Game-based Teaching of Stress Placement on Multi-syllabic English Words

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Abstract

Accurate pronunciation is an important component of language ability and the main outward linguistic sign of whether someone is a native speaker of a language or not. An area of particular difficulty for Persian-speaking learners of English, which may cause 'foreign accent' or misunderstanding in speaking, is placement of stress on multi-syllable words. Game-based pronunciation teaching can be a pedagogical option to tackle that problematic feature of English pronunciation as it incorporates both implicit and explicit approaches to instruction. This study, therefore, investigates the effects of using a pronunciation game on learning stress placement on multi-syllable English words by young Iranian intermediate EFL learners. Fifty-two intermediate EFL learners were randomly selected through administration of Preliminary English Test (PET) and divided into two groups: the experimental group (group A) containing 27 students and the control group (Group B) containing 25 students. The experimental group received game-based instruction and materials for eight class sessions. Two weeks after the final class, a post-test was conducted to find out the changes. The results showed a significant difference between the performance of experimental and control groups on the post-test. The experimental group outperformed the control group and indicated quite positive attitudes towards the use of the game-based learning of pronunciation. The researchers recommend using such games to EFL teachers in order to motivate and help their students learn pronunciation more effectively.

Keywords: Games, Pronunciation, Stress, Multisyllabic words, EFL learners

1. Introduction

Pronunciation is an important component of communicative competence without which second language (L2) learners cannot achieve efficient oral communication (Çakır & Baytar, 2014; Morley, 1991; Otlowski, 1998). Although not having a native or native like pronunciation may not necessarily be a hindrance to communicating meaning, good pronunciation is considered an essential factor in adequate oral communication and "to a large extent responsible for one's first impression of a learner's L2 competence" (Dalton-Puffer, Kaltenboeck, & Smit, 1997, p. 115). Similarly, Varasarin (2007) believes that good pronunciation brings out 'comfortable intelligibility' in speaking and listening. Moreover, most L2 learners would wish to be able to speak the target language without an accent (Hartshorn, 2013). Teachers who have native or native like accent are also more welcomed by students. Katayama (2015) states that most participants criticized their high school English teachers' accent as bad pronunciation.

To teach pronunciation, paying attention to the source and the target language differences is essential because L2 learners, especially those who start learning English after the critical age, tend to make correspondence between the sounds of the languages. One area of difference between Persian and English, which can create pronunciation problems for Persian-speaking ESL/EFL learners, is the difference between stress patterns. Supra-segmental aspects of English such as stress and intonation, are different from those of Persian in many respects (Khorasgani, Khorasgani & Aray, 2015). Many researchers have pointed to this problematic area (Kelly, 2000; Swan & Smith, 2001). In Persian, the stress generally falls on the final syllable of a word so it is predictable

most of the time (Swan & Smith, 2001, p. 183). English, however, has four possible positions for word stress: "a. Heavy penultimate, b. Antepenultimate, c. Super heavy final, d. Penultimate" (Burzio, 1994, p. 45) Thus, it is highly likely that Persian learners of English will have difficulty when faced with unpredictable stress patterns of English, particularly when it causes meaning alteration (Swan & Smith, 2001, p. 7).

This paper aims to investigate the effects of using a classroom pronunciation game on intermediate Iranian EFL students' learning of stress patterns of multi-syllable words. The following question was addressed in this study:

What are the effects of using a classroom pronunciation game on learning the stress patterns of multi-syllable English words by Iranian intermediate students?

2. Review of the literature

The use of games in education has been gaining a lot of attention in recent years (see Blumberg, 2014; Harris, 2009; Ke & Grabowski, 2007; Kebritchi, 2010; Marzano, 2010; Whitton, 2014; Wright, Betteridge & Buckby, 2006); educators have increasingly been incorporating various games into their teaching context in an effort to maximize students' learning. Games as an educational tool not only provide opportunities for students to engage in active learning but also increase their motivation in the learning process (Bayliss, 2009; Ersoz, 2000; Ludewig & Swan, 2007). Franklin, Peat and Lewis (2003) content “games foster group cooperation and typically create a high level of student involvement that makes them useful tools for effective teaching” (p. 82).

