Effectiveness of a Program Based on Connectivism Theory in Developing EFL Writing Performance Skills of Preparatory Stage Pupils

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ملخص البحث:

هدف البحث إلى تقصي فعالية برنامج قائم على النظرية الترابطية في تنمية مهارات الأداء الكتابى لدى تلاميذ المرحلة الإعدادية. ولتحقيق هذا الهدف، تم استخدام اختبار تشخيصي وقائمة لبعض المهارات الفرعية للأداء الكتابى واستبيان لتيسير تحديد المهارات الفرعية التي يحتاجها التلاميذ. أعدت الباحثة البرنامج المقترح والاختبار القبلي وسجلات الانعكاس واستطلاع للرأى. شملت عينة البحث ٦٢ تلاميذا في المرحلة الإعدادية من ثلاث مدارس إعدادية مختلفة. أشارت النتائج إلى وجود فروق ذات دلالة إحصائية عند مستوى (٠.٠١) بين متوسطي درجات المجموعة التجريبية والمجموعة الضابطة في الاختبار البعدي لصالح المجموعة التجريبية. كما أظهرت النتائج أن البرنامج أثر بشكل إيجابي على أداء المجموعة التجريبية. وبناء على النتائج قدمت الباحثة بعض المقترحات التربوية لمزيد من الدراسات.

الكلمات المفتاحية: الترابطية، الأداء الكتابى، المرحلة الاعدادية.

Abstract

The researcher aimed to investigate the effectiveness of a program based on connectivism theory in developing EFL writing performance skills of preparatory stage pupils. To meet this end, a diagnostic test, a questionnaire and a checklist of some writing performance sub – skills were used to make it easier for the researcher to specify the most needed writing performance sub – skills. The researcher prepared the suggested program, a pre-posttest, reflection logs and a satisfaction questionnaire. The research sample included (n=62) prep-stage pupils from three different prep schools. Findings indicated that there are statistically significant differences at the level of (0.01) between the mean scores of the experimental group and the control group in the posttest in favour of the experimental group. Findings also showed that the program positively influenced the experimental group' performance. In accordance to the findings, the researcher presented some pedagogical implications in addition to suggestions for further studies.

Key Words: Writing performance, Connectivism, Preparatory stage.

Introduction

Writing performance is a key language skill while communication. It paves the way to academic success. It can be also an entertain activity either for native or foreign learners. For a good written work, familiarity to grammar, punctuation, spelling and cohesion is needed. Writing in a foreign language is much more difficult for learners so; an efficient teacher should apply modern strategies and take into consideration the differences between the mother and the target languages.

According to The Institute of Education Sciences (2016) writing is a reactive process with many components. Skilled students may use some of these components together. Using different writing strategies gives students ownership of how they guide their ideas. Knowing the purpose of writing and choosing suitable strategies are important. A skilled writer controls how to use it. Using the skill is graded from introducing a primitive version to a more advanced level when students get used to it. It is very crucial for teachers to tell students that these components are not working in isolation and that they can use it together if needed.

Downes (2017) explained that learners should select the learning resources that suit their needs as the current era is more complicated. Today's learners should be more independent as the increased interference of the instructional designer limits the benefits of the resource. Providing the learners with various resources and allowing them to select what fits their needs are more beneficial than the regular forms of traditional learning. Accordingly, The Institute of Education Sciences (2016) pointed out that technology has brought different shifts in the nature of writing and the way it is taught. It affects inside and outside classroom practices. These shifts also occurred in the practices as combined interventions which have different supplementary practices are comprised in it.

Darrow (2009) emphasized that those who are taking part in learning should be vigorous participants. Connectivism has many regular and traditional principles as peer teaching, creativity and teacher-pupil orientation. It does not prosper within traditional

publication for many reasons. One reason is that the connective works and papers are not taking a printed form on the contrary; they are shared through the networks. Another reason is that connective knowledge and learning do not query if person's participation in the active conversations in his/her websites is required more than in a one-author chapter. It seems at first glance that learners who seek traditional scholarships will face difficulty as it encourages educators on sharing information online Ryberg, Buus & Georgsen (2012).

Problem of the Research

Context of the Problem

The researcher made sure of most pupils' weakness in writing performance through;

The Pilot study

To investigate the problem among prep stage pupils, a writing performance checklist, a questionnaire and a diagnostic test were administered.

