فاعلية التعلم التعاوني المتزامن (الإلكتروني/المزيج) في تنمية التحصيل ومهارات توظيف التعلم النشط لدى طلبة كلية التربية في جامعة الأقصى بغزة

د/ سليمان أحمد حرب

فاعلية التعلم التعاوني المتزامن (الإلكتروني/ المزيج) في تنمية التحصيل ومهارات توظيف التعلم النشط لدى طلبة كلية التربية في جامعة الأقصى بغزة

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الملخص: هدف البحث الكشف عن فاعلية نوعين من التعلم التعاوني المتزامن وهما: الإلكتروني والمزيج في تنمية التحصيل ومهارات توظيف التعلم النشط لدى طلبة كلية التربية في جامعة الأقصى. قد اتبَّع الباحث المنهج التجريبي للإجابة عن الأسئلة واختبار الفرضيات، وتكونت عينة البحث من مجموعتين بمقدار (٣٠) طالب وطالبة في كل مجموعة، واستخدم الباحث اختبار تحصيلي معرفي، وبطاقة تقييم مهارات توظيف التعلم النشط، وكشفت نتائج البحث عن فاعلية التعلم التعاوني المتزامن (الإلكتروني/ المزيج) في تنمية هذه المهارات، ووجود فرق دال إحصائياً بين التعلم التعاوني المتزامن (الإلكتروني / المزيج) في تنمية مهارات توظيف التعلم النشط لصالح المجموعة التي درست عن طريق التعلم التعاوني المتزامن المزيج.

الكلمات الدلالية: التعلم التعاوني المتزامن؛ التعلم التعاوني الإلكتروني والمزيج؛ مهارات توظيف التعلم النشط.

The Effectiveness of synchronous collaborative learning (Electronic/Blended) on Achievement and Developing Skills of Employing Active Learning among Al-Aqsa University Students of College of Education

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Abstract: This research investigated the effect of two types of synchronous collaborative learning (Electronic and Blended) on achievement and developing the skills of employing active learning among Al-Aqsa University students of college of education. The researcher followed the experimental approach to answer the questions and test hypotheses. The sample of the research consisted of two groups, each one included (30) students. The researcher used the cognitive achievement test and an evaluation card to measure the skills of employing active learning. The result revealed the effectiveness of synchronous collaborative learning (Electronic / Blended) on developing these skills, and the existence of a statistically significant difference between synchronous collaborative learning (Electronic / Blended) in developing the skills of employing active learning in favor of the group adopted the synchronous collaborative learning (Blended).

Introduction and theoretical background

The world today witnesses a considerable change in all life's aspects due to the technological acceleration in the fields of information and communication technology (ICT) in different forms and types. A person has become unable to keep pace with these changes, the matter that led educationalists to reevaluate and reconsider the employed strategies. The purpose of education no longer focuses on only stuffing students' minds with knowledge and information, but rather finding a creative student whose abilities exploited in finding the outcomes and accomplishments that achieve for him/her and for society progress and development.

Thus, many strategies in education have appeared including self-learning, cooperative learning, electronic learning, blended learning and life-long learning, therefore, it was necessary to employ these strategies in the learning process.

It is no doubt that education technology has become one of the most important accesses of developing learning process. It seeks to put learners at the center of concern through modern strategies that adopt this direction namely "cooperative learning strategy" which increases, updates and promotes learners with the necessary social skills in their practical life.

Employing cooperative learning in the learning process is one of the new pedagogical technology. The need for it increases today, and in the future based on the credibility of the cooperative learning's contributions in achieving the desired pedagogical goals (Ibrahim, 2007,p.723).

Abu-Annaser and Jamal (2005) mention, "Success achieved by technology and scientific progress in general based almost on a cooperative ground not individual".(p.13) Educationalists reaffirm that cooperative learning in the university system provides graduate students with the skills that present distinguished services, because that will make them more adapted with their societies (Al-Maseiry, 2003).

In the cooperative learning, learners work together within small groups to accomplish joint tasks, which set the focus on collective goals not individual. All work to achieve the joint goals of the group (Sama and Bergman, 2012).

Malak and Al-Yateem (2015) defines cooperative learning as " a teaching method based on a correlated heterogeneous small groups connected with teaching subjects, aims at achieving positive relations combining individual and collective growth and avoiding passive behaviors such as egoism and vanity" (p.230).

While Tulba (2002) defines it as "a strategy in which students are divided into small groups, each one includes seven heterogeneous students in terms of their previous achievement. Each group works together to achieve specific educational tasks, and every student has to learn, teach and help other members in implementing the required tasks. The role of the teacher, here, is to guide and watch the performance of the groups" (p.5).

We can deduct from the previous definitions of the "cooperative learning" that it concentrates on dividing students into small heterogeneous groups in the achievement levels. Learning should be collective to achieve joint educational goals, participate in learning, assume its responsibility, and develop some social and communicative skills.

