THE IMPACT OF CONNECTIVISM BASED BLENDED LEARNING PROGRAM (CBBLP) TO ENHANCE SOME EFL WRITING SKILLS AND SELF-EFFICACY OF SECONDARY STAGE STUDENTS

Rabab El-Sayed Omar El-Hadidy

Abstract:

Blended learning has gained much attention in recent years owing to serious emphasis on using technology and networking in education. The present study examined the impact of Connectivism Based Blended Learning Program on 11th year secondary stage students' writing skills. A quasi experimental study was employed with two groups; experimental (N=30 students) and control (N=30 students). A writing pre-test was administrated to measure their writing ability. After the treatment, the post-test was administered to assess their improvement. The flipped model, as one of blended learning models, was adopted, employing Office 365 applications to conduct the study. The research brought forth quantitative and qualitative results by utilizing an independent t-test; it was found that there were statistically significant differences at 0.001 level between the mean scores of the experimental group students on the pre-and the post- application of the Writing Skills Test (WST) in favor of the post one. Hence, there was a significant improvement of the 11th year secondary stage students' Writing Skills. Consequently, the Connectivism Based Blended Learning Program was effective in developing 11th year secondary stage students' writing skills and enriching their self-efficacy.

Keywords: *Blended Learning, Connectivism, Self-efficacy, Writing skill.*

مستخلص الدراسة:

لقد حظي التعليم المدمج بمزيدٍ من الانتباه في الآونة في الأخيرة وذلك بسبب التطور التكنولوجي الهائل والتأثير الواضح لشبكات الانترنت على العملية التعليمية. ولقد أظهرت الدراسة الحالية مدى تأثير التعليم المدمج القائم على التواصلية على تنمية بعض مهارات الكتابة والكفاءة الذاتية لدى طلاب الصف الحادي عشر، وتم استخدام المنهج التجريبي حيث شملت عينة الدراسة ستين طالباً من الصف الحادي عشر، حيث أن المجموعة التجريبية التي درس أفرادها البرنامج المقترح عددها ثلاثين طالب. وبالمثل كانت المجموعة الضابطة التي لم يدرس أفرادها البرنامج المقترح عددها ثلاثين طالبا. تم تطبيق اختبار مهارات الكتابة قبليا وبعديا على كل من المجموعتين التجريبية والضابطة وأسفرت النتائج عن وجود فروق ذات دلالات إحصائية بين متوسطات درجات طلاب المجموعة التجريبية على التطبيقين القبلي والبعدي في اختبار مهارات الكتابة، بينما لا توجد فروق بين متوسطات درجات طلاب المجموعة الضابطة في التطبيقين القبلي والبعدي. ومن ثم وجد تحسن دال في مهارات الكتابة لدى طلاب الصف الحادي عشر. ويعزى ذلك التحسن الى برنامج التعليم المدمج المقترح القائم على التواصلية ، هذا بالإضافة الى تنمية الكفاءة الذاتية لدى طلاب المجموعة التجريبية. وأخيرا يمكن الاستفادة من نتائج هذه الدراسة في مجال تدريس اللغة الإنجليزية.

رؤوس الموضوعات ذات الصلة: مهارة الكتابة – التعليم المدمج – الكفاءة الذاتية – النظرية التواصلية

Introduction:

It is admitted that writing in English as a foreign language is a hard skill which regularly takes much time to be mastered competently. The writing difficulty is frequently linked with its complex nature. It could be said that writing is the hardest of the four language skills. This opinion is reinforced by many specialists including Nunan (1995), Brown (2001) and Harmer (2007) who said that writing is a very multifaceted activity for its complicated elements such as the mastery of syntax, ideas, organization, grammar, vocabulary, use of punctuation, content and communication skills.

Regardless of how vital the writing ability for students is, this skill is very hard

to be learned especially by the foreign language learners (Lee, 1997). This is not the case with other language skills. During speaking, the listener can get the meaning through the speaker's mime to comprehend it. In reading, the reader of a text can just depend on what is written in the text. Gunning (1998) stated that writing is both more complicated and more nonconcrete than speaking. Alsamadani (2010) added that EFL/ESL writing is a tough and stimulating process.

