

Original Article: Teacher's Game Education Effectiveness on Elementary School Students' Language Improvement in West of Asia

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Citation M. Khodakaramian*, S. Belmaneh, S. Sadat Alavian, H. Sanaeifard, Z. Azizi Aliabadi, M. Hedayatnia, **Teacher's Game Education Effectiveness on Elementary School Students' Language Improvement in West of Asia**. *Int. J. Adv. Stu. Hum. Soc. Sci.* 2023, 12 (1):56-62.

<https://doi.org/10.22034/IJASHSS.2023.364544.1114>



Article info:

Received: 2022-08-05

Accepted: 2022-11-02

Checked for Plagiarism: Yes

Language Editor:

Ermia Aghaie

Editor who Approved Publication:

Dr. Mostafa Maleki

Keywords:

Teacher's Game, Education effectiveness, Elementary school students, Language.

ABSTRACT

The purpose of this study is to determine the effectiveness of teachers' game education in correcting the operational problems of first-grade elementary students in the west of Asia. This research is quasi-experimental with pre-test and post-test designs with an unequal control group. The statistical population consisted of all first-grade students of cities in the academic year of 1998-99 with 987 students. The sampling method was multi-stage cluster random sampling, and the research method was quasi-experimental, selected in each group of 10 people. Then, the word game training course was performed in 13 sessions, twice a week, for 30 min. The researcher-made test of operational problems was used to collect data. The results based on the findings revealed that the training course on wordplay is effective in improving the verbal errors related to visual, auditory, and accuracy and attention, as well as non-writing and its significance level, is 0.001. According to the results, wordplay affects errors of elementary school students, When students receive this game, their writing skills and auditory memory will improve, and they will remember things better.

Introduction

The elementary level is the basis of other levels of education. In the elementary level, the first level is the basis of other basic levels. The better the students are educated at this level, the more comfortable they are at the other levels. Reading and writing are the basis of

acquiring knowledge, which is very important in elementary school. Suppose the right proper facilities and a healthy environment are provided in during this period. In that case, the ground for the prosperity of students' talents will be provided, and the primary necessity for life and social adjustment will be equipped [1]. The coordination of multiple brain mechanisms is related and requires stimulation and

integration of multiple information resource chains, justification, memory, motor skills, language, and cognition. According to Anggeraini, reading and writing one of the most complex cognitive activities related to intelligence abilities on the one hand. On the other hand, they are tools for thinking, problem-solving, and learning in all fields of education. Most likely, one of the reasons for students' rejection and repetition of basics and failure in learning is the lack of two reading and writing skills.

A survey of 1,633 students reported a prevalence of spelling disorder of about 7%. The most crucial spelling mistakes are: visual memory, auditory memory, sensitivity or auditory discrimination, attention, and attention (visual and auditory), visual sequence memory, motor memory, inversion, symmetry, visual discrimination, educational problems, and spelling. It is for writing disorders such as dyslexia, symmetry, carelessness, inattention, and poor visual and written memory in preschool and in the first months of entering the first grade. Still, if this problem persists and is seen repeatedly for a long time, it should be treated. Creating opportunities for interactive learning is one of the best methods of education. Researchers and scientists in education have consistently promoted the high values of "interactive learning environments." Instead of being passive recipients of information from educational sources, these environments are situations in which students are directly involved in the learning process. One of the interactive situations between the student and the teacher is "educational games" with an educational purpose at its heart [2].

Written language is one of the most critical forms of language. However, some students have some difficulties on applying the written language skills. Non-writing disorder refers to a disorder in written language that focuses on the mechanical and technical aspects of writing skills. This disorder manifests itself in the form of malformations in children with at least moderate intelligence. The main characteristic of non-writing is that the child's writing skills, considering the IQ and educational level, are

significantly lower than expected (Cenberci, 2018) [11]. Children may have difficulty with most written language skills, such as handwriting, spelling, punctuation, capitalization, and composition. However, the most common disorder of written expression is a defect in spelling [1].

