Using a Program Based on Computerized Integration of Flooding and Enhancement Input for the Acquisition of Vocabulary Items of First Year Preparatory School Students

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Abstract

The aim of this study was to investigate the effect of a computerized integration of flooding and enhancement input program on the acquisition of vocabulary items of first year preparatory school students. The participants were sixty students. They were randomly assigned into a treatment group and a non-treatment group (30 students each). The instruments of the study included: a test in vocabulary items.

The treatment group was taught using the computerized integration of flooding and enhancement input program while the non - treatment group was taught following the plan of the Ministry of Education in Egypt. The participants were pre and post tested. Results revealed that the computerized integration of flooding and enhancement input program had positive results. Suggestions for further research were presented.

Key words: input flooding, input enhancement; vocabulary

ملخص باللغة العربية

كان الهدف من هذه الدراسة هو معرفة تأثير برنامج قائم على التكامل بين تدفق المدخلات وتعزيزها حاسوبيا على اكتساب المفردات لدى طلاب الصف الأول الإعدادى. كان المشاركون ستون طالبًا. تم تقسيمهم بشكل عشوائي إلى مجموعة تجريبية ومجموعة ضابطة (٣٠ طالبًا لكل منهما). تضمنت أدوات الدراسة: اختبار المفردات. تم تدريس المجموعة التجريبية باستخدام برنامج قائم على التكامل بين تدفق المدخلات وتعزيزها حاسوبيا بينما تم تدريس المجموعة الضابطة وفقًا لخطة وزارة التربية والتعليم في مصر. تم اختبار المشاركين قبل وبعد. أظهرت النتائج أن البرنامج القائم على التكامل بين تدفق المدخلات وتعزيزها حاسوبيا كان له نتائج إيجابية. وقدمت اقتراحات لمزيد من البحث.

كلمات رئيسية: تدفق المدخلات – تعزيز المدخلات – الكمبيوتر – المفردات

Introduction

Language is considered the foundation of human behavior. It is used to communicate, learn, express ideas and feelings and to argue (Costica, 2015). Learning a language is an important element in foreign language students` lives because the students don`t have the opportunity to be exposed to language and practice it (Easterbrook, 2013). Language consists of two basic parts: vocabulary and grammar (Costica, 2015). Knowledge of grammar and vocabulary is considered the base of English language (Zhang, 2009).

Vocabulary learning plays a primary role in acquiring a second language. Learners` proficiency in the target language is determined according to the breadth and depth of vocabulary knowledge. Vocabulary knowledge is considered the primary building block for effective communication. Teaching learners a good range of vocabulary provides them with a basic building block of communication. Without vocabulary, communication cannot occur (Zhang, 2015).

In producing language, to express a meaning or a concept, there is a need to have a store of words to select from them and express that meaning or concept (Alqahtani, 2015). He stated that vocabulary, as a factor of the knowledge areas in language, has a large role in acquiring a language for learners. Research has indicated that language readers depend on vocabulary knowledge and without that knowledge they find difficulty in acquiring that language. Vocabulary knowledge is considered as a critical tool for L2 learners because a limited vocabulary in L2 forms a difficulty for achieving successful communication.

Not all the input that is presented to learners is converted to be intake for learning. Researchers have investigated the role of attention in mediating input and learning (Ferdous 2015). So language teachers should find ways of converting input into intake for foreign language learners. One way for this target is suggested by many studies, is to make the input more salient for the learner by enhancing it to facilitate learning (Pinsonneault, 2014).

Kim (2010) indicated that increasing the saliency of language features leads to increasing the chances of noticing and be attended to them by the learners. Making the input more salient to draw learners` attention to it can be achieved by using different methods such as input flood (frequency), input enhancement techniques, implicit negative evidence by the use of corrective feedback and explicit rule presentation (Alsadhan, 2011). There are two ways of increasing the saliency of input: The first method is input flooding that provide the learners with sufficient exposure to the target features by presenting many examples including those features in the text without any tools of drawing attention to the words or the structure. Through high frequency of those features in the text, learners can notice them and be attended to them easily. The second method is input enhancement that includes highlighting the target features to draw learners`attention to them through many techniques such as(bolding, italicizing, underlining, different font, and different font size) (Amirabadi et al, 2014).

