions such as: 'Why?' 'How?' and 'So what?'

A common practice in analytical writing

According to Winner (2013), learning to write collaboratively in teams is considered as the best practice in analytical writing and is essential for many careers. Analytical writing requires skills that goes further beyond those of individual writing. That is, analytical writing is the result of collaboration of several writers forming a writing team. It is rarely, if ever, produced by a single individual writer and without the help of others. Even when an individual writer creates an analytical piece of writing, he/she needs to build on the writing and ideas of others. On joining a writing team and working collaboratively, writers, consequently, make progress in a certain area of thought. In so doing, they create an informal writing group.

Formally, working collaboratively in writing teams often leads to analytical writing. The team leader or instructor can form teams simply by assigning individual tasks. Tasks generally follow one of two schemes.

1. **Piece Assignment and/or distribution of work.** Each member in the team is responsible for a specific part of the writing task which consists of creating the first draft, revising and editing it, and submitting the final piece of writing integrating each part into a single document. Integrating elements to make a final piece of writing is an important final step.

2. **Role Assignment.** Each member of the writing team has a specific task that is needed to complete an essay. One or more team member is responsible for creating the first draft, others are asked to handle the necessary revisions and editing, and still some others may be asked to carry out any further modifications. Integrating the individual tasks into one piece of writing is vital to create a cohesive analytical essay.

The development of analytical writing skills is a crucial aspect of academic and professional success across various disciplines. As instructors and researchers strive to enhance these skills in students and professionals alike, a thorough examination of existing literature is essential. There are various key studies that have shaped understanding of analytical writing skills, their development, and effective pedagogical approaches.

A study conducted by Condon and Kelly-Riely in (2018) examined the relationship between students' analytical writing skills and academic performance. The participants were 456 students of a university in USA. Analytical writing skills were assessed by writing assessment. The study employed a mixed- methods approach combining quantitative and qualitative data. Findings emphasized the importance of analytical writing

skills for critical thinking, problem-solving and effective communication in various contexts.

Leslie (2015) investigated the understandings of analytical writing among 20 in-service teachers who were immersed in an analytical writing exchange. Findings suggested a diverse set of instructional writing strategies for engaging in the practice of writing. Results indicated that Preservice teachers need to improve their practice of (a) teaching writing processes, (b) teaching major writing skills, (c) writing assessment, (d) promoting writing motivations, (e) expanding writing into the content areas. The study asserted that analytic writing exchange promotes PSTs' understanding of writing practices.

Klein and Rose (2010) investigated the effectiveness of different instructional strategies for teaching analytical writing to high school students. They compared three approaches: Direct instruction in text structure, Collaborative planning with peers and a combination of both methods. The researchers worked with 177 students. Students were randomly assigned to one of the three conditions. Over several weeks, they wrote multiple analytical essays on various topics. Findings showed that both direct instruction and collaborative planning significantly improved students' analytical writing skills. The combined approach (direct instruction + collaborative planning) yielded the most substantial improvements in essay quality. Students in the combined group showed better organization, more sophisticated reasoning, and stronger evidence use in their essays. The study suggests that fostering peer collaboration are effective strategies for enhancing students' analytical writing abilities.

Writing an analytical essay

An analytical essay is a type of writing that provides thorough analysis of a topic. Analytical writing can be written on a wide range of topics including art, music and literature. In addition to being published in academic journals, periodicals and magazines, analytical essays are common in academic settings. A well-written analytical essay can clarify and contextualize fundamental information to benefit the reader.

Writing analytical essays fulfills two purposes, one is for the reader and the other one is for the writer. Analytical tasks are assigned by instructors to assist students develop as writers and thinkers. Analytical tasks improve students' writing skills and deepen understanding of any unfamiliar topic. Students who need to be specialists in in their profession can accomplish their professional goals with the help of this writing style (Rosenwasser & Stephen, 2018).

The analytical piece of writing differs from one discipline to another and from situation to situation. The following guidelines, however, may help students determine what to include.