Lately, the field of EFL has witnessed the emergence of two modern trends that have an impact on language learning/ teaching context. These two trends are learner centered approaches and blended learning. The learner-centered approaches are a contemporary trend in the modern realm of education. They get their fame owing to their stress on the flexibility of learning considering students' learning styles, habits and pace. Also, these approaches emphasize giving students self-paced online learning opportunities accompanied by regular face-to-face method to enhance students' learning of the English language. This incorporation of online and face-to-face teaching is recognized as "blended learning" which offers creative thoughts and instructive experiences and changes the roles of the teacher and students (Krasnova & Ananjev, 2015). Blended learning is known as a way of language teaching which mixes and unites the most beneficial characteristics of both face-to-face and online teaching. Thus, blended learning strengthens the learning content, develops the language learning processes attaining best outcomes. Though, this mixture is not made just by blending the online and face-to-face regular learning activities in language learning settings. Relatively, these learning activities are combined into an organized way to achieve the learning objectives and meet students' requirements and personal distinctiveness

(So & Lee, 2013).

Furthermore, blended learning offers an ideal environment for teaching and learning the English language that certainly influences the foreign language acquisition process. Typically, Krasnova & Ananjev (2015) state that blended learning has many benefits over the conventional mode of language learning. To them, blended learning enhances convenience of learning, individualization, and interaction provided by the online element of blended learning along with cooperative work, instant feedback and spontaneity obtained from traditional face-to-face teaching.

So, if technological advances are employed and teachers are less controlled by the need to offer learners the access to knowledge, their skills can be directed towards high level of thinking and creating an environment of positive learning in which mental work can be enriched. (Arnold & Ryan, 2003). This in turn will improve learners' self-image as active learners, developing the ability to be self-directed and autonomous learners.

Thus, the goal of blended learning is mixing the best characteristics of face to face learning with the best characteristics of online teaching, to encourage active learning opportunities for students (Garnham and Kaleta, 2002). Numerous studies like Tsou, Wang and Li, (2002), Al-Jarf, (2004), Chuo, (2007), Tsou, (2008), and Al-Haq and Al-Sobh, (2010) verified the efficiency of web-based programs on improving students' writing skills.

As an extra characteristic, Bandura (2002) pointed out that blended learning is interconnected with self-efficacy including self- regulation, time and environment administration. Students with high self - efficacy can adopt self –regulatory strategies to learning goals, so self – efficacy has a constructive impact on learning outcomes. Shen & Liu (2011) assert that blended learning can aid or

hinder students' self-efficacy as students pretend more involvement and self-confidence when they are engaged in blended classes. Also, they demonstrate self-regulation as a main factor of self-efficacy. Henceforth, there is an encouraging relationship between blended learning and self-efficacy.

Regarding to the theory that could suit the nature of blended learning, the connectivism theory is believed to be the most convenient one. Based on his research and experience, Siemens (2004), clarified that the current learning theories did not suit the changing nature of learning and the learners because of technological advancement. Hence, he presented connectivism learning theory in Dec, 2004. His concentration in technology's potential to improve teaching and learning led his research to the area of e-learning.

Connectivism learning theory advances education through the revision of educational perceptions and creates a great transform toward learner-centered education (Siemens, 2004). The theory lets tutors move to obligatory programs, textbooks and regular lesson presentation to bring learners making sense of related knowledge. When knowledge and conversation are constant, learning can take place for all classroom learners and the instructor. Similarly, learners are attracted no more to learning in environments that do not relate to their real-world practices; they come to the class with their cell phones, laptops and i pods and keep up with their changing world.

The above-mentioned viewpoints back advancing writing skills through employing blending learning.