Pedagogical literature underscores the many benefits of the "cooperative learning" strategy including raising the level of students' achievement, improving interrelations among colleagues, increasing self-motive and sense of participation in the learning process, developing critical thinking skills and reducing the level of anxiety among learners (Slagle, 2009).

Many studies and researches' findings suggest the effectiveness of the cooperative learning in the academic achievement and the development of directions and skills, (Swedan, 2004; Fouda, 2003; Khalifa, 2003), The significance of "cooperative learning" is also clear in forming positive directions for learners towards the study material and developing the ability of critical thinking among them. All of

these references (Malak and Al-Yateem, 2015,87), (Al-Muqbel, 2011,2), (Omdah,2008), (Al-Mufdy,2005), (Zaytoun, 2003), (Abu-Omaira, 2000), (Kagan, 2000, 19), and (2009, Slagle) agreed that " cooperative learning" should include the following factors in order to be effective:

Positive mutuality among members of the group (positive participation)

- Face to face interaction
- Individual, collective and social responsibility
- Collective processing

The second half of the twentieth century had seen an increasing interest for the strategy of "cooperative learning" for its effectiveness in the pedagogical field in General Education Schools and University Education alike. Many previous studies and literatures handled the features of " cooperative learning such as the study of (Mcconnell, 2000) and (Suailem and Sulaiman, 2001) Here are some features of "cooperative learning":

- Achieving substantial increase in the motivation towards learning, increasing students' achievement, sustaining the impact of learning for longer time and developing high thinking processes.
- Reducing anxiety and fear rates associated with learning process.
- Promoting the capacity of applying what an individual person learn within new situations and the acceptance of different viewpoints.

Moreover (Afanah and Al-Zaanin, 2008) added another feature such as: Achieving higher self-esteem and increasing self-confidence. Developing social skills (cooperation, organization, responsibility, participation) and promoting positive interaction among learners (p.9).

Khalafullah (2016,287) mentioned that " cooperative learning" goes accordance to these stages: identification, shaping the standards of collective work, productivity and completion (p.287).

Interaction ways of synchronous cooperative learning of the current research include two types – **Electronic** and **Blended**,

Al-Hady (2005,266) defined E-Learning as: " a strategy presented and made available by E-Learning technology across the web to create chances and help student interact with his/her other colleagues and with the teacher at the same time" (p.266).

. Al – Mahia (2008) defined it as"a work done by a group of 4 to 5 students working in a complementary way to implement specific tasks depending on a system for managing learning or the tools of second generation for electronic learning" (p.22).

Sha'ban (2012) described it as "a strategy through which students are divided into small groups across synchronous communication using video conference, discussions and distance chatting, as the web is helpful in cooperative collective learning, Due to the available information across the web, a student finds it difficult to search all lists, so the strategy of cooperative learning can be used among students so that every student searches in a certain list, then students assemble to discuss the findings. Cooperative Collective Learning across the web saves money, time and effort, encourages students on cooperative learning and overcomes the geographical distances".

Based on the previous definitions of the "electronic synchronous cooperative learning", the researcher noticed that it focuses on cooperative learning in an electronic environment using video conference, discussion and distance chatting. It also gives the chance for interaction, communication, discussion, dialogue and negotiation among learners by video conference, discussions, and synchronous voice and written chatting.

The pattern of "electronic synchronous cooperative learning" is characterized by the following: (Al-Baghdady, Rabie and Hussein, 2005; Abu-Harb, Al-Mousawy and abu-Jabeen, 2004)

- It is implemented through a group of strategies, not only one strategy in an electronic environment.
- It affects on the learners cognitively, skillfully and emotionally as it contains thrills affecting those aspects.

- The attitudes of cooperative learning are social through which students are divided into small groups, they work together to achieve mutual goals. A student in a group should have two complementary turns asserting his/her activity, which are: teaching and learning concurrently self-motivated.

- As a result of the exerted effort, the attitude of the cooperative learning sustains the impact of learning and provides approximately tantamount chances for success.

- Cooperative learning is effective strategy that achieves all kinds and levels of pedagogical goals effectively and efficiently.

- It concentrates on collective activities that require planning and building before their implementation, herein students don't only learn what should be learnt, but also cooperate while they are learning.

- Mutuality of viewpoints over a certain topic and expressing about success and feelings for all students.

- Exchanging and understanding others' ideas and considering the individual differences among students.

- Discovering talents and special abilities of every student and develop them by employing them in a practical context.

- Integrity of building the cognitive, emotional and dynamic skills in the activities of learning and teaching, not limited to cognitive aspects as it is the case in the traditional ways of learning.

- The diversity of learning approaches to increase learner's motivation and develop high thinking skills as well as to the logical thinking through employing projects approach and solving problems.