1. Clearly identify the subject of analysis: Students should explicitly state what they are analyzing, whether it's a text, event, idea, or phenomenon (Rosenwasser & Stephen, 2018).

2. Develop a strong thesis statement: This should present the main argument or interpretation that the essay will explore (Purdue Online Writing Lab, n.d.).
3. Provide relevant context: Include background information necessary for understanding the analysis (Harvard College Writing Center, n.d.).
4. Select appropriate evidence: Choose specific details, quotes, or data that directly support the thesis (Booth et al., 2016).
5. Apply analytical techniques: Use methods such as close reading, comparison, or causal analysis as appropriate to the subject (Barnet & Bedau, 2017).
6. Address counterarguments: Acknowledge and respond to potential objections to strengthen the overall argument (Graff & Birkenstein, 2018).
7. Discuss implications: Explain the significance of the analysis and its broader relevance (Maxwell, 2005).
8. Maintain focus: Ensure all content relates directly to the thesis and contributes to the overall analysis (Swales & Feak, 2012).

Analytical writing instructional approaches are developed to help students become more adept learners by improving their analytical writing skills. Students who acquire new information and understanding through the research process become autonomous learners who can think analytically using reliable information gained from inquiry and research. The implementation of this systematic learning instruction design enhances students' academic proficiency and equips them for future endeavors (Cowles, 2011).

To sum up, analytical writing is an essential skill across several academic areas and professional fields. In higher education, students are always asked to create analytical essays, research papers and other writing assignments that require critical thinking and analytical abilities. By enhancing analytical writing abilities through instructional approaches like collaborative learning and research-based instruction, instructors can better prepare learners for the challenges they will face in their future.

Collaborative Research-Based Instruction CRBI

Today's society is knowledge-based. In such a society, key features of learning include research-based learning in which collaborative learning is crucial to achieve a wide range of learning goals (Reigeluth & Karnopp, 2013). In response to emerging educational needs, students are asked to work and learn collaboratively. This can be achieved by using different instructional approaches including collaborative learning. More specifically, research-based instruction has been utilized to boost student motivation and engagement through learning-by-doing and giving them a genuine opportunity to work collaboratively (Jonassen, 2004).

Research-based instruction (RBI) has become one of the most widely used approaches in the information age. According to Barron & Darling-Hammond (2010), RBI is a multidisciplinary approach that involves

a wide range of knowledge and multiple disciplines in the research process. Research confirms that RBI improves student content understanding (Walker & Leary, 2009), student engagement and motivation (Brush & Saye, 2008), problem-solving skills, higher order thinking skills collaboration and communication skills (Harada, Kirio, & Yamamoto, 2008). Furthermore, studies on RBI show promising outcomes with low achievers (Geier et al., 2008).

According to Schroeder (2004), the majority of students lack the ability to handle abstract concepts and are unable to think independently. Consequently, instead of those traditional theory-to-practice approaches, students need a more practical practice-to-theory approach in the teaching and/or learning process. As a result, collaborative research-based instruction offers an effective approach to achieve this goal.

Collaborative learning as a student-centered approach asks students to do research together aiming to learn by helping one another on the same tasks. Collaborative RBI incorporates the active sharing of ideas within groups which enhances not only the participants' interest but also improves their analytical thinking skills. There is strong evidence that when students work collaboratively, they achieve a higher level of thought than students who work individually. Collaboration equips students with the chance to engage in discussion, take responsibility for their own learning, and become analytical thinkers (Stein & Hurd, 2000).

Furthermore, collaborative learning is based on the inquiry approach that promotes students to observe, express doubt, ask questions and collaboratively work together to find solutions. Giving students topics to research can help develop their critical and analytical thinking skills. Furthermore, students will get better at conducting research, studying on their own and/or learning through group work. The integration of collaborative RBI in the teaching/learning process enhances students' acquisition and autonomous learning. This integration aims to provide students with the tools they need to think analytically and learn on their own by doing research which results in career development and lifelong learning (Metakunavut, 2002).