Background of the Problem

The term electronic learning has been broadly dominant nowadays. In the same way, blended learning is the most current catchphrase in education. International trends in open/distance learning point out that the use of blended learning is crucial for any open/distance education institution that seeks to survive in a progressive environment. Online education has been considered as a disorderly technology that will change how, what, when, and where learning takes place in the knowledge age (Barone & Luker, 2000; Govindasamy, 2002; Reynard, 2007). Thus, employing online education within traditional educational institutions presents many challenges. Primary among these challenges is the interface between existing institutional practice and forthcoming institutional practice (Tesone, et.al, 2003).

One of the most important benefits of online education is the learner's availability. According to Govindasamy (2002), using the Web for the classroom serves any learner, at anytime and anywhere. In addition to convenience matters, blended learning is characterized by containing planned digital content materials that may reduce the use of textbooks in the classroom. Therefore, electronic content can replace the data in textbooks, or the electronic copies of textbooks can be downloaded on computers, which might reduce the high cost of buying textbooks and the physical matters of learners carrying weighty textbooks. The transferring of textbook information in an electronic format looks perfect for blended learning classrooms. According to many investigators, letting teachers use digital media instead of textbooks can enhance all kinds of creativity and empowering tools of instruction (Dodge, 1995; Benz, 2001; Schrock, 2002; Tesone, et. all, 2003).

The value of blended learning from a student's viewpoint was consolidated by several studies (Coogan, 2009; Watson, 2008). Research designates blended courses can fit various student learning styles, permitting it to incorporate tools which have helped audio students,

such as face-to-face lectures, and visual students, such as messages posted online or streaming videos (Coogan, 2009). Students also involved in class work at any time, allowing students to post functioning times and letting them process and learn at their pace. The teacher may enhance modalities to aid students involve in review of the material (Coogan, 2009).

Blended learning can be obtainable to student populations who cannot spend extended classes on campus (Coogan, 2009). Also, students can make use of the suitability of on-line courses without losing direct contact with the instructor (Coogan, 2009). Several studies (Lim, Morris, & Kupritz, 2007; Rovai & Jordan, 2004; Watson, 2008) showed that blended and online courses achieved learning outputs which exceeded the outcomes achieved through traditional classes. Employing a blended approach offered instruction a variety of learning modes which can help the learning process (Coogan, 2005).

As a result of using the web for the education, digital content materials, and blended classrooms, George Siemens suggests connectivism as a learning theory for the digital age, and as an inheritor to the three broad learning theories: cognitivism, behaviorism and constructivism that were established in a time when learning was not affected by technology (Siemens, 2004). He recognizes three limitations of these theories: their intrapersonal understanding of learning; their failure to keep up with the learning that is set within technology and institutions; and their absence of contribution to the judgments of knowledge-rich environments. The proponents of connectivism describe it as a network theory of learning that draws on a varied set of theories from learning, education, philosophy and management of knowledge, located within shift in education. In that sense, connectivism

seems to be wider than those existing theories.

In the near past, Information growth was slow, and the life of knowledge was measured in decades. Now, knowledge is increasing rapidly and measured in months and years. Gonzalez (2004) explains the contests of quickly lessening knowledge life. From this perspective, Connectivism faces the contests that many institutions face in knowledge managing. Knowledge that exists in a database requires to be communicated by the true people in the correct context to be categorized as learning.

Rovai & Jordan (2004) have declared together noteworthy aspects of Bandura's theory (2011) concerning the comparison of blended learning with traditional and online courses. They asserted that the sense of community and communication that blended learning gave students reinforces Bandura's concept of adaptability (2011) and Ross's (1961; 1963), concept of the community behavior on education. Moreover, some students pointed out that blended learning environment helped them for more progressive coursework. Also, Rovai and Jordan (2004) assured that blended learning could create a sense of community, and students profited from this sense of community to enrich their self-efficacy.