- Developing the skills of communication, organization, leadership and dialogue including listening, understanding and starting constructively in the discussion.

(Anderson,2005) added that electronic cooperative learning provides the tools of social relations among persons through the web such a dialogue forums, files exchange, chat rooms, blogs, social preferences and virtual world. These tools

encourage persons to work together as it sustains individuals' control in the content, their time, their activity, and their relations with each other so that cooperation, communication and exchanging information could be easy between them across the web.

Many studies reached to the effectiveness of electronic synchronous cooperative learning such Al-Desouqi (2009), (Ryan, 2007), Abdel- Hafez (2007), (Riley & Anderson, 2006), Othman (2006), Ahmed (2006), (Sudweeks, 2003) and Foudah (2003).

Through the abovementioned presentation, the researcher sees that the strategy of electronic cooperative learning has effective benefits this is especially so when used in designing educational attitudes because the electronic cooperative learning can be effectively applied, by using synchronous electronic tools such as: online chat rooms, video conference, and voice conferences which provides learners with a sense of reality and vitality when receiving information through cooperative educational attitude particularly if a learner interact with his/her colleagues inside the group of cooperative learning during implementing the educational tasks assigned to them.

On the other hand, some researchers (kamis, 2003; Milheim, 2006) introduce another approach called "blended learning" that defined as: " a learning that blends the characteristics of both traditional classroom learning and electronic learning, it is also that makes use of the sources of electronic learning innovations within traditional lessons in a complementary way with it". Krause (2007) described it as "an effective systematic integration between the means of transmitting information in (learning and teaching environment) and (teaching models and learning methods) as a result of adopting the use of blended technology with the best "face to face" interaction features". Madkour (2015) said: "it is an educational strategy that depends on forming small groups of educated people whom teachers assign them a series of tasks and activities implemented systematically under their supervision. Discussion and cooperation are allowed among members of the group as well as to the face to face learning inside the class".(p.165)

Zaitoun (2005) says, "It is one of blended learning alternatives through which a certain lesson or more in the curriculum is learnt by using the usual classroom learning methods such as (explaining, discussion, dialogue, training and practice). On the other hand, learning another or more lessons are learnt by using the electronic learning tools such as (education programming, video conference, electronic discussions and chatting). The evaluation of students' learning of the lessons either by classroom learning or electronic learning as well".(p.174)

Many studies have reached to the effectiveness of blended synchronous cooperative learning including (Al-Hennawy, Khamis and Abu-Jahjouh, 2014; Nouby & El-Deghaidy, 2008; Akkoyunlu & Soylu, 2006;Sanch & Corral, 2006;Hassan, 2009).

Through the previous presentation, the researcher views that the previous studies emphasized the effectiveness of cooperative learning on developing achievement and different skills among learners, but it did not mention the use of e- learning (cooperative/blended) in the development of active learning skills.This research has entirely adopted the primary and sub- skills, which the active learning has included; because through these skills the educational attitudes can be designed and employed later inside the classroom and in some active learning strategies.

Abu-Rayya (2012) defined "active learning" as " a way of teaching and learning aims at providing rich and exciting educational environment which train students on self-learning and effective participation through reading, research and using high mental capacities in seeking knowledge under the supervision of teacher where familiarity and cooperation prevail among group members" (p.12). (Sa'da, Aqel, Zamel, Asteeh and Abu-Arqoub, 2010) defined it as "a way of learning and teaching concurrently, in which students participate in activities, practices and projects with high effectiveness through rich and diverse educational environment that allow them engage in constructive dialogue, discussion, thinking, sound analysis and deep reflection for whatsoever read, written or discussed among them. All this in the presence of a teacher who encourage them to take on the responsibility of themselves under his/her accurate supervision to achieve the educational attitude goals".

(Al-Kaltham,2011) defined the skills of active learning as " a group of skills that a teacher should have when using active learning in the educational attitude which are: lesson planning skills, presentation skills, class managing skills, class questions skills, skills of using educational tools and evaluation skills" (p.7).

Based on the previous definitions, the researcher noticed that the definition of active learning and its skills focus on the positive role of a learner when implementing educational tasks assigned to him/her during the Educational situation. That is due to the sources and diverse means available in the active learning environment, which enables a learner to search during achieving the goals of the task assigned to him/her with his/her colleagues collectively. As it brings about positive changes in knowledge and skills among students, which ought to be acquired by the students of the faculty of education at Al-Aqsa University through the strategy of "synchronous cooperative learning (electronic/blended).

Sense of research problem:

The idea of using "Synchronous E- learning", through designing cooperative activities (blended/electronic); for developing students' achievements and skills of employing active learning, among the students of the College of Education at Al-Aqsa University was a result of :

Depending on previous studies, which recommended the necessity of employing "active" and "cooperative" learning , provided that it should be supported by the tools of technological environment in education..