Collaboration incorporates two primary spaces: (1) Task space, and (2) Instructional space (Reigeluth, 2012). Task space requires a group of students to work on a task and/or assignment, while instructional space asks them to fill their learning gaps. Students have the potential to go back and forth between the two spaces when they encounter a learning gap and come back to complete the task and/or the assignment. If instruction is provided while conducting the group research, instructional space can be referred to as instructional overlay. Instructional overlay is student-centered support that goes over the RBI process to help student improve a skill, an understanding, or other type of learning (Reigeluth & Karnopp, 2013).

Additionally, collaboration seeks to include all team members in the process of learning. It eventually turns into cooperative learning where each

student completes a different task and therefore gains different skills. Collaborative learning incorporates motivation, autonomy and personal accountability for personal growth (Reigeluth, 2012).

Assuming that students possess varying levels of knowledge, it is imperative to offer tailored and customized instructional support to ensure that all student master all the targeted skills in a collaborative context. It is important to note that the collaborative learning process can be enhanced if the appropriate instructional supports are given at the appropriate times using appropriate materials.

The concept of collaborative research-based instruction revolves around the notion of doing research collaboratively in groups rather than individually. This simple principle shows much about the RBI itself and justifies why it should be included into the learning/teaching process. Consequently, Collaborative research-based instruction is included within various research practices. To contextualize the current research within the broader landscape of analytical writing instruction, related studies, that have shaped understanding of analytical writing skills and its effective approaches, were reviewed.

Bütüner & Akdeniz (2021) conducted a study aiming to investigate the effects of research-based collaborative learning approach on the writing skills of EFL students at university. The study adopted the quasi-experimental design with two groups; experimental (N=30) and control (N=28). The experimental group received instruction using research-based collaborative learning approach while the control one received traditional instruction. Research-based instruction involved students worked in small groups to research and explore topics. The engaged in collaborative writing tasks. Pre and Post test were conducted. Findings indicated that the experimental group showed significantly greater improvement compared to the control one.

In their study, Azizah and Lukman (2020) investigated the impact of collaborative learning strategies on the academic achievement and attitudes of high school student in English language classes. The study involves 60 students divided into two groups; experimental and control. The collaborative learning strategies used in the experimental group included Think-Pair-Share activities, Jigsaw activities, Reciprocal teaching, and Group investigations. The study employed a mixed-methods approach. Findings showed that students in experimental group demonstrated higher achievement compared to the control group.

The study conducted by Khalil and Ebner (2020) investigated the impact of research-based collaborative learning approach on the academic writing skills of EFL students at a university in UAE. The researchers employed a mixed-methods design with an experimental group (N=32) and a control group (N=30). The experimental group received instruction using research-based collaborative learning approach while the control group received traditional instruction. Data were collected using pre-test and post-

test. Findings indicated that the experimental group outperformed the control group in the targeted writing skills.

The technological age necessitates that all students should be equipped with the various analytical skills to face the challenges and achieve the targeted learning goals. Therefore, the present research is designed to investigate the impact of using collaborative research-based instruction to enhance analytical writing skills as it relates to learning outcomes at the college level.

Background of the problem

University students most often remain intimidated and unmotivated to tackle writing tasks as part of their academic pursuits. While writing, students always encounter a variety of challenges in both language proficiency and writing. To a certain extent, learners have poor learning background in analytical writing skills due to the lack of compatible teaching methods. Therefore, the goal of this study is to help university students in particular and EFL learners in general to improve analytical writing skills.

