The effect of pictorial mode on children's learning of new L1 lexical items

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Received: January 25, 2018; Accepted: September 23, 2018; Published: September 25, 2018

Abstract

This research is aimed at investigating the influence of using pictorial mode towards children's learning of L1 new lexical items. This study is based on an experimental design. To reach the goal, 20 children as the sample were randomly selected from nurseries in Shiraz, Iran. The participants were 3 years old children divided in two groups of experimental and control. To estimate the impact of pictorial mode on children's learning of L1 new lexical items, the same lexical items (the name of 3 animals) were provided to each group with different media; flashcard used in the experimental group, and in the control group just used some explanations about the characteristics of the animals. To collect the data, the researchers recorded children's voice and then transcribed and scored their answers. The data were then analyzed using independent-samples t-test. The result shows that inasmuch as those in the experimental group surpassed those in the control group, it came to light that the use of pictorial mode greatly influenced children's learning of new L1 lexical items.

Keywords: lexical items, pictorial mode, flashcard

How to cite this paper: Sadighi, F., & Nourinezhad, S. (2018). The effect of pictorial mode on children's learning of new L1 lexical items. *Journal on English as a Foreign Language*, 8(2), 189-201. doi:<http://dx.doi.org/10.23971/jefl.v8i2.757>

Journal on English as a Foreign Language, 8(2), 189-201

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DOI: <http://dx.doi.org/10.23971/jefl.v8i2.757>

Teaching words to preschoolers is a significant issue for first and second language. Lexical items have a key position in the English language teaching in under elementary school. The vocabulary teaching to preschool students integrates kinds of teaching technique such as dialogue or thinking skill questioning. Moreover, there is a special role of how picture such as flashcards assist teachers and young students learners in the instructional process, which is the main focus of this work. The importance of teaching lexical items is to support and stimulate children to improve knowledge of the words from a children age because it influences their reading comprehension and their success in the academic purposes as they grow up.

Up to now, many education experts have solved the language learning problems to search the suitable find strategies, methods, and techniques to make it more effective and effective, easier and even creative. In the context of teaching English, visual-aids such as flashcards are defined as items that are produced mostly by teachers to support written or spoken info so that it can be more easily understood.

The remembering and main recognition of images on the reading text or content in form of audio has been well saved and is named the picture superiority effect (PSE). The cause for PSE is still being argued about (Miller, 2011), but it tends to be obvious that somehow pictures are processed in different way (Hockley, 2008, p. 1351).

In today's teaching, learning media or tools are signalized and distinguished from each student by the system of their characteristic symbol, but some tools such as information and communication technology (ICT) are more distinguished by what students could do with the useful info, that is, their capability to the symbol process (Plass & Jones, 2005, p. 480). This assists students more choices for comprehending information, and more than one technique to encode and retrieve (Jones, 2009). As a role of ICT such as computer in the learning of L2 vocabulary, Pavicic (2008) refers to Computer Assisted Vocabulary Learning (CAVL) through which students could study successful in comprehending new words by using programs with special treatment that is available on CD-ROMs, the websites, and popular computer games.

A procedure to add strange words to learner's vocabulary items is by locating lexical items in the dictionary and learning what students mean. One main benefit of flashcard is that it can be taken from other places and studied from other time (Brown, 2000). Moreover, Crawley, Mclaughlin and Kahn

(2013) maintained that flashcards and the reading racetrack may be helpful in teaching the participants sight words.

While some researchers signify that working with flash cards help learners in acquiring vocabulary more effectively than word lists, researchers such as Echarte (2013) performed a line of study and affirmed that students obtained the highest scores when the vocabulary items were instructed by using flashcards, followed by word lists with L1 translations. Interestingly, the lowest scores were acquired when students were taught with the method of word lists with TL definitions. By the same token, Pishghadam, Khodadady and Khoshsabk (2010) asserted that the students who were taught using pictures had optimal results.

Teaching vocabulary by using flashcards would bring about excitement in students and may help them better understand the lexical items; moreover, media including flashcards also renders a crystalline concept of information given (Rahmansari, 2016). Humans are able to recall a great number of images. Both the impressive things and the necessary subjects are able to recall the pictures with great details (Brady, Konkle, Alvarez & Oliva, 2008). The remembering and recalling high quality images on the reading text or content which has audio content is very well saved and is named the picture superiority effect (PSE). The causes for PSE are still being argued about (Miller, 2011); however, it tends to be clear that somehow pictures are processed in different procedure.