Among these studies, (Shaheen and Abed Al-aziz, 2015;Al-Hennawy, Khamis and Abu-Jahjouh -2014, 174;Al-Kaltham 2011, 622;Khalafullah 2016, 306;Awad and Abu-Bakr 2010, 2). These studies recommended further researches over employing cooperative learning (electronic/blended) in presenting university curricula. On the other hand, (Daniels & Perry, 2003) noticed that there is a tangible improvement on the achievement of students, also there is a high level of thinking when applying cooperative learning.

（Siegel, 2005; Adams, 2000)deducted that cooperative learning was effective in

many study materials with students of different ages. The researcher herein works as a lecturer at the faculty of education and teaches educational games class. He carried out a survey whose results came as follows:

- Numerous strategies of active learning
- Poor knowledge among students over dealing with it
- Depending only on explaining the material of educational games traditionally
- Non-observance of individual differences among students
- Insufficient contact and communication with each other

In order to make students more active by finding more constructively attitudes, "cooperative learning" should be employed so that students could be the central issue of the educational process. The theoretical and technical knowledge in the active learning strategies is considered a key basis for teaching university students how to design targeted and meaningful educational attitudes that are organized pursuant to the pedagogical standards.

By reviewing the researches in the field of cooperative and electronic learning, the researcher found that researches that combine the electronic learning with the cooperative learning was still in the beginning and in the process of activation. Hence came the need for this research to prove the effectiveness of synchronous cooperative learning (electronic/blended) on enhancing the achievement and skills of employing active learning among the students of the College of education at Al-Aqsa University of Gaza.

Identification of Research's Problem: The following main question identifies the problem of the research:

How effective is the synchronous cooperative learning (electronic/blended) on developing the achievement and the skills of employing active learning among the students of the College of education at Al-Aqsa University of Gaza?

It is subdivided into these questions:

1. What are the skills of employing active learning that students of the College of education at Al-Aqsa University suggested to have?

2. How effective is the synchronous cooperative learning on developing the achievement and the skills of employing active learning among the students of the faculty of education at Al-Aqsa University of Gaza?

3. How effective is the synchronous cooperative learning (blended) on developing the achievement and the skills of employing active learning among the students of the College of education at Al-Aqsa University of Gaza?

4. Is there a statistically significant difference between average marks among the students of the College of education at Al-Aqsa University in achievement and the skills of employing active learning in the post - application attributed to the variable of synchronous cooperative learning (electronic/blended)?

Research Hypotheses:

A. The effectiveness of the synchronous cooperative learning (electronic) increases to more than 8,0 pursuant to ETA correlation in the average degrees of achievement and skills of employing active learning.

B. The effectiveness of the synchronous cooperative learning (blended) increases to more than 8,0 pursuant to ETA correlation in the average degrees of achievement and skills of employing active learning.

C. There are no statistically significant differences on the level ($\propto$ < 0.05) between average degrees of achievement and the skills of employing active learning among the students of the College of education at Al-Aqsa University in the post – application attributed to synchronous cooperative learning (electronic/blended)

Research Goals

This research aims at identifying the skills of employing active learning suggested by students of the College of education at Al-Aqsa University and revealing the effectiveness of electronic cooperative learning (electronic/blended) on developing the achievement and the skills of employing active learning among the students of the College of education at Al-Aqsa University.

The importance of the research

1. It keeps in line with the modern trends, which recommend the necessity of making use of cooperative learning with all its types by employing it properly in the pedagogical and educational process.

2. Benefiting from applying the cognitive features of learners when using cooperative learning to invest learners' abilities as being one of the educational process goals.

3. Presenting learning that is consistent with arrangements, abilities and personal features, which distinguish persons from each other.

4. Paving the way for researchers to do more researches and studies in the field of cooperative learning and develop it through its many different tools.

Limits of the Research

This research has some limits:

1. Developing the skills of employing active learning among the students of College of education at Al-Aqsa University of Gaza in pedagogical games curriculum through the strategy of synchronous cooperative learning (electronic/blended) by using some cloud computing applications and Facebook (social media website).

2. Restricting on a sample for the students of College of education at Al-Aqsa University of Gaza enrolled in pedagogical games curriculum in the second term 2016/2017.

Research Terms

The researcher defines the terms of the research procedurally which are as follows:

Effectiveness

The amount of change caused by synchronous cooperative learning (electronic/blended) in the technical and cognitive aspects of the research sample.

Cooperative Learning: a teaching method based on dividing students into small heterogeneous groups in terms of the achievement to accomplish a specific educational task in which the lecturer's role is an observer, a guide, an explainer and a corrector to the students' performance within the groups.

Electronic Cooperative Learning: a teaching method based on forming small heterogeneous groups across the web through synchronous contact, using technological interactive digital media for completing specific task.