A pilot study was conducted to assess University Students' EFL analytical Writing skills (i.e. synthesizing information in ways leading to new ideas, developing a logical and coherent structure that flows smoothly, using varied and relevant facts to support analysis, analyzing how and why specific evidence supports the claim, using all relevant literary terms correctly and demonstrating excellent analytical originality, either in creating new arguments or in relating facts in new ways). An Analytical Writing Skills Test (AWST) was designed and applied to a group of the Faculty of Arts Students (N=100). The test consisted of a work of art with (1) question item asking students to write an analytical essay; the maximum score of the item was (50) marks. Results of the pilot study are presented in table (1):

Table (1): Students Score on the Analytical Writing Skills Test (AWST)

Analytical Writing Skills	Mean	percentage
Synthesizing information in ways leading to new ideas.	3.3	33%
Developing a logical and coherent structure that flows smoothly.	3.2	32%
Using varied and relevant facts to support analysis.	2.8	28%
Analyzing how and why specific evidence supports the claim.	2.9	29%
Creating new arguments by relating facts in new ways.	3.1	31%
Total	**15.3**	**30.6%**

Results of the Analytical Writing Skills Test indicated that the University Students had a relatively low level in the Analytical Writing Skills.

Statement of the problem

Based on the results of the pilot study and the review of related literature, it was noticed that University Students need to improve their Analytical Writing Skills. Students face some difficulties related to skills such as synthesizing information, explaining the importance of new ideas

and using information appropriately. Thus, the current research suggested a program using collaborative research-based instruction (CRBI) to enhance university students' EFL analytical writing skills.

Questions of the research

This research was an attempt to answer the following main question:

What is the impact of Collaborative Research-Based Instructional approach (CRBI) on enhancing university students' EFL analytical writing skills?

For research purposes, this main question is subdivided into the following questions:

1. What are the most important analytical writing skills (AWS) needed for EFL university students?
2. What are the features of the Collaborative Research-Based Instructional approach to enhance university students' EFL analytical writing skills?
3. To what extent can CRBI enhance university students' EFL analytical writing skills?

Purpose of the research

The main purpose of this research was to improve university students' EFL analytical writing skills through a proposed approach using collaborative research-based instruction (CRBI).

Hypotheses

The present research tested the following hypotheses

1. There is a statistically significant difference at (0.05) level between the mean scores of the experimental group students and those of the control group students on the post-administration of the Analytical Writing Skills Test in favor of the experimental group.
2. There is a statistically significant difference at (0.05) level between the mean score of the pre and post administration of the Analytical Writing Skills Test of the experimental group students in favor of the post administration.

Significance

The present research derived its significance from the following considerations:

(1) It suggests an effective approach to the teaching of analytical writing skills through using CRBI.
(2) It provides instructors with an attempt to integrate CRBI into the teaching/learning process.
(3) It may contribute to increasing instructors' awareness of incorporating analytical writing skills, research skills and student-centered strategies into their teaching methods and benefiting from this knowledge in their learning/ teaching process.
(4) It may assist students themselves through raising their awareness of the recent learning methods to develop their writing and research skills as well as their positive attitude towards learning collaboratively.

Delimitations

The study was delimited to:

1- A sample of first year students of the Faculty of Arts, Mansoura University.

2- Some analytical writing skills necessary for EFL first year students of the Faculty of Arts, Mansoura University.

Methodology

Participants

The participants were a group of EFL university students (N=100) selected from first year students of the Faculty of Arts, Mansoura University.

Design

The study adopted the quasi- experimental design in terms of dividing the participants of the study into two groups: experimental (N=50) and control (N=50). The experimental group was trained using the proposed approach (CRB) while the other group used the regular method. The adopted quasi- experimental design (see figure 1) in this research (pre-post test) is as follows: -