Formal second language vocabulary instruction, therefore, it may also be useful in first language (L1) classes. It is evident that input has great importance in language learning. This implies that a greater level of attention should be allotted to the modality of input in language learning (Sydorenko, 2010). In recent years, many researchers have considered the impact that multimedia materials can have on second language learning. With the increasing popularity of multimedia sources among the younger generation, one can hardly deny the influence of different aspects of multimedia towards the learning of various language components and skills. This claim is corroborated by several researchers who have shown the positive influence of using different kinds of multimedia on language learning. For instance, Danan (2004) and Wang (2012) state that captioned movies can help second language learners to remember L2 vocabulary via mixing images, spoken words, and written text.

Multimedia is a group of print, audio, and picture that improve more comprehensible input. Images and video can enhance reading and listening comprehension (Plass & Jones (2005). In addition, referring to the Dual Coding Theory, a group of picture and verbal information improve the process of information (Paivio, 2007).

Different researchers have worked on the influence of various multimedia environments on learning of lexical items. Yeh and Wang (2003) tried to show the impact of multimedia vocabulary annotation and learning style on learning words. The results indicated that the most efficient type of vocabulary annotation was text plus picture. Jones (2004) investigated the effects of pictorial and written annotations on L2 vocabulary learning. The results stated that the written annotation and the pictorial and written annotation groups had higher scores than the comparison group and the differences were statistically significant, but the difference between the pictorial annotation group and the comparison group was not meaningful.

Another study was done by Yoshii (2006) on the influence of various glossing on incidental vocabulary learning in a multimedia environment. Results clarified that the textual-pictorial glosses group had higher performances than the textual glosses group on the definition-supply test.

The test of the impact of various multimedia glosses including textual, pictorial, and textual-pictorial on the learning of lexical items in the second language learning (Yanguas, 2009). The results demonstrated that textual-pictorial gloss group had better performances in comparison with all other groups.

Sydorenko (2010) studied the influence of input modality in three stimulus conditions (video, audio, and captions) on 1) the learning of written and aural word forms, 2) overall lexical gains, 3) attention to input, and 4) vocabulary learning strategies. He divided the learners into three groups. Group one was VAC that received video, audio, and captions, group two that received video and audio was named VA, and the third group was VC that watched video and captions. It came to light that the scores of the VAC and VC groups on written recognition of words were higher than on aural recognition of the words. However, the VA group obtained higher scores on aural recognition of word forms than on written recognition. The findings also unveiled that the VAC group learned more word meaning than the VA group.

Practical proof has so far depicted that pictorial clarification helps students to master and keep L2 idioms in words. But, in the study, Boers (2009, p. 367) named in question the reason of the benefits of pictorial elucidation. In another experiment, Kim and Gilman (2008) tested the effects of multimedia components such as visual text, spoken text, and graphics on learning lexical items in the second language. The results showed that participants who obtained visual text and added graphics instruction or those who had visual text, added spoken text, and added graphic instruction outperformed the other groups.

In another study, Zarei and Rashvand (2011) appraised the impact of multimedia on L2 vocabulary learning in various captioning conditions. They investigated the effect of verbatim and nonverbatim interlingual and intralingual subtitles on L2 vocabulary comprehension and production. The results indicated that nonverbatim subtitles had positive effect on comprehending words irrespective of whether they were interlingual or intralingual. The findings also showed that regardless of whether captions were verbatim or nonverbatim, intralingual subtitles affected positively.

Another study was conducted with 120 first-year B.A students by Zarei and Sadeghi (2011), which examined the effectiveness of synchronous and asynchronous interlingual and intralingual captions on L2 learners' comprehension and production of lexical items. Students were divided into four groups randomly. Every group saw the same film in various caption conditions. The results showed no differences among the four groups with regard to understanding and producing vocabularies among L2 learners.

Alexious (2005) proposes that recognition of something as familiar requires making use of memory. Hence, when conducting language teaching, it requires acute sensory stimuli. These sensory stimuli encompass pictures or any other visual images. As regard to how the teacher tests this recognition and the memorization (the cognitive process), Nikolov (2009, p. 58) proposes that using a standardized test of cognitive skills which seemingly facilitate foreign language learning would offer a valuable source for children in their first learning.