Successful teachers use hundreds of effective strategies in learning, preserving, and applying the information to solve problems. A study by Ayob *et al.* (2013) [3] showed that teachers spend 25 minutes a day teaching writing, and this training is different in schools. This difference shows that teaching writing in the classroom is not a priority, and teachers do not know the best way to teach writing skills. Recent research has yielded positive findings regarding using games in the classroom [4]. Listening and reading are the means of connecting with the thoughts of others, and speech and writing are the means of informing others of their intentions and thoughts. Therefore, all efforts in the field of language teaching in primary school should be aimed at cultivating its four skills: listening, speaking, reading, and writing; but the critical question is: despite all this effort, why do students have difficulty reading the curriculum? Why are students weak in Persian spelling?

Many students in the existing educational system have learning difficulties that require new and innovative teaching methods. The present study also deals with the necessary sub-skills in the field of reading and writing activities with specialized exercises in wordplay. The researcher is looking for the answer to this question: Is the word game training course effective in correcting spelling problems (spelling, visual memory, auditory memory, and increasing attention and attention) of elementary school students?

Research Method

Method, society, and statistical sample: This research is a quasi-experimental field for applied and research purposes. The research design is pretest with a control group, consisting of two groups. The statistical population consists of all first-grade elementary

school students in a distant city in the 99-98 academic year who have spelling problems. Students were selected by multi-stage cluster random sampling method (because of the criterion for selecting a class). From Kurdistan primary schools, several primary schools with more spelling problems were randomly selected and made available. Considering that the research method is quasi-experimental, the sample size in each group should be selected by at least 15 people [5]. With the formation of the population by multi-stage cluster random sampling, both groups were first assessed by a pretest. The experimental group was trained in the word game method for three months, and the control group was trained in the traditional method. The experimental group was trained to play with words by teaching them for 13 sessions according to the diagnosis of a spelling problem. Finally, due to the limitations of collecting children in a classroom, because working with children with their sensitivities, choose a school from city-level primary schools (Kurdistan Primary School with 20 students) as a sample and select the independent variable on them.

Data collection tools: Spelling Problems Questionnaire: In this study, a questionnaire consisting of 11 questions, including 4 cases of students' spelling problems (poor visual, auditory, inattention, inaccuracy, and symmetry) was prepared and available to 20 students. It was the first grade of elementary school. Questions at four levels (thoroughly, almost, incompletely, could not) examined student behavior for 13 sessions. The validity of the questionnaire was obtained based on face validity and the opinion of experts. Using Cronbach's alpha coefficient, the reliability of the questionnaire was evaluated, and Cronbach's alpha was 0.94 for all items and its four dimensions (visual, auditory, attention and attention, non-writing, and symmetry) separately, which indicates the items related to the problem questionnaire. Spellings have a high degree of reliability and, in other words, internal consistency.

Research method: To collect data, conduct research, and correct spelling problems related to the main primary and sub-hypotheses, the

educational package of word games has been used by teachers. This training course is based on games appropriate to the age of students, and the teacher tries to perform with the participation of students and using games. This educational package is taken from a Patterson source (2009) [12] whose validity has been confirmed as content validity by obtaining the opinion of several experts and includes the following primary and vital components:

1) Phonological awareness is the ability to read and work with smaller, more minor elements of a word and manipulate people's speech sounds within words. This means that language can be divided into its constituent parts (sentences are divided into words, words into syllables, information, and rhymes and words). In this definition, phonological awareness is associated with the age of linguistics that is the goal of assessment and education, which includes 1. phoneme recognition, 2. phoneme composition, 3. phoneme fragmentation, 4. phoneme deletion, and 5. phoneme separation.

2) Types of reading problems that include deleting words or letters (inserting), substituting one word for another (such as changing verbs at will), repeating a word or phrase, adding words to a sentence, word for word, reading, and pausing over words.

3) Spelling problems include misspellings, poor visual memory, auditory sensitivity, inattention, educational problems, symmetry or mirror writing, and weakness in primary sensory and motor skills. This course is a new way to strengthen the skills of transmitting thoughts to others and realizing their ideas, which by providing attractive and creative exercises, strengthens the necessary sub-skills in the field of reading (psychic reading and comprehension) and writing grows and strengthens the learning of Persian lessons. This course is fun with games in which students, together with the teacher, begin to learn to write and pronounce letters and words by performing a series of playful activities. Teachers include writing words, reading words, using words in a sentence, recognizing the letters that makeup words, writing on small

cards, practicing and playing with cards, and playing words and spelling words in a game-like way that is performed with the participation of teachers and students in 13

sessions. The games designed with the class teacher's participation are listed in Table 1 .