Figure (1): CRBIP - Quasi- Experimental Design
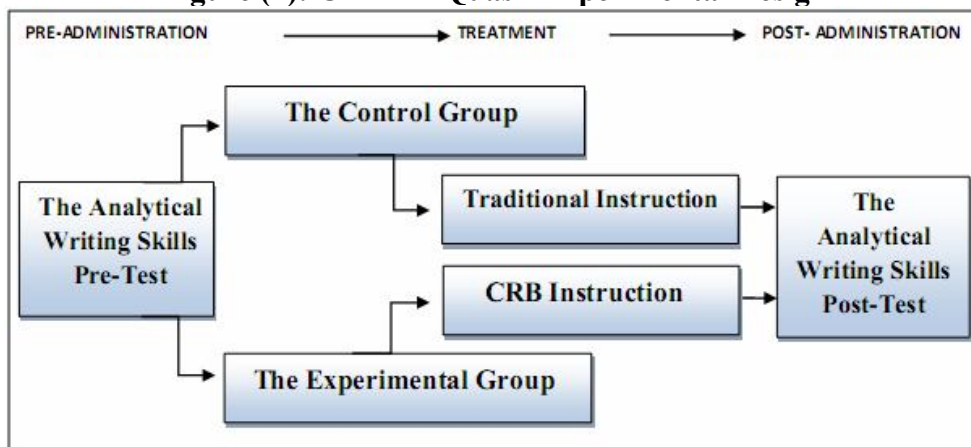
Instruments

The present research employed the following instruments:

1- An Analytical Writing Skills Checklist (AWSC) to identify which of the Analytical Writing Skills were needed for EFL University Students.

2- An Analytical Writing Skills Test and a rubric designed and used to assess and score students' analytical writing performance.

Procedures

To answer the research questions, the following procedures were adopted: -

1- Reviewing the relevant literature and the previous studies related to the variables of the study.

2- Designing the checklist of EFL analytical writing skills to determine the most important skills for the target participants and validate it by jurors.
3- Preparing the instruments of the study (Analytical Writing Skills Checklist Analytical Writing Skills Test and its Rubric).
4- Establishing the validity and the reliability of the instruments.
5- Selecting the participants of the study from Mansoura University.
6- Administering the Analytical Writing skills pre-Test.
7- Administering the proposed approach based on the CRBI on the participants.
8- Administering the Analytical Writing skills post-test.
9- Analyzing the data statistically.
10- Reporting results, making conclusions, and suggesting recommendations.

Definition of terms
Analytical Writing

Winner (2013) defined analytical writing as the active process of using information to derive a new understanding. The new understanding derives from careful thinking, understanding information, developing assumptions, and identifying just how the new understanding is useful in compelling ways.

Analytical writing is operationally defined in the present research as the process of actively using the previously gained information throughout the research process to derive a new understanding, to increase students' proficiency in analytical writing and thinking, to increase students' proficiency in assessing and evaluating information, to facilitate team writing and to control Bias and Plagiarism.

Collaborative Research-based Instruction

Collaborative Research-based instruction refers to those methods that have been proven to affect student learning and can be utilized by teachers, in any grade level, with any subject, content, or topic. (Marzano, Frontier, & Livingston, 2011; Moss & Brookhart, 2012).

Collaborative Research-based instruction is operationally defined in the present research as learning tasks or activities where students work together in teams small enough for everyone to participate on a collective task that has been clearly assigned. Each student can then achieve his/her learning goal if the team members achieve theirs.

Statistical Analysis and Results

The results of the research are discussed in light of the statistical analysis of each instrument. A discussion of the results is provided after each statistical analysis as well as a discussion of the overall results.

Establishing the homogeneity of the groups

To establish the homogeneity of both the experimental and the control group, a pre (t) test for critical reading was administered. The

following table (2) shows the results of the pre (t) test concerning analytical writing skills:

Table (2): Comparing the mean scores of students' Performance in the Analytical Writing Skills Pre-Test in both Groups

Skills	The group	No. of cases	Means	S. D	df	t. Value	Sig.
Synthesizing information in ways leading to new ideas.	Control	50	3.30	0.81	98	-1.08	0.28 Not Sig.
	Experimental	50	3.12	0.85			
Developing a logical and coherent structure that flows smoothly.	Control	50	2.72	0.76	98	-0.54	0.59 Not Sig.
	Experimental	50	2.80	0.73			
Using varied and relevant facts to support analysis.	Control	50	2.60	0.81	98	-0.25	0.80 Not Sig.
	Experimental	50	2.64	0.78			
Analyzing how and why specific evidence supports the claim.	Control	50	2.74	0.85	98	-0.49	0.62 Not Sig.
	Experimental	50	2.82	0.77			
creating new arguments by relating facts in new ways.	Control	50	2.48	0.89	98	-0.46	0.64 Not Sig.
	Experimental	50	2.56	0.84			
All Test	Control	50	13.84	3.05	98	-0.16	0.87 Not Sig.
	Experimental	50	13.94	3.06			