Among various techniques of drawing learners` attention to form, input enhancement and input flood has received considerable attention in a recent SLA research. Some researchers (e.g Leow etal 2003; Izumi 2002; and Lee 2007) indicated to a way to draw learner` attention to form by using input enhancement but their results showed that providing learners with input enhancement alone was too absolute to both draw attention to form and develop learning (Ghafouri & Masoomi, 2016). Only exposure to language features is not sufficient to enable learners to acquire much of second language grammar so this lack leads to the need for focusing learners` attention to grammatical features (Nahavandi & Mukundan, 2013).

Finally, in brief, input enhancement plays a role in highlighting a certain target feature by drawing learners` attention to it by using some techniques such as bolding, coloring, different font, different size, italicizing, capitalizing, underlying …etc. On the other hand, input flood plays a role in enriching input that includes numerous examples of the target feature without using any tools to draw the learners` attention to it. It means that the learner exposed to many examples of the target feature to increase the chance of noticing (Amirabadi et al,

2014). They suggested that teachers can apply input flood and input enhancement together to help their learners learn and recall different structures without boring repetition and drills. So it is suggested to integrate using input flooding with input enhancement.

Context of the problem:-

In spite of the importance of vocabulary , the researcher has observed that first year prep school students at Ebshadat Preparatory School have problems in their vocabulary. She has observed this problem through her teaching. To verify the problem, the researcher used different procedures:- The researcher has conducted a pre test of vocabulary on first year preparatory school. The results showed that 5 students got 40%, 7 students got 45%, 3 students got 31%, 8 students got 35%, and 7 students got 67%. The results showed that they have problems in acquiring vocabulary.

After analyzing the results of tests, the results showed that the students have problem in acquiring vocabulary items as shown in the following table:

Category	Nouns	Adjectives	Adverbs	Verbs	Phrasal verbs
Difficulty	45%	30%	7%	10%	8%

The problem

The problem is that first grade preparatory school students of Ebshadat Preparatory School have problems with their vocabulary items. The present study tried to investigate using a program based on computerized integration of input flooding and input enhancement for the acquisition of vocabulary items.

Questions

The present research attempted to provide plausible answer to the following question:

How effective would a program based on computerized integration of input flooding and input enhancement be in the acquisition of vocabulary items?

Hypotheses

The following hypotheses were tested:

There would be a statistically significant difference (favoring the experimental group) between means of scores obtained by the experimental and the control groups in the vocabulary items post- test.

Significance

The present study would develop vocabulary of first preparatory graders of Ebshadat Preparatory School. The present study would provide teachers with motivated and popular techniques for developing vocabulary items of their students. The program of the present study would help teachers adopt new roles such as a facilitator and a guider. It would provide teachers with sample computerized exercises that will be designed through "Auto – play media studio program software"

Delimitations

The study was delimited to:

First preparatory graders at Ebshadat Preparatory School.

Lessons of the second term of first year preparatory content were taught using a program based on computerized integration of input flood and input enhancement specified.

Methods and procedures

A pre-post quasi experimental design was used in the present study. The treatment and the non-treatment groups would be exposed to pre-post means of collecting data (A test in vocabulary items). The treatment group would be taught using a program based on computerized integration of input flooding and input enhancement while the non - treatment group would be taught using the conventional methods followed when teaching EFL to first preparatory graders.

Variables:

* **Independent Variable:**

A program based on computerized integration of input flooding and input enhancement.

* **Dependent Variables:**

Acquisition of vocabulary items

* **Control Variables:**

To ensure equivalence among the members of the two groups, the

following variables were controlled:
>   a. Performance on the pre – test of vocabulary
> - English proficiency level - Gender - Age

Instruments of the study

To achieve the objectives of the present study the researcher prepared the following tools:-

A test in vocabulary EFL items

A. Objectives:

- Identifying the meaning of new vocabularies of ancient Egyptian inventions, measurement and internet
- Using the new vocabularies of experiments
- Identifying the meaning of new vocabularies of transport
- Using the new vocabularies of health, food and smoking
- Identifying the meaning of new vocabularies of exercises
- Mentioning the meaning of new vocabularies of safety and healthy water

The vocabulary items Test of 3 types of questions (Multiple choice – Rewrite items – completion items) with 60 items based on the learning outcomes and the objectives of the program.

B. Construction:

• The test was designed on the basis of a table of specifications.
• A panel of TEFL and EFL staff members evaluated the test in the light of the table of specifications and recommended editing of some items.
• The total grade of the test is 60.

C. Item Type:

 The items are Multiple choice, Rewrite items and completion items.