Table 1. Educational method of playing with words

Games	Session aim	Session title	session
Familiarity with the game process	Introducing the educational program, establishing communication, and performing the pretest.	Introducing the program and creating a relationship	first
Game Mental spelling	Word recognition, letter recognition, and the ability to recognize common sounds in different words.	Phoneme recognition	second
Using crumpled sheets	Familiarity with homogeneity (common sounds at the beginning of the word), familiarity with rhyme (common sounds at the end of the word), and more exercises.	Phoneme recognition	third
Filling game	Ability to listen to people's voices, combining letters within a word, and more exercises.	Phonetic composition	forth
Water spelling	Ability to break a word and turn it into sounds and count sounds, more exercises.	Phonetic fragmentation	fifth
Where is my other half?	Ability to identify what remains in the word when the initial, middle and final phonemes are removed, the ability to recognize sounds in words, and more exercises.	Deleting phoneme Phonological separation	sixth
Ball method	Drawing the child's attention to the word that has been deleted and also correcting that word.	Deleting words or letters	seventh

Findings

In this study, 20 first-grade elementary students were assigned to two experimental and control groups with 10 students. The mean

and standard deviation of the subjects' scores are presented in Table 2.

Table 2. Descriptive statistics indicators of research variables

	Post-test		Pre-test		variables
Standard deviation	mean	Standard deviation	mean	group	
2.31	15.43	3.45	20.82	test	Incorrect writing
3.91	18.67	3.54	19.77	evidence	
1.99	8.39	2.34	6.23	test	Visual memory
2.65	6.01	2.33	5.98	evidence	
2.63	7.77	1.82	5.44	test	Auditory memory
3.32	5.75	2.83	5.49	evidence	
1.56	6.12	1.98	4.22	test	Accuracy and attention
1.98	4.69	2.19	4.34	evidence	

According to Table 2, the average spelling scores of first graders with dyslexia have decreased, and also in visual memory, auditory memory, and accuracy and attention in the

experimental group, which means that the training course with wordplay improves the spelling problems of students independent variables.

Table 3. Table for examining the normality of the distribution of research variables

type distribution	.Sig	K-S z	Stretch difference		group	structure
			negative	positive		
normal	0.084	1.26	-0.108	0.066	0.108	variable
normal	0.55	0.80	-0.068	0.047	0.068	Incorrect writing
normal	0.63	0.75	-0.064	0.042	0.064	Visual memory
normal	0.95	0.52	-0.038	0.044	0.044	Auditory memory

According to Table 3, it is inferred that because the significance level obtained in the test (K-S) in the research variables is more than

the criterion value of 0.05, the distribution of the studied variables in the statistical sample is normal.

Table 4. Results of the Mbox test to test the assumption of homogeneity of variance in the covariance matrix

Significance level	df2	Df1	value f	M box
0.19	3748.20	10	1.36	16.12

The results of Table 4 show that the calculated value of F is insignificant; therefore, the

assumption of homogeneity of variance in the covariance matrix is not rejected.

Table 5. Levin test results to investigate the assumption of the equality of variances in the two groups

Sig	Df2	Df1	F statistic	variable
0.078	22	1	3.347	Incorrect writing
0.889	22	1	0.020	Visual memory
0.521	22	1	0.442	Auditory memory
0.984	22	1	0.000	Accuracy and attention

Due to the fact that the level of variables in Table 5 is significant and the inequality of variances is not ruled out, multivariate and one-way covariance tests were used to make the word game effective influential on students' spelling.

Main Hypothesis: Word play is effective in correcting students' spelling problems.

To test this hypothesis and due to the need to control the effect of pretest on post-test, the multivariate analysis of covariance test has been used, the results of which are shown in Table 5.

Discussion

This study aimed to investigate the effectiveness of teacher's wordplay on spelling problems of first-grade elementary school students, and the results showed the effect of this training course on correcting students'

spelling problems. The findings are now being explained.