It is evident from the results of table (2) that there are no statistically significant differences between the mean scores of the students of the experimental and control groups in all the skills of the analytical writing skills test in the pre-application and in the total score of the test, as all the values of (t) were not statistically significant. Thus, homogeneity between the two groups was established. Therefore, any differences on posttest would be attributed to the experimental treatment.

Results of the Statistical Treatment

To investigate the change fostered by the implementation of the proposed approach employing Collaborative Research-Based instruction on the target students' performance in the analytical writing skills test, the hypotheses of the research were tested. The following section tests each hypothesis individually.

Testing the Hypotheses

Hypothesis One

"There is a statistically significant difference at (0.05) level between the mean scores of the experimental group students and those

of the control group students on the post-administration of the Analytical Writing Skills Test in favor of the experimental group."

To investigate the change fostered by the implementation of the proposed learning approach employing CRBI on the experimental students' performance in analytical writing skills and to compare their post level of skill performance developed by the proposed learning approach, a *t*-test for the paired sample was used to determine any statistical differences between the students' mean scores on the post test. These findings are presented in table (3):

Table (3): Comparing the mean score of students' Performance in the Analytical Writing Skills Post Test in both groups

Skills	The group	No. of cases	Means	S. D	df	t. Value	Sig.
Synthesizing information in ways leading to new ideas.	Control	50	4.28	0.67	98	-26.63	0.05
	Experimental	50	7.60	0.57			
Developing a logical and coherent structure that flows smoothly.	Control	50	3.62	0.57	98	-26.78	0.05
	Experimental	50	7.30	0.79			
Using varied and relevant facts to support analysis.	Control	50	3.32	0.62	98	-24.58	0.05
	Experimental	50	6.92	0.83			
Analyzing how and why specific evidence supports the claim.	Control	50	3.96	0.67	98	-22.73	0.05
	Experimental	50	7.14	0.73			
creating new arguments by relating facts in new ways.	Control	50	3.44	0.68	98	-25.28	0.05
	Experimental	50	7.16	0.79			
All Test	Control	50	18.62	1.99	98	-36.50	0.05
	Experimental	50	36.12	2.74			

The statistical results of table (3) show that there are statistically significant differences between the mean scores of the experimental and control groups in all skills of the analytical writing skills test and the overall score of the test in the post administration in favor of the experimental group (Mean = 36.12). All the values of (*t*) were statistically significant at 0.05 level. These results agree to the first hypothesis and confirm its validity. The researcher attributes these differences to the proposed approach.

Hypothesis Two

"There is a statistically significant difference at (0.05) level between the mean score of the pre and post administration of the analytical

Writing Test of the experimental group students in favor of the post administration".

To investigate the change fostered by the implementation of the proposed learning approach employing CRBI on the experimental students' performance in analytical writing skills and to compare their post level of skill performance developed by the proposed learning approach, a *t*-test for the paired sample was used to determine any statistical differences between the students' mean scores on the pre-post test. These findings are presented in table (4).