Shen & Liu (2011) noticed that self-regulation is a main element of self-efficacy. In addition, it is crucial key for success in online or blended learning that include "meta-cognition, time and environment management, help seeking and Internet self-efficacy (Shen & Liu, 2011, p. 1102)". Students with high self-efficacy can adopt self-regulatory strategies to learn, so self-efficacy has a mutual effect on learning outputs. Shen and Liu (2011) determined that more experienced learners had greater self-regulatory capability than less experienced learners and that self-

regulatory skills could be learned.

Most current literature apparently reinforced blended learning as a practical and operative learning modality (Amira and Jelas, 2010; Lim, Morris, & Kupritz, 2007; Watson, 2008). Kim and Bonk (2006) noticed that blended and computer-generated learning have been examined more methodically than any other learning approach and that regular face to face classroom model has been not considered as an ideal tutorial model (Kim & Bonk, 2006).

To sum up, technology has rationalized how we live, how we learn, and how we communicate. Learning requirements and theories that designate learning philosophies and procedures should reflect the social environments. Social network analysis is an important component in developing learning models in a digital era. Within social networks, well-connected people can foster and sustain knowledge flow. Their connectedness creates efficient knowledge flow.

Context of the Problem

Data were collected from a pilot study conducted on 11th grade students in Kuwait to investigate if there was a need for developing their writing skills. The purpose was to identify the real performance in writing and apply Connectivism Based Blended Learning Program (CBBLP) on them to measure any improvement.

The Pilot Study

The pilot study was conducted by administering a diagnostic test on 36 students from 11th grade in Salim al Mubarak School in Kuwait during the second semester of the academic year 2014/2015. It was conducted to examine the level of a sample of students in the writing skills. This test was corrected by the researcher and the class teacher. It was marked out of fifty. The students' scores were as follows:

Table (1): Statistical Analysis of Students' Responses

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
VAR00001	36	2.00	30.00	11.4722	7.48899
Valid N (list wise)	36				

The above table explained that the target 11th graders in secondary stage have recorded low grades where the mean was 11.47 with standard error 1.2 and variance 56.08 writing skills which indicated their poor performance level.

So, the significance of using connectivism based blended learning program in enhancing students' writing skills was considered as a suggested solution, where using different multi-media might aid students develop writing skills and daily writing tasks, for example, posting or sharing ideas through texts or emails to a friend which could help students to be more active communicators through writing.

Statement of the Problem

Based on the literature, the results of the pilot study, the researcher's experience, the problem of the study was stated as follows:" "There is weakness in the 11th grade secondary stage students EFL writing skills in Kuwait".

Questions of the Study

The present study was an attempt to answer the following main question:

What is the impact of the suggested Connectivism Based Blended Learning Program (CBBLP) in enhancing 11th grade secondary stage students' writing skills in English in Kuwait?

This main question led to the following sub-questions:

1. To what extent do those students master the needed computer skills?
2. To what extent do those students master the identified writing skills?

3. What is the suggested Connectivism Based Blended Learning Program (CBBLP) to enhance the identified writing skills of 11th grade secondary stage students in Kuwait?
4. What is the impact of the Connectivism Based Blended Learning Program (CBBLP) on the target students' self-efficacy level in the identified writing skills?

Purpose of the Study

The present study aimed at:
1. Assessing the target students' computer skills before the treatment.
2. Assessing the target students' performance level in the identified writing skills before and after the treatment.
3. Designing the proposed Connectivism Based Blended Learning Program (CBBLP) that would enhance the identified writing skills in English for the target students.
4. Assessing the target students' self-efficacy level in the identified writing skills before and after the treatment.
5. Investigating the impact of the Connectivism Based Blended Learning Program (CBBLP) in enhancing the identified writing skills in English for the target students.

Significance of the Study

It was hoped that the present study would contribute to:
1. Providing curriculum designers and language teachers a way of designing and implementing blended programs.
2. Enriching the literature related to the effect of blended programs employing connectivism based activities in enhancing language learning through developing writing skills.
3. Helping the students in improving some writing skills in English through Connectivism Based Blended Learning Program (CBBLP).
4. Paving the way for other studies to enhance and develop the students' performance in writing skills in English through blended programs.