Furthermore, the trends in teaching practices in Norwegian classrooms reveal that teachers are completely traditional regarding teaching techniques and methods of instruction; for example, they are inclined to depend on the textbook to a great extent (Drew, 2004, p. 20). Therefore, there appears a need for pupils to be presented with some other techniques for learning lexical items. Supplementing the textbook with other materials could therefore be advantageous.

In another study by Tabatabaei and Shams (2011) investigating the influence of various multimedia glosses, viz text, image, and text plus image towards online L2 students' vocabulary learning using computer in Iranian EFL class. Based on the findings, they concluded that using multimedia gloss could have positive effect on online computerized L2 vocabulary learning. Rezaee and Sharbaf (2011) investigated the effect of multimedia use, pictures and audio visual on the word learning covered in the text of reading comprehension. The results showed that learners exposing to reading comprehension passages using movie clips surpassed the two other groups with regard to the recalling and learning new vocabulary.

To sum up, the various aspects of multimedia and L2 vocabulary learning have already been extensively studied in isolation. However, there seems to be little research on the effect of these media in the context of first language as a tool in children's learning of L1 new lexical items. The current study, therefore, intends to alleviate the gap in this area and shed light on some of the issues surrounding this little explored area. The current research tries to get the answers to the next research question, "Does using the pictorial mode influence children's learning of new L1 lexical items?"

This research was conducted to investigate the impact of using pictorial mode on children's learning of L1 new lexical items. The expectation of this study is that by understanding the effect of pictorial mode on children's learning of new L1 lexical items, the use of pictorial mode can greatly influence children's learning of new L1 lexical items.

METHOD

To reach the objective of the research, a sample of 20 children were randomly selected from one of the nurseries in Shiraz, Iran. With the permission of the principal and teachers of the aforementioned nursery, our experimental study started and lasted three complete sessions. All the participants of the study were three years of age.

In order to be able to measure the effect of pictorial mode on children's learning of new L1 lexical items, they were divided in two groups; one group is the control group and the other one is the experimental group. Different types of flashcards were used for children in the experimental group. A correction grid was applied and not only each participant's responses were marked on the sheet but his or her voice was also recorded for further analysis and confirmation of the results. Later, all the recordings were fully transcribed and used.

The experimental group received flashcards, while the control group received just some explanations about the characteristics of the animals. The same lexical items which included the names of different animals such as Dinosaur, Turkey, and Squirrel were presented to each group in different ways. The data were coded and categorized by giving a score of zero to wrong answers for each question and a score of one for correct responses. Then the responses were analyzed and interpreted. This study is based on an experimental design and encompassed three instructional sessions. Moreover, some post-tests were administered at the end of the third session and the researchers explained the characteristics of animals to children in both groups and they were asked to point to the correct animal. Having scored the

children's answers, the researcher analyzed the data through some statistical procedures.

In order to analyze using statistical analysis and interpret the analysis results of the recorded files, the software Statistical Package for Social Sciences (SPSS) was of great help in this research. The independent samples t-test which is a parametric test was used to compare the means of children in the experimental group with those of children in the control group. It served to clarify whether there was a statistical evidence that the related means were significantly different.

FINDINGS

When the means of children in the experimental and the other groups were compared, it was illuminated that students in the experimental group had a much higher mean ($M=2.6$) than their peers in the control group ($M=0.6$). The results of descriptive statistics which encompass means and standard deviations are illustrated in Table 1.

Table 1. Descriptive Statistics Related to Children in the Experimental and Control Groups

	Group	N	Mean	Std. Deviation	Std. Error Mean
Score	Control	10	0.6	.54772	.24495
	Experimental	10	2.6	.54772	.24495

Levene's test was used to measure the homogeneity of variance as a precondition for a parametric test such as t-test. As this test was not statistically significant, variances were not significantly different and the parametric test of t-test could be run. The results of Levene's test and independent samples t-test are shown in Table 2.

Table 2. Independent-samples t-test for Participants of Different Groups

		Levene's Test for Equality of Variances		T-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Score	Equal variances assumed	.000	1.000	-5.774	8	.000
	Equal variances not assumed			-5.774	8.000	.000

Participant in the experimental group scored much higher in comparison with children in the control group. Inasmuch as the p-value was lower than the alpha significance level ($p=0.000 < 0.05$), the differences in means of the aforementioned groups were statistically significant.