Statement of the Problem

The problem of the research can be stated in the weak performance of preparatory stage pupils in writing performance.

Questions of the Research

The research sought to answer the following questions:

Main Question

What is effectiveness of a program based on connectivism theory in developing writing performance skills of preparatory stage pupils?

Sub-Questions

To answer the main questions, the researcher stated these sub-questions:

1. What are the writing performance sub-skills needed to develop the writing performance skills of preparatory stage pupils?
2. What is the effectiveness of a program based on connectivism theory in developing the writing performance skills on each of the eight sub-skills of preparatory stage pupils?
3. What is the effectiveness of a program based on connectivism theory in developing writing performance skills as a whole of preparatory stage pupils?

Hypotheses of the Research

To answer the questions, the following hypotheses were formulated:

1. There is a statistically significant difference at the level of (0.01) between the mean scores of the experimental group and the control group in pre and post measurement of the writing performance skills on each of the six sub-skills in favor of the experimental group.
2. There is a statistically significant difference at the level of (0.01) between the mean scores of the experimental group and the control group in pre and post measurement of the writing performances kills as a whole in favor of the experimental group.

Objectives of the Research

The research aims at investigating the effectiveness of the proposed program in developing writing performance among prep stage pupils.

Significance of the Research

The research may be useful for the following classes.

1. Preparatory stage pupils; The research may train them on writing more texts about interesting topics.
2. Curricula developing specialists; The research may help them presenting additional content, teaching methods, evaluation and activities for EFL students.
3. Researchers; The research can open new horizons towards other researchers who are interested with the same problem.

Delimitations of the Reasearch

The research had the following delimitations:

1. Two groups of 2nd year prep year pupils.
2. A whole semester.
3. The following writing performance subs-kills.

a. Organization b. Cohesion
c. Mechanics d. Content
e. Creativity including criticism and imagination.

Variables of the Research

The following variables were included in the current research.

Independent Variable

Connectivism theory.

Dependent Variables

Writing performance skills.

Review of Literature.

Sofia (2015) commented that Web 2.0 tools are influential while writing. In the drafting phase, students can use the guidance to draft the answers. In the revising phase, the teacher's comments are helpful in rewriting their works. While editing, changes can be made before posting. As publishing, final written document is posted and shared so as everyone can see and comment on it. Teachers can correct and comment on the written tasks online and post them as a blog post. Presentations can be distributed with other classmates and this will make them accessible and easy to be seen, corrected, downloaded and posted (ibid;24).

Walsh (2010) explained that students compose, plan, design and output written texts on paper before writing them on-line. He added that on-screen writing can take different types as websites or slide shows. Through assessing and comparing their writing output with their mates, students develop their writing skills.

Downes (2012) considered MOOCs as a sixth-generation e-learning. Similarly, Darrow (2009) defined Web 3.0 as the "*semantic Web"* based on Web 2.0. It is a sight into the digital information by which online information can be found, shared and combined. MOOCs are online courses that are *massive* as many individuals all over the world are interested in them. Individuals can produce their knowledge and distribute it freely within the network so it is *open* Tschofen & Mackness (2012).

Downes (2017) continued his debate and suggested evaluating tools of MOOCs. They are in the first place, automated essay assessments by which characteristics of good essays are corresponded to those of new essays. Second, task-completion, in which the main focus is on the learners' responses. Third, peer assessment, which involves evaluating the essays by other learners participating in other coursesLast but no least is network-based grading by which learners'

work is evaluated by network metrics. The better the work is, the more efficient network metrics will be.

Downes (2012) illustrated that humans get knowledge from the connections that exist among neurons. Socially, knowledge happens as a result of connections between people and other objects. Learning occurs when these connections are structured, deleted or modified. He outlined that learning is the process of sharing knowledge in which identifying the patterns is essential. Accordingly, learning is neither organized nor controlled. Cognitive, pedagogical and behavioral processes and motivation have no influence on it. It is not merely remembering or acquiring facts. Many factors affect learning as various networks and the strong connections of the memory that accelerate the learning process (ibid;92,93).