Delimitations of the Study

The present study was limited to:
Participants and setting: The participants were a class of 30 11th grade secondary stage students for the experimental group and another class of 30 for the control group in Salim al Mubarak School in Kuwait.
Time:The duration of the connectivism based blended course was one term (12 sessions).

Hypothese of the Study

The study tested the following hypotheses:
1. There is a statistically significant difference between the mean scores of the control group and those of the experimental group on the post application of the writing test in favour of the experimental group to the application of the proposed Connectivism Based Blended Learning Program (CBBLP).
2. There is a statistically significant difference between the mean scores of the pre-post application of the writing test of the experimental group in favour of the post-test due to the application of the proposed Connectivism Based Blended Learning Program (CBBLP).
3. There is a statistically significant difference between the mean scores of the control group and those of the experimental group on the post application of the self-efficacy inventory in favour of the experimental

group due to the application of the proposed Connectivism Based Blended Learning Program (CBBLP).

4. There is a statistically significant difference between the mean scores of the pre-post application of the self-efficacy inventory of the experimental group in favour of the post-test due to the application of the proposed Connectivism Based Blended Learning Program (CBBLP).

Variables of the Study

The study had two variables:

- **Independent variable**: represented in the proposed Connectivism Based Blended Learning Program (CBBLP).
- **Dependant variable:** represented in the identified writing skills.

Methodology of the Study
Design:

This study adopted the descriptive design to review prior literature and studies related to the variables of this research. Also, it adopted quasi-experimental design to investigate the impact of the proposed Connectivism Based Blended Learning Program (CBBLP) in enhancing 11th graders' writing skills in English through two groups; experimental and control group design. A class of 11th graders (N=30) constituted the control group studying throughout the traditional method and another class (N=30) of the same grade constituted the experimental group studying throughout the proposed Connectivism Based Blended Learning Program (CBBLP).

The blended program incorporated a connectivist approach. Connections were designed to include in class and out of class activities. Each lesson was accompanied by a video, graphic organizer, internet link, rubric and worksheet. Students were given the chance to do the assignment in groups, in pairs or individually. Furthermore, a pre-post comparison of the students' scores in the pre-post writing test was conducted. Additionally, a pre-post self-efficacy inventory of the students was administered.

Instruments:

The following instruments were developed by the researcher and validated by jurors:

1. Computer Skills Questionnaire (CSQ) to identify the targeted students' background of some technological skills.
2. Writing Test (WT) to measure the improvement of students identified writing skills, if any.
3. Self–Efficacy Inventory (SEI) to assess students' self-efficacy level before and after the implementation of the suggested Connectivism Based Blended Learning Program (CBBLP).
4. A suggested Connectivism Based Blended Learning Program (CBBLP) (its aims, objectives, content, methods, media and activities) to improve the identified writing skills.

Procedures of the Study

(A) The Theoretical Framework:

1. Defining the computer skills needed for the 11th grade secondary stage students.
2. Reviewing previous literature and questionnaires to identify the needed computer skills
3. Producing the Computer Skills Questionnaire (CSQ)
4. Revising previous literature to recognise the required writing skills for the 11th grade secondary stage students in Kuwait.
5. Identifying the writing skills needed for the 11th grade secondary stage students.
6. Designing the Writing Test (WT).
7. Producing a Connectivism Based Blended Learning Model (CBBLM) as a framework of the blended program for enhancing the identified writing skills for the 11th grade students.
8. Reviewing literature related to self-efficacy.

9. Designing Self–Efficacy Inventory (SEI) to assess students' self-efficacy level.

(B) The Practical Framework:

For answering the first questions, "What are the needed computer skills for 11th grade secondary stage students in Kuwait?" the following steps were carried out:

1. Revising literature to identify some computer skills that the 11th grade secondary stage students need.
2. Writing a preliminary list to identify some computer skills needed for the 11th grade secondary stage students.
3. Providing the preliminary computer skills to a group of jurors for authentication.
4. Modifying the preliminary computer skills according to the jurors' recommendations.
5. Preparing the final form of the Computer Skills Questionnaire for application.