Blended Cooperative Learning: a teaching method based on forming small heterogeneous groups across the web through synchronous contact, using technological interactive digital media as well as to the traditional method in the lecturer for achieving a specific task.

Active Learning: a way of learning based on different activities in which the role of the student in the educational/ learning attitude should be positive and effective. It motivates students to think about what they studied, develop their different skills and encourage them to continue learning.

Skills of employing active learning: the capacity of the students of the College of education at Al-Aqsa University on employing some strategies of the active learning in designing the educational attitudes easily, accurately and quickly.

Research Procedures

First –Research Methodology: the researcher followed the experimental method that with two experimental groups along with prior- and post- measurement to reveal the effectiveness of the synchronous cooperative learning (blended/electronic) on developing the skills of employing active learning among the students of the College of education at Al-Aqsa University.

Second: Research Community: The research community is made up of all registered students within educational games curricula at Al-Aqsa University of Gaza for the second term of the university year 2016/2017, amounted to (500) male and female students distributed into 11 sections.

Third: Research Sample: a random sample of two sections of the research community has been chosen during the second term 2016/2017 consisting of (60) female and male students, distributed as follows:

1. The first experimental group: consists of 30 female and male students learning with the strategy of synchronous cooperative learning (electronic).
2. The second experimental group: consists of 30 female and male students learning with the strategy of synchronous cooperative learning (blended).

Fourth: Deriving and identifying the cognitive aspects of the active learning in this research:

The researcher has viewed the pedagogical literature and the previous studies in the field of education technology, which handled active learning where the initial picture included (55) cognitive aspects. After carrying out operations of proper control, a list of cognitive aspects has been reached which included (50) cognitive aspect, appendix (1).

Fifth: Deriving and identifying the skills of employing active learning in this research:

1. The researcher has viewed the pedagogical literature and the previous studies in the field of education technology which handled active learning such as

(Abdel-Aziz 2015;Al-Kaltham 2011;Joudah & Dahalan 2015) as well as to consulting pedagogical experts to know their opinions after reaching the skills of employing active learning. The researcher benefited from these studies in identifying the skills of employing active learning suggested for the students of the College of education at Al-Aqsa University to practice when employing active learning.

2. A list of employing active learning's skills has been reached in its final picture in three fields including (42) skills for the students of the College of education appendix (2).

Sixth: developing the learning environment based on synchronous cooperative learning strategy (electronic /blended):

1. Study and analysis stage: it includes identifying learners' properties, their profile, identifying the educational needs for synchronous cooperative learning (electronic/ blended), studying the reality of resources and the educational sources.

2. Designing Stage: includes a number of steps that have been followed in the light of the information derived from the first stage (study and analysis stage) which came as follows according to (Al-Jazzar, 2010):

    A. **Wording the educational goals:** the educational goals for using active learning have been identified.

    B. Identifying the factors of the educational content: in the light of identifying the educational goals for using the active learning, the factors of the educational content have been identified.

    C. Selecting learning experiences (learning tasks): the researcher selected proper learning experiences, which are considered learning tasks for every goal of the educational goals due to the nature of the educational design for synchronous cooperative learning's strategy (electronic/blended) and its content.

D.   Designing the teaching message that had been developed within the strategy of synchronous cooperative learning (electronic/blended), the message had been drafted in the light of the nature of the educational task.

E.   **Designing educational events and factors of learning process**:

A number of the learning process' factors has been identified to presents the educational events for learning that been taken into consideration when designing the educational system for the strategy of synchronous cooperative learning (electronic/ blended). These factors capture the attention of learners and let them know the goals of learning, directing learning and recording learners' response.

F.   **Designing Navigation Method and Interaction Interface**: a strategic environment for synchronous cooperative learning (electronic/blended) has been employed through Facebook, and cloud computing connected with using active learning.

G.   **Designing learning implementation strategy**: using the method of active learning with students, plus a little intervention of the lecturer and allowing students to interact, participate and cooperate through Facebook and cloud computing across the web which involve the strategy of synchronous cooperative learning (electronic/blended).

3.   **Production and construction stage**: this stage involves designing learning elements of the content that have been identified and selected in designing stage.

4.   **Evaluation Stage:** using the constructive evaluation through pilot study in which the strategy of synchronous cooperative learning (electronic/blended) is piloted in the environment of Facebook and cloud computing across the web on small groups of 30 female/male students of the College of education at Al-Aqsa University. Hence, the learning environment involving the stagey of synchronous cooperative learning (electronic/blended) is ready for applying the experiment on the research sample.

Seventh: Research Tools: the researcher designed the tools of the research, which are cognitive achievement test and evaluation card of active learning skills.

1. **Achievement Test:** it was prepared in accordance with these steps:

   A. **Exam Purpose:** measuring the extent of achievement of the sample in the cognitive aspect related to active learning.