According to Siemens (2005), a network is a connection between the existences. Computer networks and social networks help individuals, systems, nodes and other existences create an integrated structure. Great effects on the structure can result from the changes that occur. The stronger ties are, the longer connections between information will be. People with similar interests create their networks together. New creations can be formulated by connections between various ideas. People cannot control learning because it occurs outside, usually within an organization. Quickly changed foundations are the core base upon which decisions are made. Acquiring information is a lifelong process.

Research Participants

(n=62) second-year-prep school pupils were involved in the research.

Research Methodology

The quasi-experimental approach, pre – post treatment two groups, was used. The experiment lasted for 8 weeks.

Instruments and Materials of the Research

The researcher prepared a checklist of writing performance sub-skills, a questionnaire and a diagnostic test. In addition, the suggested program, weekly reflection logs and a questionnaire were applied.

The On-line Pre- post Test

Items Analysis of the On-line Pre- post Test

The following steps were followed in order to check the validity and the reliability of the pre post test.

Validity of the On-line Pre post Test

The Content Validity

The researcher submitted the test to the jury members. The jury's opinion was helpful in standardizing and validating the test. The pilot group was randomly selected to ensure test validity.

Reliability of the On-line Pre post Test

The pilot group contained (n= 30) second year prep stage pupils. To make sure of the test reliability, the same test was tested and retested.

Testing and Retesting the Pilot Group

The researcher administered the test on the pilot group. After twenty five (25) days, she retested the group. Person correlation coefficient was (0.84) thus; the value was statistically significant and indicated a high reliability.

Scoring the On-line Pre- post Test

The pre posttest consisted of (n=20) questions. In order to be statistically manipulated, the scores were collected and recorded.

Answer of the First Question

The first question was formulated as follows:

What are the writing performance sub-skills needed to developing the writing performance skills of preparatory stage pupils?

The following steps were followed in order to answer this question:

1. The researcher prepared a writing performance checklist. The checklist consisted of 24 subs-kills. After validating it, the jury specified 12 sub-skills.
2. In the light of the checklist, the researcher administered a diagnostic test. The sub-skills were chosen according to the pupils' score as the researcher chose the sub-skills in which they had the lowest score.

Results showed that year-two pupils had difficulty in the following writing performance sub – skills:

a. Organization b. Cohesion

c. Mechanics d. Content

e. Creativity including criticism and imagination.

Answer of the First Hypothesis

The researcher hypothesized the following hypothesis:

There is a statistically significant difference at the level of (0.01) between the mean scores of the experimental group and the control group in pre and post measurement of the writing performance skills on each of the eight sub-skills in favor of the experimental group.

Table (1)

The mean score of the experimental group and the control group of writing performance skills in the on-line post test.

Sub-skill	Group	N	Mean	Std. Deviation	T	Effect size	Sig.
Organization	Exper	31	6.65	2.893	8.243		0.01
	Contr	31	1.65	1.743		0.531056	
Cohesion	Exper	31	6.94	2.977	9.901		0.01
	Contr	31	1.26	1.154		0.620325	
Mechanics	Exper	31	7.39	3.222	9.500		0.01
	Contr	31	1.45	1.312		0.600666	
Content	Exper	31	7.23	2.918	9.579		0.01
	Contr	31	1.58	1.501		0.604632	
Criticism	Exper	31	2.42	.992	4.922		0.01
	Contr	31	1.39	.615		0.287632	
Imagination	Exper	31	2.55	.850	5.873		0.01
	Contr	31	1.16	1.003		0.365026	

(df) = 2(31)-2= 60

Table (2)

The mean score of the experimental group in the pre and post of writing performance skills in the on-line post test.

Sub-skill		Mean	N	Std. Deviation	Std. Error Mean
Pair 7	Organization	1.32	31	1.166	.209
	Organization	6.65	31	2.893	.520
Pair 8	Cohesion	1.42	31	1.232	.221
	Cohesion	6.94	31	2.977	.535

Pair 9	Mechanics	1.39	31	1.647	.296
	Mechanics	7.39	31	3.222	.579
Pair 10	Content	1.77	31	1.521	.273
	Content	7.23	31	2.918	.524
Pair 11	Criticism	1.32	31	.748	.134
	Criticism	2.42	31	.992	.178
Pair 12	Imagination	.77	31	.990	.178
	Imagination	2.55	31	.850	.153

(df) = 2(31)-2=60

Table (3)