The contribution of games to second language teaching and learning has also been demonstrated by many studies (e.g., Cornillie, Clarebout, & Desmet, 2012; Godwin-Jones, 2014; Culbertson, Wang, Jung, & Andersen, 2016; deHaan, Reed, & Kuwada, 2010; Johnson & Beal,

2005; Piirainen–Marsh & Tainio, 2009; Vahdat, & Rasti-Behbahani, 2013; Young & Wang, 2014, just to mention a few). Games are beneficial to L2 learning in a number of ways. First, games are a source of comprehensible input (Krashen, 1985) and comprehensible output (Swain, 2005), both of which potentially push L2 learning process forward. Second, via games, learners can be exposed to more than just the language presented by the teacher and the textbook; learners need to interact with each other to negotiate their intended meaning during game plays, thus creating a meaningful communication context in which they learn from each other (Wright et al,. 2005). Third, games provide a context for students to experience the language rather than study it (Wright, Betteridge, & Buckby, 2006). Moreover, leaners will have more talking time if teachers engage them in cooperative games. Fourth, games bring variety to routine language classroom activities and can combat students' boredom. Lee (1995, p.35) maintains that playing games in a language class can be "a welcome break from the usual routine of the language class". Fifth, well-designed games can create an immersive environment where the learners' attention is on the message, not on the language, a condition that is conducive to implicit acquisition of language (Rebuschat, & Williams, 2012). Culbertson, Wang, Jung, and Andersen (2016, p. 1) state that "games have a unique potential to provide situate learning experiences" Sixth, teachers can use games to create a positive atmosphere in the classroom where learners, especially the quiet and passive ones, can interact with each other and with their teacher in a less inhabited way (Riding & Rayner, 2001, p. 177-178). Moreover, when students practically use what they have learned, their confidence and satisfaction of learning will increase. Seventh, games are motivating and a fun way to keep learners interested in language activities (Hromek & Roffey, 2009). Finally, games can introduce a healthy dose of competition into language learning activities (Huyen & Nga, 2003) which can in turn make learners take on more responsibility. Of course, it should not be assumed that games by themselves

lead to learning, especially when the games are to be used as instructional techniques. It is essential to take a close look at them and design or re-design them according to learners' needs and educational goals. Games have a broad scope and only a part of them is considered to have educational features (Can & Cagilaty, 2006). Linehan, Kirman, Lawson, and Chan (2011) point out that after defining the rewards and goals, a circle of measuring the performance, analyzing the performance and presenting the feedback is needed for educational games.

As mentioned above, the effectiveness of using games in teaching different areas of the English language has been shown in a number of studies. However, since the pronunciation is the focus of this paper, we will look at the studies that have used games in teaching L2 pronunciation. It should be noted, however, that there are two different but complementary approaches to the teaching of pronunciation: *intuitive-imitative* and *analytic-linguistic*. In the intuitive-Imitative approach learners do not receive any explicit instruction and they are taught implicitly by listening and imitating the rhythms and sounds. In the analytic-linguistic approach, explicit information is described to learners (Celce-Murcia, Brinton, & Goodwin, 2010, p. 2). Some researchers emphasize explicit teaching of pronunciation (e.g., Gordon, Darcy, & Ewert, 2013; Khaghaninejad & Maleki, 2015; Sturm, 2013) while others give priority to implicit one (e.g., Hain, 2002). The majority of studies conducted on the issue, however, favor explicit teaching. Celce-Murcia et al. (2010), nonetheless, point out that the two approaches are complementary and it would be more effective to use both approaches. Game-based teaching and learning can be a pedagogical option to practice these two approaches (Makarova, 1997; Wright, Betteridge & Buckby, 2006). It should be noted that it is necessary that the rules of the games (educational instructions) be directly explained to students. In fact, the dominance of one of the two approaches depends on the design of the game.

There are not many studies that show the effectiveness of using games in teaching and learning L2 pronunciation. Paganus et al. (2006) use games for teaching English vowels. They believe that games provide language learners with visual feedback which is helpful in learning to pronounce new speech sounds. In fact, they suggest using games as a tool for feedback in pronunciation teaching. Young and Wang (2014) in their study integrate game strategies with automatic speech recognition technologies to teach pronunciation effectively. The results of their study showed that the learners in the experimental group who learned English through both the drill and game-based practice had a higher engagement in learning and felt a stress-free environment for learning. Makarova (1997) designed classroom games to motivate Japanese university students to learn pronunciation and phonetics. He used a jig-saw puzzle, darts and card games, and a dialect-guessing game. He shows that using games motivates students to learn and improves their pronunciation. Although Makarova speaks about games applicable for teaching pronunciation, he does not apply them in real classroom.