D. Scoring:

 One point was given for each correct answer; This is explained in the table of specifications. The total score of this test is (60) marks.

E. Instructions:

 Instructions of the test are written in English in an easily and simple way to avoid any ambiguity.

F. Duration:

Ninety five minutes were assigned for answering the vocabulary items Test. The researcher calculated the time between each student in the group. The average was taken.

Test Validity:

A pilot study was conducted about 15 days before administrating the program to estimate the validity and the reliability of the test

Face validity:

The researcher distributed the test to five of a panel of TEFL and EFL experts to judge the linguistic stating of the items, suitability of the items to the participants and to the objectives. Their suggestions were taken into consideration. These suggestions were represented in the shortening of the number of items as it was too long, replacing some words in some questions , writing instructions of the test in the first page and numbering the items.

The researcher arranged scores of the subjects (30) exponentially to determine the highest quarters (7 subjects) and the lowest quarters (7 subjects). Then t-value was computed between the two quarters. The following table shows the results:

Table (1)
t- value of the Highest and the Lowest Quarters in the vocabulary items Test

Test	total score	High Group (n = 7)		Low Group (n = 7)		D.f	t value	Significance
		Means	Standard Deviation	Means	Standard Deviation			
Vocabulary test	60	29.25	2.25	12.85	1.06	12	17.54	significant

* Significant at 0.01

The above table shows that there was significant difference between the high group and the low group in the vocabulary items Test
 (Favoring the high group). This assures the validity of the test.

Test Reliability:

The researcher used test – re-test method to calculate the reliability of the test. The researcher conducted the test on (30 students) and then

reconducted it after 2 weeks. The correlation coefficient between the first implementation of the test and the second one (re-test) is shown in the following table:

Table (2) reveals that the correlation coefficient of the total mark reached (0.99). This is statistically significant and proves the reliability of the test. Aiken (1994), as cited in Latif (2012), stated that the test should have a reliability coefficient ranging from (0.70) and preferably closer to (0.90)

Table (2)
The Correlation Coefficient Between the Test and Re-Test of the vocabulary items Test

Test	Test		Retest		Pearson Correlation	Sign level
	Means	Standard Deviation	Means	Standard Deviation		
Vocabulary test	20.8667	6.68881	20.8000	6.68194	.991**	0.01

Item Analysis:

1- The researcher conducted the vocabulary items Test to identify the suitability of the test to the students. Thirty first year preparatory graders were chosen randomly to answer the test. Item analysis was done after scoring the test to identify suitability of the items to the students and to provide information concerning the following points:

1-Index of difficulty.

2- Index of discrimination.

Table (3) shows that:

1- Difficulty indices ranged from (0.60) to (0.70).These percentages show that the vocabulary items Test includes various questions that involve easy and difficult questions to suit the different levels of the participants. .

2- The vocabulary items Test had a positive discriminating power: The discrimination indices ranged from (0.21) to (0.24).

Table (3)
Difficulty Index and Discrimination Power of the vocabulary items Test of the Pilot Study

Number Of Question	1	2	3	4	5	6	7	8	9	10
Difficulty Index	0.63	0.63	0.60	0.63	0.70	0.66	0.70	0.70	0.66	0.60
Discrimination Power	0.23	0.23	0.24	0.23	0.21	0.22	0.21	0.21	0.22	0.24
Number Of Question	11	12	13	14	15	16	17	18	19	20
Difficulty Index	0.66	0.70	0.63	0.63	0.60	0.63	0.60	0.63	0.66	0.60
Discrimination Power	0.22	0.21	0.23	0.23	0.24	0.23	0.24	0.22	0.22	0.24
Number Of Question	21	22	23	24	25	26	27	28	29	30
Difficulty Index	0.63	0.63	0.66	0.66	0.66	0.66	0.66	0.66	0.63	0.66
Discrimination Power	0.23	0.23	0.22	0.22	0.22	0.22	0.22	0.22	0.23	0.22
Number Of Question	31	32	33	34	35	36	37	38	39	40
Difficulty Index	0.63	0.66	0.70	0.63	0.66	0.66	0.66	0.66	0.63	0.66
Discrimination Power	0.23	0.22	0.21	0.23	0.22	0.22	0.22	0.22	0.23	0.22
Number Of Question	41	42	43	44	45	46	47	48	49	50
Difficulty Index	0.63	0.70	0.66	0.70	0.63	0.66	0.63	0.70	0.66	0.66
Discrimination Power	0.23	0.21	0.22	0.21	0.23	0.22	0.23	0.21	0.22	0.22
Number Of Question	51	52	53	54	55	56	57	58	59	60
Difficulty Index	0.66	0.63	0.63	0.60	0.66	0.70	0.63	0.63	0.63	0.66
Discrimination Power	0.22	0.23	0.23	0.24	0.22	0.21	0.23	0.23	0.23	0.22