   B. **Wording Exam Questions:** exam questions were worded on multiple choice pattern of four alternatives taking into consideration the sufficient number of phrases in consistent with the sample of the research appendix (1).

   C. **Validity and reliability of Exam**: the exam proved to be valid by exposing it to a group of specialized arbitrators in the field of methodology and education technology appendix (3) to test the integrity of the exams' question wording, as the researcher made the required amendments. To prove the reliability of the exam, Reliability Coefficient was calculated accordingly to the mode of Cronbach's Alpha, which equals (88, 0), that means the exam is highly proved to be reliable.

   D. **Exam Instructions**: it was noted that there were no any queries, which proved the clarity of the instructions and the exam of the research sample.

   E. **Estimating scores and Way of Correction**: a single score appointed to every single question, therefore, the overall scores of the achievement exam was 50 score.

   F. **Formative Evaluation of the Achievement Exam**: the exam is applied on a pilot sample consisted of (30) students, to make sure that the questions and exam's instructions are clear. It is noted that no single enquiry is existed, which proves the clarity of instructions and exam for the sample.

   G. **Time Allotted for the Exam**: this happens after carrying out the exam on the pilot sample of 30 students so as to allot the time of the exam and appoint a 60 - minute duration for the exam.

H. **Final Version of Exam**: after finishing the amendments made by arbitrators and assuring the validity and reliability of the exam, it was worded to its final version. It contained 50 paragraph, every correct question was given one mark and zero mark if the answer was wrong; thus, the final grade for the achievement test was 50 and the smallest was zero.

2. **Evaluation Card for Employing Active Learning**: the researcher built evaluation card to measure the skills of employing active learning. The preparation of this card involved these steps:

A. **Identifying the goal of the evaluation card:** this card aims at evaluating the production of students in employing active learning after the student samples had got the educational experience through the strategies of cooperative learning (electronic/ blended).

B. **Wording Initial Card's Elements:** in its initial picture, it included (53) sub-skills to evaluate employing active learning appendix (2).

C. **Card Instructions**: the researcher worded the proper instructions to take charge of evaluation, such as private data of the student, whose performance to be evaluated. Also, guidelines to the evaluator explaining the quantitative estimates as follows: (1, 2, 3, 4, 5). The gradation (1) indicates very weak efficiency, the gradation (2) indicates weak efficiency, the gradation (3) indicates medium (average) efficiency, the gradation (4) indicates big efficiency and (5) the gradation indicates a very big efficiency.

D. **Validity and Reliability of Card:** the card proved to be valid by exposing it to a group of specialized arbitrators in the field of methodology and education technology appendix (3). to test the integrity of the card's wording, as the researcher made the required amendments.

Arbitrators expressed their opinion that a number of paragraphs should be added as well as to making some amendments, which the researcher took into consideration until reaching the final picture of (42) paragraph, appendix (2). To

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prove the reliability of the card, Reliability Coefficient was calculated accordingly to the mode of Cronbach's Alpha, which equals (91, 0), that means of the card is highly proved to be reliable. Table (1) shows the "Evaluation Card's" specifications of employing Active Learning' skills.

Table (1) specification of Skills Evaluation Card of Employing Active Learning.

S	Performance Field	Paragraph	Total	Percentage
1.	Planning skill	1-17	17	40.5%
2.	Implementation skill	18-36	19	45.2%
3.	Evaluation	37-42	6	14.3%
Sum			42	100%

Seventh: Statistical Method: To answer the research's questions and verify the integrity of its hypotheses, data was processed with these statistical methods: Test (A) for two independent groups, Test (A) for two dependent groups and ETA square "$\eta2$".

Eighth: pre-application of research tools: the cognitive achievement test and the evaluation card of employing "Active Learning" were applied on all students of both groups to check parity as indicated in table (2) and (3).

Table (2) results of (A) Test between average grades of both groups prior to the Cognitive Achievement Test of Active Learning

Cooperative learning	N	Mean	Std.Deviation	df	t	Sig
electronic	30	13.37	6.23	58	0.30	*insignificant*
blended		13.82	5.07			

Based on table (2), it is clear that the (t) equals (0.30) at degree of freedom (58), which is insignificant at the significant level (0.05). Therefore, it is clear that both groups are equal in the cognitive achievement test for measuring the cognitive aspect of the active learning because the difference between its average score is insignificant.

Table (3) results of (A) test between average score of both groups prior to the card of evaluating the skills of employing active learning

Cooperative learning	N	Mean	Std.Deviation	df	t	Sig
electronic	30	72.8	20.3	58	25.0	insignificant
blended		73.9	13.6			

As shown in table (3), it is evident that (t) amounted (0.25) at degree of freedom (58), which is insignificant at the significant level (0.05). Therefore, it is clear that both groups are equal in performing the skills of employing active learning, because the difference between its average degrees is insignificant.