Table (4): Comparing the mean score of the Experimental Group Students' Performance in the Analytical Writing Skills Pre/Post Test

Skills	The group	No. of cases	Means	S. D	df	*t*. Value	Sig.
Synthesizing information in ways leading to new ideas.	pre – test	50	3.12	0.85	49	-31.21	0.05
	post – test	50	7.60	0.57			
Developing a logical and coherent structure that flows smoothly.	pre – test	50	2.80	0.73	49	-29.63	0.05
	post – test	50	7.30	0.79			
Using varied and relevant facts to support analysis.	pre – test	50	2.64	0.78	49	-25.68	0.05
	post – test	50	6.92	0.83			
Analyzing how and why specific evidence supports the claim.	pre – test	50	2.82	0.77	49	-28.86	0.05
	post – test	50	7.14	0.73			
Creating new arguments by relating facts in new ways.	pre – test	50	2.56	0.84	49	-31.58	0.05
	post – test	50	7.16	0.79			
All Test	pre – test	50	13.94	3.06	49	-39.99	0.05
	post – test	50	36.12	2.74			

Findings in the previous table indicate that there are statistically significant differences between the mean scores of the experimental group students in the pre and post applications in all skills of the analytical writing skills test and the overall score in favor of the post application (the highest average), where all the values of (*t*) are statistically significant at a level of significance (0.05) and a degree of freedom (49). These results are consistent with the second hypothesis and confirm its validity. The researcher attributes these differences to the proposed learning approach. This proves that the proposed learning approach was effective in developing the identified analytical writing skills.

Estimating the Effect Size ($\eta 2$)

To calculate the effect size, the researcher used the effect size scale (η2) as shown in table (5).

Table (5): Values of (η^2) and the effect size of the treatment on the Analytical Writing skills

Skills	$\eta2$	Effect size
Synthesizing information in ways leading to new ideas.	0.95	High
Developing a logical and coherent structure that flows smoothly.	0.95	High
Using varied and relevant facts to support analysis.	0.93	High
Analyzing how and why specific evidence supports the claim.	0.94	High
Creating new arguments by relating facts in new ways.	0.95	High
Total Test	**0.97**	**High**

Table (5) shows the effectiveness of the proposed learning approach on the overall score for testing analytical writing skills and its sub-skills, where the values of (η^2) ranged from (93.1%) for the sub skill (**Using varied and relevant facts to support analysis**) to (95.3%) for the sub skill (**Creating new arguments by relating facts in new ways**). Results also show that the effect size of the proposed approach on the students' performance in the analytical writing skills test and its components is high (97%). These results indicate that the total variance in the analytical writing sub skills and the total test can be attributed to using the Collaborative Research-Based instruction and this indicates the effectiveness of the proposed approach.

It is obvious that the students have achieved greater improvement in the targeted skills. This can be attributed to the proposed approach as well as the nature of analytical writing skills as productive skills. The overall improvement of students' performance can be attributed to their interest and need to learn these skills for their academic study.

These results indicate high percentages which reflect high variance because they are higher than the minimum limit percentage (80% > 15%). (Abo-Hatab & Sadek, 1991)

Based on the results of the *t*-test shown in the previous tables and the results of the effect size shown in tables (3) and table (4), the hypotheses of the study are consequently accepted.

In addition to the statistical/quantitative results, the following qualitative analysis could be revealed:

The clear and systematic stages of the application helped the students to follow the instructor and to know exactly what they were supposed to do in each stage. Students were given the chance to ask questions, get feedback, and use their sense of humor the thing that made them behave normally. This, in turn, provided the opportunity for the researcher to observe the students' behaviour and how they reacted to the various situations. These observations led to the following qualitative results:

- The students of the experimental group paid more attention to the tasks where they worked collaboratively and confronted new activities. They actively cooperated with their peers. They were more enthusiastic in

discussing their essays during the sessions even for low-achievers compared to the control group.
- Another significant result during the implementation was that students shared their points of strength through helping each other and making good use of their potential.
- Students enjoyed being more appropriately challenged to their ability level and generally increased motivations and performance. They became more engaged in learning as they used learning activities that match their strengths.
- The concept of students working in groups promoted a setting where collaboration and cooperation are valued and produce better results.
- Compared to the experimental group, it was noticed that almost all of the students of the control group felt bored being seated quietly listening to one another with no effort to get the meaning. This, in turn, resulted in poor performance and a lack of understanding.
- Many students of the control group lacked interactivity, cooperation and enthusiasm. They had few opportunities to practice group dynamics and teamwork. They did not have enough opportunities to gain deeper levels of understanding.
- Students of the control group felt that their potentials are not valued by the teacher the thing that resulted in low learning performance and failing the objectives of the lessons.