There are some books on introducing classroom pronunciation games (e.g., Hancock, 1995; Henry, 1999; Tomlinson, 2005), but very little research has been conducted to examine the usefulness of games in teaching pronunciation, especially when it comes to young adult language learners. This paper, therefore, aims to apply a pronunciation game to teach the stress pattern of multi-syllable English words to Iranian EFL students.

3. Methodology

3.1. Participants

The number of participants in this study consisted of 52 intermediate EFL learners who were randomly selected from a population of 75 learners through the administration of PET. The age of

the participants ranged from 17 to 20. Table 1 gives a visual representation of the participants' characteristics.

Table 1. The Participants' Characteristics

Characteristics	**Group A**	**Group B**
Age	17-20	17-20
Gender	Female	Female
Proficiency level	Intermediate	Intermediate
Native language	Persian	Persian
Target language	English	English
Number of years of language learning	6-8	6-8
Place of language learning	Institutes and school	Institutes and school

3.2. Instruments

3.2.1. Pre- and post-tests: A pre-test, containing 15 items, asked students to determine the stress patterns of multi-syllable English words was conducted to gather information needed to analyze the effectiveness of the game later by an equivalent post-test. The questions were elicited from Vaughan-Rees' book *Test your pronunciation* (2002). Cronbach's alpha suggests that the pretest can be viewed as 77% reliable

3.2.2. The 'Happy Family' game: The game used for teaching the stress patterns of multi-syllable English words, called 'Happy Family', was selected from Hancock' book (1995) titled *Pronunciation games*. The game is designed for teaching the stress of multi-syllable English words. This game is a collecting game with cards, appropriate for groups of four or five players. The approximate time needed for the game is 20 minutes. A key is needed for each group and is handed to the monitor of each group. This key shows the correct stress patterns of words. A set of cards also is needed for each group. Two examples of such cards from the book can be seen below (Hancock, 1995, pp. 28-31).

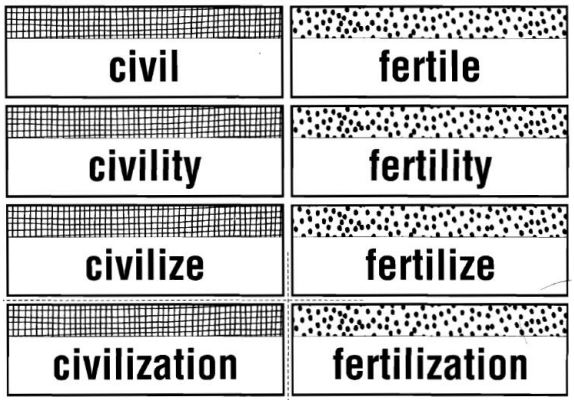

Figure 1. Two sample 'Happy Family' game cards

Hancock (1995) explains the general rule of happy family game:

> Happy families is a collecting game for a small number of players. One of the players shuffles the pack of cards and deals cards to each player. On the cards are pictures of members of families with their names below; each family has four members. The object of the game is for players to collect families. To do this, they take turns to ask other players for particular cards, and if the player asked has the cards, he or she must give it to the person who asked for it. The player who has collected the most families at the end of the game is the winner. (p. 28)

3.2.3. Group discussion: Students' narratives about their experiences on learning pronunciation through the game were examined by setting a group discussion. Establishing a group discussion can give deeper and more valid information about the experiences of students because as Filick (2009) states "group discussion is a powerful way to gather valid data because it can reveal how opinions are created and above all changed, asserted, or superseded in social exchange" (p. 201). The group discussion was conducted in the learners' native language (i.e., Persian) so as to eliminate their stress about expressing themselves in L2 and to get an accurate picture of their feelings and experiences.

3.3. Procedure

The EFL learners, picked through PET, were randomly divided into two experimental and control groups. The learners were then given the pre-test. The experimental group comprised four teams and received instruction and materials of the game to play during eight sessions in the manner that will be explained below. The control group was taught through traditional repetition drills. In the experimental group, one of the students in each team was chosen to be the monitor of the group. An explanation was given to students about the stress of words and procedure of the game. Then, the key of the game was handed to the monitors. The monitors dealt out five cards to each player. The players took turns to request cards from other players. When having a complete family, student put the cards face down on the table. "The job of the monitor is to make sure that players pronounce words correctly when they ask for them. If players do not pronounce words correctly, the monitor should ask them to repeat the word" (Hancock, p. 28). On the final session, in order to investigate the learners' attitudes towards game-based pronunciation learning, a group discussion was established in a focused group comprising 10 students who were randomly selected from group A. The discussion lasted 40 minutes. Two weeks later the post-test was administered to find out the changes.