Discussing and explaining research's results:

First: the answer of the research's first question: What are the skills of employing active learning that students of the College of education at Al-Aqsa University suggested to have?

The researcher examined the previous studies such as (Shaheen & Abdel-Aziz, 2015;Al-Kaltham, 2011), and pedagogical literature (Joudah & Dahalan, 2015). A list of the most important skills, which should be mastered in employing active learning among College of education's students at Al-Aqsa University, was reached, and finally concluded to the final list which consisted of (42) skills distributed on (3) fields, appendix (2).

Second: the answer of the research's second question: How effective is the synchronous cooperative learning on developing the achievement and the skills of employing active learning among the students of the College of education at Al-Aqsa University of Gaza?

The researcher applied (A) test for two samples connected with the first experimental group (Electronic Synchronous Cooperative Learning) in the pre-and – post measurement, as in table 4:

Table (4) Results of the (A) Test for checking the difference between average degrees of the cognitive achievement of the active learning in the pre and post

application for the first experimental group (Electronic Synchronous Cooperative Learning)

Application	N	Mean	Std.Deviation	df	t	Sig	ETA	Size of effect
pre	30	13.37	6.23	29	24.46	0.000	95%	Big
post		41.6	3.30					

It is evident from table (4) that the value of (t) at the degree of freedom (df) (29) is bigger than the value of (t) at the significance level (0.01). This means the existence of the difference in favor of the post application in the first experimental group that studied the educational content through the Electronic Synchronous Cooperative Learning.

Table (5) Results of the (A) Test for checking difference between average degrees of the skills of employing active learning in the pre and post application for the first experimental group (Electronic Synchronous Cooperative Learning)

Application	N	Mean	Std.Deviation	df	t	Sig	ETA	Size of effect
pre	30	72.8	20.3	29	27.40	0.000	96%	Big
post		177.63	3.30					

It is evident from table (5) that the value of (t) at the degree of freedom (df) (29) is bigger than the value of (t) at the significance level (0.01). This means the existence of the difference in favor of the post application in the first experimental group that studied the educational content through the Electronic Synchronous Cooperative Learning. In order to identify the effectiveness size of the electronic cooperative learning on the cognitive and technical aspect of employing active learning, to verify the correctness of the first hypothesis which states: " the effectiveness of e-synchronous cooperative learning increases in the average degree

of employing active learning to more than (0.8) pursuant to ETA Correlation", the researcher calculated the size of effect through Eta Square "η2", and found that the size effect of e-cooperative learning on developing the cognitive aspect of active learning equals (0.95) and the size effect of e-cooperative learning on developing the skills of employing active learning equals (0.96), which is higher than the criterion value (0. 8).

This means that the e-cooperative learning achieved a great deal of success in developing the cognitive and technical aspects of employing active learning among the sample students of the research. This result is consistent with the outcomes of these studies:(Khalafullah 2016; Hassan,2014;Al-Desouqi 2009;Ryan, 2007;Abdel-Hafez 2007;Riley & Anderson, 2006;Othman 2006;Ahmed 2006;Sudweeks, 2003;Foudah 2003).

Third: the answer of the research's third question: How effective is the synchronous cooperative learning (blended) on developing the achievement and the skills of employing active learning among the students of the College of education at Al-Aqsa University of Gaza?

The researcher applied the (A) Test on two samples connected with the second experimental group (Blended Synchronous Cooperative Learning) in the pre and post measurement, as appeared in table (6):

Table (6) The Results of (A) Test for checking difference between average degrees of the cognitive achievement of the active learning in the pre and post application for the second experimental group (Blended Synchronous Cooperative Learning)

Application	N	Mean	Std.Deviation	df	t	Sig	ETA	Size of effect
pre	30	13.82	5.07	29	29.31	0.000	96.7%	Big
post		44.81	2.93					

It is evident from table (6) that the value of (t) at the degree of freedom (df) (29) is bigger than the value of (t) at the significance level (0.01). This means the existence of the difference in favor of the post application in the second experimental

group that studied the educational content through the Blended Synchronous Cooperative Learning.

Table (7) Results of the (A) Test for checking the difference between average degrees of the skills of employing active learning in the pre and post application for the second experimental group (Blended Synchronous Cooperative Learning)

Application	N	Mean	Std.Deviation	df	t	Sig	ETA	Size of effect
pre	30	73.93	13.6	29	38.4	0.000	98%	Very big
post		189.4	11.6					

It is evident from table (7) that the value of (t) at the degree of freedom (df) (29) is bigger than the value of (t) at the significance level (0.01). This means the existence of the difference in favor of the post application in the second experimental group that studied the educational content through the Blended Synchronous Cooperative Learning. In order to identify the size of effect of the Blended Synchronous Cooperative Learning on the cognitive and technical aspect of employing active learning. To verify the correctness of the second hypothesis which states: " the effectiveness of the Blended synchronous cooperative learning increases in the average degree of employing active learning to more than (0.8) pursuant to ETA Correlation" , the researcher calculated the size of effect through Eta Square "$\eta 2$", and found that the effectiveness size of the blended cooperative learning on developing the cognitive aspect of active learning equals (0.96.7) and the size effect of the blended cooperative learning on developing the skills of employing active learning equals (0.98), which is higher than the criterion value (0. 8).