Paired Samples Test of the writing performance skills in the on-line pre-post test

Paired Samples Test									
Sub-skill		Paired Differences					t.	Sig.(2tailed)	Effect size
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Organization Organization	5.323	2.166	.389	6.117	4.528	13.681	0.01	0.861859
Pair 2	Cohesion Cohesion	5.516	2.293	.412	6.357	4.675	13.394	0.01	0.856733
Pair 3	Mechanics Mechanics	6.000	2.394	.430	6.878	5.122	13.952	0.01	0.866464
Pair 4	Content Content	5.452	2.014	.362	6.190	4.713	15.072	0.01	0.883343
Pair 5	Criticism Criticism	1.097	.978	.176	1.456	.738	6.242	0.01	0.564981
Pair 6	Imagination Imagination	1.774	1.117	.201	2.184	1.365	8.845	0.01	0.722823

(df) = 2(31)-2=60

1. Organization

Table (1) shows that the Mean of the experimental group was 6.65 and the Mean of the control group was 1.65.The standard deviation of the experimental group was 2.893 and the control was 1.743. t value was. 8.243. The effect size was 0.531056 and the statistical significance was 0.01

In Table (2) ,the Mean of the experimental group in the pre-test was 1.32 then the Mean of the post-treatment reached 6.65. The standard deviation of the same group in the pretest was 1.166 then it was 2.893 the post test. The standard error mean of the pretest was.209 and in the posttest .520.

In Table (3), the Mean of the paired differences in the organization skill was 5.323. The standard deviation was 2.166. The standard error mean was .389. The 95% Confidence Interval of the Difference at the lower level was 6.117 while at the upper level it was 4.528. t value was 13.681. sig .(2tailed) value was at 0.01. The effect size was 0.861859.

2. Cohesion

Table (1) illustrates that the Mean of the experimental group was 6.94and the Mean of the control group was 1.26.The standard deviation of the experimental group was 2.977 and the control was 1.154. t value was. 9.901. The effect size was 0.620325 and the statistical significance was 0.01.

In Table (2), the Mean of the experimental group in the pre-treatment was 1.42 .The Mean of the post-treatment reached 6.94. The standard deviation of the same group in the pretest was 1.232 then it became 2.977 the post test. The standard error mean of the pretest was.221 and in the posttest .535.

According to Table (3), the Mean of the paired differences in the cohesion skill was 5.516. The standard deviation was 2.166. The standard error mean was. .430. The 95% Confidence Interval of the Difference at the lower level was 6.190 however; it was 5.122 at the upper level. t value was 13.394. sig .(2tailed) value was at 0.01. The effect size was 0.856733.

3. Mechanics

According to Table (1), the Mean of the experimental group was 7.39 and the Mean of the control group was 1.45.The standard deviation of the experimental group was 3.222 and the control was 1.312. t value was9.500. This indicates that the experimental and the control groups were equivalent. The effect size was 0.600666 and the statistical significance was 0.01.

Table (2) shows that the Mean of the experimental group in the pre-test was 1.39 while in the post-test was 7.39. The standard deviation of the same group in the pretest was 1.647 then it became 3.222 the post test. The standard error mean of the pretest was.296 and in the posttest .579.

Concerning Table (3), the Mean of the paired differences in the skill was 6.000. The standard deviation was 2.394. The standard error mean

was.412. The 95% Confidence Interval of the Difference at the lower level was 6.878 whereas it was 4.675at the upper level. t value was 13.952. sig .(2tailed) value was at 0.01. The effect size was 0.866464.

4. Content

Table (1) shows that the Mean of the experimental group was 7.23 and the Mean of the control group was 1.58.The standard deviation of the experimental group was 2.918 and the control was 1.501. t value was 9.579. This suggests that the experimental and the control groups were equivalent. The effect size was 0.604632 and the statistical significance was 0.01.

According to Table (2), the Mean of the experimental group in the pre-test was 1.77while in the post-test was 7.23. The standard deviation of the same group in the pretest was 1.521 then it became 2.918the post test. The standard error mean of the pretest was.273and in the posttest .524.

Based on Table (3), the Mean of the paired differences in the content skill was 5.452. The standard deviation was 2.014. The standard error mean was.362. The 95% Confidence Interval of the Difference at the lower level was 6.190 while at the upper level it was 4.713. t value was 15.072. sig .(2tailed) value was at 0.01. The effect size was 0.883343.