This study served to identify whether or not using the pictorial mode influenced children's learning of new L1 lexical items. To this end, the students were divided into the experimental and control groups. Results indicated that there was a significant difference among students of the two groups in that children in the experimental group obtained higher means and outperformed their peers in the control groups.

The students in the group of experimental had significantly better lexical item gain scores than the control group students at the end of the study. This means that using flashcard for experimental group had positive effect on children's learning of L1 new lexical items. Therefore, with respect to new lexical retention the experimental group got better scores than those in the control group. This could be justified on grounds that information presented at the same time through both the visual-pictorial and auditory-verbal condition might have led to cognitive overload and such a finding is in line with the split-attention theory, based on information which is presented to learners through multiple channels will force learners to divide their attention.

DISCUSSION

As it was indicated earlier, the students of the current research were divided in into experimental and control groups. To find out the impact of pictorial mode on children's learning of new L1 lexical items, the same lexical items were provided to both groups. While flashcard was used for the experimental group, some explanations about the traits of animals were provided for the control group. Through independent samples t-test, it was illuminated that children in the experimental group outperformed students of the control group. In other words, the application of pictorial mode exerted great effects on children's learning of new L1 lexical items.

In line with the results of this study, Kim and Gilman (2008) tested the effects of multimedia components such as visual text, spoken text, and graphics on L2 vocabulary learning. The results showed that participants who received visual text and added graphics instruction or those who received visual text, added spoken text, and added graphic instruction outperformed the other groups.

Similarly, the results of this study corroborate those of Zarei and Hasani's (2011) findings which shows that those who worked on the effects of different input modalities in the domain of multimedia learning on language

learning were to some extent similar to those of this study, and other parts were different. They found no significant differences among the four types of intralingual glosses including interlinear, marginal, pre-text, and post-text on vocabulary recognition and recall. But, with regard to interlingual glosses, the pre-text and marginal groups outperformed the two other groups in vocabulary recognition. Moreover, Zarei and Rashvand (2011) could find significant differences among different aspects of multimedia environments in vocabulary learning.

The results of this study confirm those of Tabatabaei and Shams (2011) that examined the influences of various multimedia glosses, namely text, picture, and text plus picture on online computerized L2 vocabulary learning of Iranian EFL learners. Based on the findings, they concluded that using multimedia gloss could have positive effect on online computerized L2 vocabulary learning.

The research finding seems to what Yoshii (2006) findings in his research on the effects of various glossing on incidental vocabulary learning in a multimedia environment. Results indicated that the textual-pictorial glosses group outperformed the textual glosses group on the definition-supply test.

Here the word *relabeling* of objects can be interpreted as using pictures to re-label and the memory of the picture can affect language achievement. Therefore, by including exciting instructional pictures and incorporating visual images in the instructional books, teachers can create a more favorable instructional environment for learners.

On the other hand, the findings of the present study are different from a number of studies some of which were reviewed in the literature review. For example, the result of this study contradicts that of Shakouri and Mehrgan's (2012) study which indicated that using flash cards played no significant role in promoting the vocabulary knowledge of participants. It is also in disagreement with Syndorenko's (2010) findings, which indicated that the VAC group learned more word meanings than the VA group. In his study, the performance of the groups that received captions (VAC and VC) were better than the VA group on the written recognition of word forms while the VA group was better than the two mentioned groups on the aural recognition of words.

CONCLUSION

The findings of the present study may have implications for teachers, learners and materials developers. Language teachers can improve L1 learners' lexical comprehension by using pictorial instructional methods like flashcards and by making first language classes more interesting for learners specially

children. These findings, in general, demonstrated that pictorial mode could be used as a teaching strategy to improve learners' vocabulary mastery.

The observations in all treatment sessions showed that using flashcard was very pleasurable for children and changed the boring instructional environment to a relaxing and interesting one. In addition, the research findings can give benefits for material developers and instructional book designers. By including exciting instructional movies and incorporating visual images in the instructional books, they can create a more pleasurable instructional environment for learners.

To sum up, flashcards were beneficial learning resources for students to learn new lexical items. Nonetheless, the controversies among the findings of the previous studies as well as those between the results of the current research and those of the related studies warrant further research in the little explored areas. Due to its own particular features, the study was restricted to pre-school children and limited to 20 preschool children in a kindergarten in Shiraz.

Following the conclusion of the study is the suggestion. It is recommended that for those who are going to do research such as this topic can conduct studies on the effect of the use of vocabulary flashcard in the English learning.

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Authors' brief CV

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