This means that the blended cooperative learning achieved a great deal of success in developing the cognitive and technical aspects of employing active learning among the sample students of the research. This result is consistent with the outcomes of these studies: (Awad Abu-Bakr, 2010;Al-Ghamdy, 2010;Ghanem, 2009;Al-Shamry, 2007;Al-Ghamdy, 2011; Akkoyunlu & Soylu, 2006;Sanch & Corral, 2006;Hassan 2009).

To verify the correctness of the third hypothesis which states: "there are no statistically significant differences at the level (0.05) between average scores of employing active learning among the College of Education's students at Al-Aqsa University in the post application that attribute to the synchronous cooperative learning (Electronic/Blended)" ,the researcher calculated the (A) value for two independent samples as manifested in table (8).

Table (8) Results of the (A) Test for checking the difference between average degrees of the two experimental groups in the post application of the cognitive achievement test for the active learnings

Cooperative learning	N	Mean	Std.Deviation	df	t	Sig
Electronic	30	41.6	3.3	58	3.98	0.01
Blended		44.8	2.9			

It is evident from table (8) that the value of (t) which amounted to (3.98) at the degree of freedom (df) (58) which is an indicative at the significant level (0.01). This negates the correctness of the fourth hypothesis and asserts the difference between average scores of the achievement test of active learning between synchronous cooperative learning (electronic/ blended) in favor of the synchronous cooperative learning (blended).

Table (9) Results of the (A) Test for checking the difference between average degrees of the two experimental groups in the post application for the card of evaluating the skills of employing active learning

Cooperative learning	N	Mean	Std.Deviation	df	t	Sig
Electronic	30	177.63	12.3	58	3.81	0.01
Blended		189.4	11.6			

It is evident from table (9) that the value of (t) which amounted to (3.81) at the degree of freedom (df) (58) which is an indicative at the significant level (0.01). This negates the correctness of the fourth hypothesis and asserts the difference between average scores of the skills of employing active learning between synchronous

cooperative learning (electronic/ blended) in favor of the synchronous cooperative learning (blended).

The researcher attributed the superiority of the blended cooperative learning comparing to the electronic cooperative learning in the achievement and developing the skills of employing active learning because of these reasons:

- The blended cooperative learning helped students to make progress and learn pursuant to their special abilities. It also gave them the chance to improve their achievement and acquire the skills of employing active learning perfectly. The mixture between e-cooperative learning's environment and the traditional environment made learners to feel safe and not to fear of making mistakes while learning from each other. Moreover, the diversification of learning sources for implementing cooperative activities facilitated the compatibility of different types for teaching students.

- The availability of video files, digital photos and the files of electronic lectures had a great effect on increasing the achievement and developing the skills of employing active learning. In his turn, the lecturer followed up all activities of students through providing feedback and comments on chat groups and virtual classrooms in Google applications when adding every new subject.

- Furthermore, it has a great effect on the principle of work complementarity and its tasks, as every student has a role. Once any member of the group disrupts his/her task, it will not succeed in the light of fragmenting main tasks into sub-tasks and specifying a sub-task for every learner. In addition, assigning this learner the responsibility of mastering the skills so that he/she could teach them to his/her colleagues in the group, which raise a considerable feeling of responsibility.

This result conforms with the outcomes of these studies:(Al-Hennawy, Khamis and Abu-Jahjouh, 2014;Nouby & El-Deghaidy, 2008;Abdel-Aty and Al-Sayed, 2007).

Research Recommendations: Based upon the outcomes of the research, the researcher recommends the following:

1. Showing great interest for using the pattern of blended cooperative learning for having a good educational return compared with e-cooperative learning.

2. Drawing the attention of concerned people about the importance of the blended cooperative learning and to designing curricula based on using the skills of active learning in different fields.

3. Holding special training courses such as employing active learning in the educational process in every educational stages.

4. Paying attention to teacher's attitudes in general and to primary education's teachers in particular towards employing active learning.

Research Suggestions:

In the light of research's results and recommendations, the researcher suggests carrying out these studies and researches:

1. Studying the effectiveness of blended cooperative learning versus blended individual learning in presenting the curricula for university students.

2. Studying the effectiveness of electronic cooperative learning versus blended cooperative learning on developing the skills of designing and producing digital tools for student teachers during the practical training.

3. Studying the effectiveness of electronic cooperative learning versus blended cooperative learning on the achievement and developing the skills of employing educational devices in teaching.

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