For answering the second question, "To what extent do these students master the identified writing skills?" the following steps were carried out:

1. Reviewing literature and curriculum books to identify the writing skills to be developed
2. Designing a Writing Test (pre-test) to examine the students' performance level in the recognized writing skills before and after the application of the proposed blended program.
3. Presenting the test to a group of jurors for authentication.
4. Modifying the test according to the jurors' opinions.
5. Administering the test to examine the students' performance in the recognised writing skills.
6. Analyzing the data statistically to recognise the writing skills available to the 11th grade secondary stage students

to be removed from the initial list of some needed writing skills.

For answering the third questions "What is the suggested Connectivism Based Blended Learning Program (CBBLP) to enhance the identified writing skills in English for 11th grade secondary stage students in Kuwait?" the following steps were carried out:

1. Developing a Connectivism Based Blended Learning Program (CBBLP) to be followed as a framework when developing the identified writing skills for the 11th grade secondary stage students.
2. Designing the Connectivism Based Blended Learning Program (CBBLP) (its aims, objectives, content, methods, media, activities, evaluation and teachers' guide) based on the identified writing skills.
3. Presenting the proposed Connectivism Based Blended Learning Program (CBBLP) to a group of jurors for authentication.
4. Adjusting the proposed Connectivism Based Blended Learning Program (CBBLP) according to the jurors' responses and suggestions.
5. Preparing the final form of the proposed Connectivism Based Blended Learning Program (CBBLP) for application.

For answering the fourth question, "What is the impact of the Connectivism Based Blended Learning Program (CBBLP) on the target students' self-efficacy level in the identified writing skills?" the following steps were carried out:

1. Developing a Self-Efficacy Inventory (pre-post) for the 11th grade secondary stage students to assess their Self-efficacy by conducting pre-and post-implementation of the Connectivism Based Blended Learning Program (CBBLP).

2. Giving the Self-Efficacy Inventory to a group of jurors for validation.
3. Changing the Self-Efficacy Inventory according to the jurors' responses and recommendations.
4. Preparing the final version of the Self-Efficacy Inventory for application.

For answering the main questions, "What is the impact of the suggested Connectivism Based Blended Learning Program (CBBLP) in enhancing 11th grade secondary stage students' writing skills in English in Kuwait?" the following steps were carried out:

1. Applying the Connectivism Based Blended Learning Program (CBBLP) on the identified 11th grade secondary stage students.
2. Administering the post-test to check the students' performance in relation to the identified writing skills, and the objectives of the Connectivism Based Blended Learning Program (CBBLP).
3. Analyzing the data statistically to measure the students' improvement, if any.
4. Reaching conclusions and offering recommendations.

Results and statistical analysis

To compare the pre-level of writing skills between the experimental group and the control group before studying the proposed program, a t-test for the two groups was used to identify any difference between the two groups' mean score on the pre-test. These findings are shown in table (2).

Table (2): T- Test results comparing the means scores of the control and the experimental groups on the pre-test.

The group	No.	Means	S. D	df	T.value	Sig.
Experimental	30	47.1160	11.42800	57	0.262	0.790
Control	30	46.3001	11.55125			Not Sig.

Table (2) shows the means and standard deviations of both groups on the Pre-Writing Skills Test. While the mean score for the experimental group was (47.1160) with a standard deviation of (11.42800), the mean score of the control group was (46.3001) with a standard deviation of (11.55125). it can be observed from the table (2) that the difference between the two means is miner and that the t-value (0.262) is not statistically significant (0.790). This shows that the two groups were equivalent in terms of their English writing skills at the beginning of the experiment. Thus, homogeneity is established between the two groups.

Also, a t –test was used to determine any difference between the two groups' mean scores on the post-test to compare between the experimental group and the control group post-level of their writing skills after studying the proposed program. These results are shown in table (3).