Discussion of results

The results discussed above reveal that there is an obvious improvement in the identified analytical writing skills of the experimental group on the post administration of the proposed approach; Collaborative Research-Based Instruction which showed that:

1. There is a statistically significant difference at (0.05) level between the mean scores of the experimental group students and those of the control group students on the post-administration of the Analytical Writing Test in favor of the experimental group.

2. There is a statistically significant difference at (0.05) level between the mean score of the pre and post administration of the Analytical Writing Test of the experimental group students in favor of the post administration.

The effect size measured by square ETA ($\eta2$) also showed that there is a high effect size that occurred to the experimental participants' analytical writing skills after using collaborative learning in the context. These results proved that there has been a high development in the targeted skills.

Based on the obtained results, it was concluded that the proposed program has had appositive effect on developing the analytical writing skills of the experimental participants. This was an indication to the effect of the proposed program on developing the experimental participants' targeted skills. In addition, the experimental participants' overall development was satisfactory as no one failed. For this reason, the study joins and adds to the

other studies that have investigated similar approaches for developing various aspects of analytical writing and a variety of skills.

Results revealed that they are in line with those of many related studies and supported by a certain theoretical background that places more emphasis on the necessity of acquiring analytical writing skills in an authentic and constructivist environment. Results go along with the results of the studies conducted by Bütüner & Akdeniz (2021), Khalil and Ebner (2020), Azizah and Lukman (2020), Graham & Hebert, (2010), Leslie's (2015), Klein and Rose (2010) and Condon and Kelly-Riely in (2018) who concluded that collaborative learning has a positive effect on enhancing analytical writing skills.

Thus, the proposed approach proved to have ahigh positive effect on contextualizing analytical writing. Besides, it proved to be effective in making students go beyond the limits of traditional thinking through various activities which enabled them to write analytically. Research and collaboration provide the experimental participants with the opportunity to learn according to their own path and to learn by doing through hands-on activities which resulted in improving their imagination, inquiry, criticality and high-level thinking.

To sum up, the previous discussion and interpretation revealed that all hypotheses of this research were accepted and proved that collaborative research-based learning has had a high positive effect on developing the experimental participants' analytical writing skills.

Recommendations of the research

With reference to the experimental evidence provided throughout the present research and its conclusions, the following recommendations are suggested:

- It is highly recommended to adopt the collaborative learning approach for developing the identified critical writing skills and this can be adopted and/or adapted to develop other English language skills than the identified ones.
- It is also recommended to use collaborative RBI as a medium for learning to develop English language skills in general.
- It is suggested as well to apply the proposed program on students studying at other stages rather than university students.
- It important to enhance and develop the analytical writing skills in English. Hence, it is highly recommended to equip students with competencies that would assist them in their academic study and career later on.
- It is of a paramount value to employ collaborative RBI tasks or other equivalent forms of activities in learning English language or other subjects in accordance with the current teaching trends.
- It is also of a great importance to collaborative RBI approach since it has proved to be efficient in increasing levels of autonomy, cooperative and self-directed learning.

- It is very necessary to integrate varied activities in the learning process to help students find personal meaning in their studies and their learning will be greatly enhanced.

Suggestions for further research

In the light of the previous recommendation, the following can be considered for future research:

- Further research could use CRBI to develop other English language skills such as academic writing.
- The present research focuses on the effect of collaborative learning on developing students' analytical writing skills. Research could dig into using research skills to develop these skills or others.
- This study could be replicated in secondary, intermediate or primary stages to provide more generalizability about the effect of CRBI on students' achievement.
- Further research could be conducted on designing complete courses using the CRBI learning.

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