Findings: Hypothesis 1

Hypothesis (1) predicted that the treatment group would surpass the non – treatment group at the (.01) level on the post test of vocabulary items. Table (4) shows the data obtained to verify this hypothesis.

Table (4)
t-Test Results of the Post – Testing of the vocabulary items Comparing TG and NTG

Test	Total score	Treatment Group (n = 30)		Non treatment Group (n = 30)		DF	t –value	Cohen's d	Sig.
		Mean	Standard Deviation	Mean	Standard Deviation				
Vocabulary test	60	54.6667	4.22091	35.4667	5.60008	58	14.996	3.90	0.01

Based on the data in the above table, the t-value (14.996) obtained is significant at the (0.01) level. Thus, hypothesis (1) is accepted.

Discussion

The present study set out to determine the effect of a computerized program based on integration of flooding and enhancement input (CIFEIP) on the acquisition of vocabulary items. The results showed that students learn vocabulary easily through this program. Table (4) shows that the treatment group outperformed the non-treatment group. Results revealed in table (4) confirmed hypothesis 1. Participants of the treatment group (who were taught by the program) surpassed their counterparts in the non – treatment group (who were taught by the conventional methods), in the vocabulary test.

The findings of the present study coincide with the literature reviewed. The results coincide with the results of ten studies investigating the effects of using input flooding and input enhancement on developing vocabulary. There is a consensus between the results of the present study and those of other studies investigating the positive effects of using input flooding and input enhancement on vocabulary or grammatical structures:

While some researchers have found positive effects of input enhancement and input flooding (Arani (2016), Balcom (2015), Amirabadi et al (2014), Hernandez`s (2011), Afraz and Ebrahmi (2017), William and Evans (1998) and White (1998)) others minimize their effect (Zyzik and Marques (2012) and Reinders and Ellis (2009)).

Increasing salience of input makes it noticed and increasing noticing of input makes it processed easily (Lee, sang 2008). Input flooding (through providing many examples of target features in different contexts) and input enhancement (through enhancing the target features

by typographical techniques) increase the salience of input that makes it noticed by the students so it is processed easily. The results of the study showed that the treatment group acquired vocabulary items and easily.

The researcher noted that CIFEIP motivated students to use language and participate. Rayan and Deci (2000) stated that where there is motivation, it leads to productivity. Using CIFEIP had a positive effect on increasing motivation of students of the treatment group. It leads to the development of acquiring vocabulary and.

The researcher noted increased cooperation among the group members. Heitzman (2009) suggested that cooperation between peers provide them with a motivated environment for learning. CIFEIP provided the students the chance to work in groups and cooperate with each other to perform the group`s tasks. The use of technology makes learners more cooperative in learning tasks and helps them in getting information and interacting with resources such as videos (Riasati etal, 2012).

Student teacher relationship changed through using the CIFEIP. The teacher wasn't the only source of all knowledge. Her function was only to direct students. Using technology changes the teacher – centered learning into the learner – centered learning that leads to positive effects. Teachers become facilitators and guiders for their learners in the learning process (Pourhossein and Sabouri, 2014).

Conclusion

The discussion above demonstrated that using the CIFEIP could be effective in developing vocabulary items. Teachers should integrate input flood and input enhancement inside their English language classes. The EFL teachers should put the following points into their consideration: (providing students with frequent feedback, using various and different activities, providing students with an authentic and non-threatening environment, motivating and activating students all the time of the English class, promoting group and pair work, using different procedures of scoring to encourage students to participate and providing students with many sentences including the target enhanced vocabulary.

Suggestions for further research:

- A replication of the present study to be implemented on a wide number of pupils and different grades.
- The effect of a CIFEIP on developing the creative output of vocabulary items and grammatical structures.
- The effect of a CIFEIP on developing reading and writing.
- The effect of a CIFEIP on developing listening and speaking.
- The effect of using CIFEIP on developing children's' attitudes towards EFL.

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