3.4. Data Analysis

In order to answer the question formulated in this study, the results of the scores (in pre- and post-test stress placement) were tabulated in terms of means and standard deviations. An independent samples t-test was conducted at the .05 level of significance to determine if there was any statistically significant difference between the mean scores. The *Kolmogorov-Smirnov test* was also conducted to determine whether sample data is normally distributed.

For analyzing qualitative data of students' narratives, the group discussion recorded then transcribed word for word and analyzed using thematic coding (Filick, 2009). In this method of coding, categories and thematic domains emerge from the discussions.

4. Results and discussion

4.1. Descriptive Statistics of the Homogeneity Test

In order to check the homogeneity of the participants, a proficiency test taken from PET was administered. The results of the scores gained by the selected participants are presented in Table 2.

Table 2. Descriptive Statistics of the Homogeneity Test

Groups	N	Mean	SD
Group A	27	54.88	7.61
Group B	25	55.68	9.80

An independent-samples t-test was conducted to compare mean scores of two groups. Table 3 shows the results:

Table 3. T-Test Results for the Homogeneity Test

	T	df	Sig (2tailed)	Mean difference	Std. Error difference	95% CI of the difference	
						Lower	Upper
PET proficiency test	-0.33	50	0.74	-0.8	2.42	-5.66	4.06

There was not a significant difference between experimental group (M= 54.88, SD= 7.61) and control groups' mean scores (M= 55.68, SD= 9.80) on proficiency test (t(50)= -.33, p = .74). The two-tailed P value equals 0.74 which is not a statistically significant difference. So it is concluded that the participants were homogeneous in terms of their language proficiency.

4.2. Results for stress placement tests

Table 4 presents the mean scores and standard deviations of pre- and post-test scores for both groups.

Table 4. Descriptive Statistics for the Groups' Pre- and Post-tests

Groups	**N**	**Pretest**			**Posttest**		
		M	SD	Std. Error Mean	M	SD	Std. Error Mean
Group A	27	16.70	2.44	.47	24.07	.72	.14
Group B	25	17.64	2.44	.49	20.72	2.22	.46

Analysis of the mean of the pre-test scores suggest that the experimental group and the control group were not significantly different at the beginning: the experimental group with a mean of 16.7 and the control group with a mean of 17.64.

Review of the mean of the post-test scores reveals that after the treatment, the control group's mean score in post-test is 20.72 while the experimental group's mean in post-test is 24.07. Therefore, there is an increase in score of the experimental group and the difference in means can be attributed to the type of instruction received. A two-tailed t-test ($p < .05$) for independent variables was done to determine if there was a statistically significant change in post-test scores after being subjected to the game based instruction. Table 5 shows the outcome of t-test analysis.

Table 5. T-test Results for the Post-test

	Levene's Test for Equality of variances		**T-test for Equality of Means**						
	F	Sig	T	df	Sig (2tailed)	Mean difference	Std. Error difference	95% CI of the difference	
								Lower	Upper

Pre-test (Equal variances assumed)	.00	.97	-1.38	50	.17	-.94	.68	-2.3	.43
Post-test (Equal variances assumed)	17.33	.00	7.42	50	.00	3.35	.45	2.47	4.26
Post-test (Not equal variances assumed)			7.19	28.62	.00	3.35	.47	2.40	4.30

In the pre-test the two-tailed P value equals -1.38. By conventional criteria, this difference is considered to be not statistically significant, meaning that this study met the assumption that the two groups were equal in terms of proficiency at the outset. Once this assumption was met, the posttest was administered after the treatment.

The t-test scores for the pre-test (-1.38) and the post-test (7.19) show a significant change in the stress placement test scores for the two groups. As a result of the use of the game, students in the experimental group performed better in the post-test and obtained better scores than the students in the control group. Table 5 shows that there was a significant difference, at the .05 level of significance, between the post-test mean scores of the participants in experimental group (M= 24.07, SD= .72) and the post-test mean scores of the participants in the control group (M= 20.72, SD= 2.22); t(50)= 7.19, p= 0.00. On post-test the two-tailed P value equals 0.00, which a statistically significant difference.