Table (3): T- Test results comparing the means scores of the control and the experimental groups on the post test

The group	No.	Means	S.D	Df	T.value	Sig.
Experimental	30	67.2332	11.41137	58	7.338	0.01
Control	30	45.2832	11.75370			Sig.

It can be observed from this table that the difference between the two means is obvious and that the t-value (7.338) is statistically significant (0.01). This explains that the two groups were not equivalent in their English writing skills after the experiment which indicates that the proposed program was effective in improving the 11th year secondary stage

students' writing skills, and thus, the hypothesis of the study is accepted.

A t-test was employed (see table 4) to recognize the significance level of the difference in the mean scores of the experimental group in the pre- and post-test. Result of the t-test indicates that there is a statistically significant difference at (0.001) level and df= (29) between the mean scores of the experimental group students on the pre-and post- applications of the Writing Skills Test in favor of the post-test.

Table (4): T- Test of the experimental group comparing the pre –post test scores

The	The Test	No.	Means	S. D	df	t.value	Sig.
Experimental	pre – test	30	47.1156	12.31710	29	-17.200	0.001
Group	post – test	30	67.2322	11.30027			Sig.

To get the effect size of the proposed program, the square of eta (η^2) was estimated after calculating the t-value.

The following table shows the effect size of the proposed program.

Table (5): Values of (η2) and the effect size of the treatment

Independent variable	The Instrument		Value of Eta-Square (η2)	Level of effect size
The Connectivism Based Blended Learning Program (CBBLP).	The Writing Skills Test	1. Writing notes & lists	0.57%	High
		2. Writing a report	0.49%	High
		3. Writing a diary	0.57%	High
		4. Writing informal invitation	0.55%	High
		5. Writing a postcard	0.46%	High
		6. Filling applications	0.65%	High
		7. Writing a paragraph	0.33%	High
		8. Writing short essay	0.36%	High
	Total		0.89%	High

$$\eta^2 = \frac{t^2}{t^2 + df}$$

Results in the prior table show the effect size of the proposed program on each writing skill of the experimental group students to be high and this can be related to the independent variable (Connectivism Based Blended Learning Program).

Based on the results of the t-test shown in tables (2,3,4) and results of the effect size shown in table (5), the first two hypotheses of the study were accordingly accepted.

To compare the results of the students in the experimental group concerning the self-efficacy inventory and their results in the control group, Chi-values were used.

The Chi square values show that the differences between the percentages of the students in the control and experimental groups were statistically significant at 0.001 levels in favor of the experimental group's post-application.

Also, Chi square was employed to estimate students' self-efficacy level before and after applying the program. It explained that there is a significant difference between the two groups in the pre-and post-self-efficacy inventory at significant level (<0.001*) which means that the suggested blended program had a real impact on improving students' self-efficacy. Thus, all the chi values results were statistically significant for all the self-efficacy items at 0.001 levels.

Results of the Study

The study led to the following findings:

1. A Connectivism based blended Learning Program for developing students' writing skills were designed.
2. The experimental group students outperformed their colleagues of the control group in the writing achievement test. This was indicated by the significant differences between the mean scores of the two groups.
3. The experimental group students' mean scores in the post administration of the writing achievement test were much better than their mean scores in the pre-administration of the test.
4. The experimental group students' self-efficacy got higher compared with the control group students.
5. The Connectivism based blended Learning Program was effective in developing the writing skills of the 11th year students.
6. A significant improvement was showed in the level of the experimental group student on the post-application of the analytic rubric when compared with their pre-scores.
7. The proposed Office 365 application is effective in improving students' writing performance which is asserted through measuring the effect size of the program on students' performance.

Recommendations of the Study

Based on the results of the current study, the following recommendations are provided:

1. Using blended learning to impact students' performance in other language skills.
2. Utilizing the flipped model in blended learning classes for its great benefits.
3. Presenting blended learning environment is recommended as this was very enjoyable and attractive to students.
4. Applying Office 365 is recommended to enhance cooperation and information sharing.

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