5. Criticism

Based on Table (1) , the Mean of the experimental group was 2.42 and the Mean of the control group was 1.39.The standard deviation of the experimental group was.992 and the control was .615. t value was 4.502. The effect size was 0.252504. The statistical significance was 0.01.

According to Table (2), the Mean of the experimental group in the pre-test was 1.32 while it was2.42 in the post-test. The standard deviation of the same group in the pretest was .748 then it became .992 the post test. The standard error mean of the pretest was.134 and in the posttest .178.

Table (3) shows that the Mean of the paired differences in the criticism skill was 1.097. The standard deviation was .978. The standard error mean was.176. The 95% Confidence Interval of the Difference at the lower level was 1.456 while at the upper level it was .738. t value was 6.242. sig .(2tailed) value was at 0.01. The effect size was 0.564981.

6. Imagination

Table (1) shows that the Mean of the experimental group was 2.55 and the Mean of the control group was 1.16.The standard deviation of the experimental group was .850 and the control was 1.003. t value was5.873. The effect size was 0.365026 and the statistical significance was 0.01. Table (2) illustrates that the Mean of the experimental group in the pre-test was .77 while in the post-test was 2.55. The standard deviation of the same group in the pretest was.990 then it reached .850 the post test. The standard error mean of the pretest was.178 and in the posttest .153. Table (3), shows the Mean of the paired differences in the imagination skill was 1.774. The standard deviation was 1.117. The standard error mean was.201. The 95% Confidence Interval of the Difference at the lower level was 2.184while at the upper level it was1.365. t value was 8.845. sig .(2tailed) value was at 0.01. The effect size was 0.722823.

Answer of the Second Hypothesis

The researcher stated the following hypothesis:

There is a statistically significant difference at the level of (0.01) between the mean scores of the experimental group and the control group in pre and post measurement of the writing performance skills as a whole in favor of the experimental group.

Table (4)

The mean score of the experimental group and the control group of writing performance as a whole in the on-line post test.

	Group	N	Mean	Std. Deviation	t.	Sig.	Effect size
Writing performance skills as a whole	Exper	31	37.8065	12.47777	10.860	0.01	
	Contr	31	10.9677	5.79933			0.662807

(df) = 2(31)-2=60

Table (5)

The mean scores of the experimental group for writing performance skills as a whole in the on-line pre-post test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Writing_Pre	10.1290	31	6.21687	1.11658
	Writing_Post	37.8065	31	12.47777	2.24107

(df) = 2(31)-2=60

Table (6)
Paired Samples Test of the writing performance skills as a whole in the on-line pre-post test

Paired Samples Test

		Paired Differences					t.	Sig. (2tailed)	Effect size
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Writing_Pre Writing_Post	27.67742	9.74812	1.75081	31.25306	24.10178	15.808	0.01	0.892816

(df) = 2(31)-2=60

Table (4) shows that the Mean of the experimental group was37.8065 and the Mean of the control group was 10.9677.The standard deviation of the experimental group was 12.47777 and the control was5.79933. t value was 10.860. The effect size was 0.662807. The level of significance was at 0.01.

Table (5) demonstrates that the Mean of the experimental group in the pretreatment was10.1290 and the Mean in the post treatment was 37.8065.The standard deviation of the experimental group in the pretreatment was 6.21687 and in the post treatment was 12.47777. The standard error mean was 1.11658, thereafter it became 2.24107.

In Table (6), the Mean of the paired differences was 27.677. The standard deviation of the paired differences was 9.74812. The standard error mean of the paired differences was .194. 95% Confidence Interval of the Difference at the lower level was 31.253, meanwhile at the upper level was 24.10178. t value was 15.808. The effect size was 0.892. sig .(2tailed) value was at 0.01.

Recommendations

1. Paying more attention to create an interactive learning atmosphere.
2. Encouraging pupils to adhere to lifelong learning.
3. Conducting more researches on enhancing open learning.

Pedagogical Implications

1. Pupils' interests should be taken into account by selecting the topics with suitable and interesting content.
2. Connectivism theory has great influence on pupils' performance.
3. Utilizing technological apps is very important.

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