The Kolmogorov–Smirnov test was conducted to verify the normal distribution for the post-test scores in the two groups. As can be seen is Table 6, K-S test is not significant for post-test scores (p= .20), indicating that the data was normally distributed in both groups.

Table 6. One-Sample Kolmogorov-Smirnov Test

		Group A	Group B
N		27	25
Normal Parameters[a,b]	Mean	24.07	20.72
	Std. Deviation	.72	2.22
Most Extreme	Absolute	.13	.09
Differences	Positive	.10	.07
	Negative	-.13	-.09
Kolmogorov-Smirnov Z		.13	.09
Asymp. Sig. (2-tailed)		.20[c,d]	.20[c,d]

An examination of Tables 2 and 3 leads to the conclusion that the two groups were not equal on the post-test. In sum, the results showed that teaching the stress patterns of multi-syllabic English words via the game had a positive effect on the students' pronunciation.

4. 3. Students' attitudes towards leaning pronunciation via games

Analysis of the transcript of the group discussion showed positive attitudes of the learners towards game-based pronunciation learning. Narratives of students were classified and described, through thematic coding, into three sections that included: having fun, feeling relaxed, and effective learning. Each section will be elaborated below.

Having fun: This is what most of the students pointed out to. All 10 students in the focused group agreed that they had fun playing the game, as seen by the comments below (their comments were translated into Persian).

- "*I liked the game so much, playing it is better that studying*" - "*oh yeah! I do agree, one hour of playing is absolutely better than half hour studying* [*students laugh*]" - "*I think that's because when playing the time passes faster*" – "*I couldn't be the first one during game but I feel*

I like it, next time I'll be the winner, I promise!... I wish we could learn all the language via playing!"

Feeling relaxed: This could be seen mostly in the physical and verbal expressions of the students during and after the game. They were laughing and joking during the game without being anxious about producing correct language, as evidenced by the comment below:

"*I wasn't in mood and so not totally eager to play, but now after all that excitement I feel better*"

Some of the students related their good feelings towards learning without being too focused on the language during the game.

"*It was a good experiment, I could play, learn, compete and laugh all together… but first of all I'm happy that I could learn the stress placement at last!*"

Effective learning: It is of outmost importance that students have a sense of achievement after language activities. Nothing is more rewarding for them to see for themselves that they have learnt something and can use that learning in a new situation (or on a new task). This can improve their self-confidence and desire to learn more. Below are some ideas expressed by some of the students:

- *"I think I won't forget the stress placement of the words any more [interrupted by another student]" – "yes…yes! I know I learnt very good" – "I noticed something interesting, when I was pronouncing the words incorrectly it was so confusing, but now by correct pronunciation of words I feel I can learn better" – "yes, of course! Moreover pronouncing correctly makes speaking facile" – "now I know how badly I use to pronounce the words and I see the difference"*

5. Conclusion

A quick review of the literature reveals a long list of advantages of using games for educational purposes and for language teaching. Yet, there are few studies that actually applied games in teaching pronunciation in L2 classes .The current study was based on the belief that English language learners would benefit from learning through games to improve their pronunciation. Specifically, the aim of this study was to investigate the effects of using a game called 'Happy Family' on learning the stress patterns of multi-syllable English words. The results revealed that learning through the game was more effective and learners showed positive attitudes towards learning through the game. They felt relaxed and interested when taking part in the game. They also had fun during the game and could learn without being too conscious about the target language form. During the discussion, students in focused group pointed out that participation in and learning via the game was a more effective approach to learning L2 features. Teachers can use such games to increase students' engagement and to add excitement through competition. Games can also bring variety to pronunciation teaching. Having learners listen and repeat their teachers as a model is the common way of teaching pronunciation. Repetition drills, however, have proved boring for many learners who become reluctant to repeat because such drills are extremely mechanical and learners lose concentration after repeating a couple of times. Games can provide a more positive and lively environment for learning some language areas such as pronunciation. Yet, it should borne in mind that not all games are effective in educational situations. Games need to be well-planned and provide opportunities for feedback; they should also have a measurable outcome, either linguistically or non-linguistically.

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