In the first sub-hypothesis, namely the effect of wordplay on the correction of orthography in first graders, the results obtained from a one-way analysis of covariance showed that play with words has reduced students' orthography. This finding is consistent with the results of research by Lacroix *et al.* (2007), Rousseau *et al.* (2006).

For example, in a study, Asghari *et al.* (2015) found that phonological and comprehension skills in students with intellectual disabilities who received training in linguistic games improved compared to students with mental retardation in the control group. Morris *et al.* (2006) [2]. In a study showed that teachers who performed educational games had significantly higher academic achievement in class learning than students who were trained traditionally. According to the researcher, educational games make students interested in learning; therefore,

combining play with teaching and learning can reduce students' fatigue, so language is learned through imitation and reinforcement. This theory for language teaching implies that the child's language behavior develops and takes shape using stimulus and reinforcement events in the environment; Palaniappan (2009) believes that reading means receiving meaning through writing, and the primary purpose of teaching reading is comprehension. Reading comprehension is defined as the process of inferring and creating meaning through interaction and engagement with written language; therefore, it can be said that without reading, educational goals and comprehensive growth and development cannot be achieved.

In the second sub-hypothesis, namely, the effect of word plays on the visual memory of first-grade students, the results obtained from one-way analysis of covariance showed that wordplay increased students' visual memory in spelling writing skills in the experimental group. This finding is consistent with Basrawi (2012) [6] and Chan *et al.* (2014) [7]. For example, in his research, Aghamohammadi (2013) showed that music therapy leads to an increase in the number of words and verbal psychology in primary school children [10]. Thus, this finding can be explained by the fact that students are more interested in learning, reading, and writing than they are in speaking in terms of speaking style, and, therefore, they can be expected to develop writing skills. According to Abraham, reading and writing are among the most complex cognitive activities that are related to intelligence abilities on the one hand. They are tools for thinking, problem-solving, and learning in all areas of education. One of the influential factors in students' academic achievement is the Persian language. It seems that because the Persian language is the key to all learning, one of the reasons for students' rejection and repetition of basics and failure in learning is related to the two skills of reading and writing [8, 9]. Abraham (2016) argues that language learning consists of four primary stages: listening, speaking, reading, and writing. Reading is a perceptual activity. Thus, listening and reading skills are described as decoding or decoding functions, and

speaking and writing skills are described as decoding or decoding functions (quoted by Sosa and Santos, 2017) [9].

In the third sub-hypothesis, namely the effect of wordplay on the auditory memory of first graders, the results obtained from a one-way analysis of covariance showed that wordplay increased the auditory memory of students in the experimental group. This finding is consistent with the findings of Christine (2012), and Rousseau *et al.* (2006). For example, Christine (2012) found in her research that playfulness and storytelling enhance their attention and facilitate children's emotional and behavioral development. Also, Emadi and Movafaq (2016) in a study revealed that teaching group games affects the development of the creative thinking skills of preschool children; Therefore, in explaining this finding, it can be said that according to the researcher, educational games make students interested in learning; Therefore, accompanying play with teaching and learning can reduce students' fatigue and increase learning time. Also, when presenting educational games, children go through the learning process with more desire, and it is obvious that learning and remembering are also aspects. There will be an increase.

In the fourth sub-hypothesis, the effect of word plays on the accuracy and attention of first-grade students, the results obtained from one-way analysis of covariance showed that wordplay increased the accuracy and attention of students in the experimental group. Children learn better while playing, and it can be said that associating words with pictures and grouping students together can increase interest and learning and better comprehension. When presenting educational games, children go through the learning process with more desire.

Conclusion

In the main hypothesis, namely the effect of wordplay on correcting students' spelling problems, the results showed a significant difference in the linear composition of spelling scores. According to the results, wordplay

affects solving and reducing spelling problems. When students receive this course, their visual and auditory memory skills improve, they remember things better, and they experience accuracy in understanding words and phrases. Charbashlu (2019) showed that games affect students' academic achievement. Hazavehi *et al.*'s (2006) study showed that the average knowledge in the two groups of role-playing and acting had a higher increase than the lecture group. Basrawi (2012), in a study entitled "The effect of music on the Persian language" demonstrated that music therapy increased the number of words and verbal psychology in primary school children. On the other hand, research in-game resources and simulation also shows that integrating games in the classroom change the learning environment.

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