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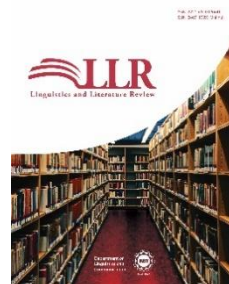| Citation:	Shahid, M. A., Mahmood, A., & Syed, A. F. (2022). Acquisition of English Vowel Sounds at Nursery Level: An Empirical Study Based on the Application of Gamification Strategy. *Linguistics and Literature Review*, *8*(2), 01-23. https://doi.org/10.32350/llr.82/01

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Acquisition of English Vowel Sounds at Nursery Level: An Empirical Study Based on the Application of Gamification Strategy

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Abstract

The current empirical study aimed to stimulate and measure the competence level of children for learning vowel sounds at nursery level at Right School, Model Town, Sillanwali. Sound-bingo strategy was used for distinguishing and learning vowel sounds in the context of gamification efficacy. Gamification frameworks can boost dedication, while also developing learning execution at the same time. In any case, only a few studies have been undertaken to address the constructs used to analyse the effects of gamification on people. The current study implemented Mathew Nudds and Casey Callaghan's 'Theory of Auditory Perception' as its theoretical framework. According to the theory, the information we hear is comprehensible. The researchers used the purposive sampling technique and an achievement test to obtain data for this study. Data was collected from two distinct groups of twenty-five students apiece, named Iqbal and Quaid, respectively. Quaid group was designated as the control group and Iqbal group as the experimental group. Utilising the gamification technique, both groups were subjected to a test without learning. Sound-bingo technique was utilised to deliver a specific corpus of vowel sounds to Iqbal group. The results revealed that when an activity is gamified, a meaningful goal needs to be provided before the action can be adequately rated. An all-around organised game could help to enhance children's motivation, commitment, and mental turn of events. The current study concludes that gamification can influence the students' attitudes toward language learning and its effective application can help them learn better.

Keywords: achievement test, English vowel sounds, gamification, interest, nursery class, sound-bingo technique

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Introduction

This study, which uses the sound-bingo technique, strives to encourage nursery school pupils to pay more attention and show more enthusiasm, so that they become more proficient and competent at pronouncing English vowels. Correct pronunciation is widely regarded as an essential component of becoming familiar with an unfamiliar dialect. /Moreover, learning a foreign language appropriately is not only important but it is also quite difficult to achieve. According to Lenneberg's ([1967](#)) neurobiological theory of language acquisition, second language cannot have complete dominance after adolescence. Even though many analysts disagree with Lenneberg's theories, they all agree that learning a second language's entire structure takes a long time and is extremely difficult for a variety of reasons. In any case, according to experts like Flege ([1992](#), [1995](#)), discernment is the primary defense for foreign accents. According to Flege, children heavily rely on insight as a learning tool when learning their first language. By the age of seven, they firmly acquire the various phonetic distinctions in their first language.

English Vowels

Vowels, such as those in 'fit' and 'pack', are sounds made by air traveling through the mouth, which serves as a resonance chamber with little blockage and no audible friction. Vowels in human speech include the /i/ in 'fit' and the /a/ in 'pack', for instance. Vowel sounds can be uttered without using vibration, which results in a voiceless or whispered sound. Although, vowels are normally created by the vibration of the vocal chords. The placement of tongue and lips and the fact that whether or not air is exhaled through the nose are used in articulatory phonetics to categorise vowels into groups.

Monophthongs and diphthongs are two types of vowels used in all languages. Vowels that don't alter or remain stable are referred to as monophthongs. Although diphthongs are unique speech sounds, they are frequently represented in the phonetic transcription of speech by a pair of symbols designating the start and end configurations of the vocal tract.

Diphthongs are examples of gliding vowels because they move constantly from one location to another while being pronounced. In this context, monophthongs, sometimes known as 'pure vowels', are separated from diphthongs (see Figure 2).

Figure 1
Monophthongs

iː	ɪ	ʊ	uː
sheep	ship	good	shoot
e	ə	ɜː	ɔː
bed	teacher	bird	door
æ	ʌ	ɑː	ɒ
cat	up	far	on

Note. Adopted from Sound Foundations by Adrian Underhill (1994)

Figure 2
Diphthongs

ɪə	eɪ	
here	wait	
ʊə	ɔɪ	əʊ
tourist	boy	show
eə	aɪ	aʊ
hair	my	cow

Note. Adopted from Sound Foundations by Adrian Underhill (1994)

Objectives of the Study

1) To stimulate the interest of children for learning vowel sounds at the nursery level.
2) To measure the competence level of children for learning vowel sounds at the nursery level.

Research Questions

1) What is the rationale of using sound-bongo technique to stimulate the interest of children for learning vowel sounds at nursery level?

2) To what extent did the sound-bingo technique succeeded in stimulating children for learning vowel sounds?

Variables of the Study

1) Sound-bingo technique is the independent variable.
2) Student achievement in the oral proficiency test is the dependent variable.

Null Hypothesis

H_0 = There is no significant difference between the mean scores of the pre-test and post-test.

Significance of the Study

Decoding the sounds of a word can be accomplished by children who are familiar with the phonetic of the letters of alphabet. Syllabification assists youngsters to memorise the spellings of words which, in turn, assists them in pronouncing the words correctly. It is the primary responsibility of efficient teachers to provide their students with the right sounds of words. Keeping in view all of the above, this study is extremely significant because it was conducted on nursery class students with a specific focus on vowel sounds which are neucleus of a syllable. The use of gamification strategy through the sound-bingo technique makes this research unique and significant. Along with students, this study is beneficial for teachers and other researchers as well.

Literature Review

Conceptual Review of Literature

Gamification has been generally acknowledged for its capacity to boost student commitment and motivation to learn, when utilised properly in the classroom (Lee & Hammer, 2011; Muntean, 2011). It has been shown that when students engage in gaming activities, their focus and consistency in their studies increase. This is especially true for students who spend their leisure time playing video games on their computer. Understudies frequently experience failure in games before they may advance, but it is through these repeated failures that learning takes place and gaming becomes fun for them. While learning new vocabulary and spelling standards, the capacity to do a variety of tasks is crucial. It takes between 5 and 16 openings to be programmed with a new jargon phrase

according to Nation (2005). The vast majority of Chinese students absorb English jargon (Melvin, 2013), which ultimately hinders their ability to study English as a second language (Yu, 2010). The use of gaming elements in non-gaming contexts or The conversion of beneficial activities into games is included in the definition of gamification (Deterding et al., 2001). The goal is to increase customer loyalty while also promoting or altering their behaviour through the use of game-like techniques, such as scoreboards and customised fast critique, among others (Flatla et al., 2011). Learning through educational games can help students learn more efficiently, although using them in the homeroom can be quite difficult for both the students and the teachers involved (Barab et al., 2009). Understudies can quickly give up when faced with disappointment and they frequently react unpredictably when faced with it while playing games.

Players need to be focused, knowledgeable, skilled, and motivated to practise in order to excel in computer games; these traits should be present in their group as well (Gray, 2012). According to Lee and Hammer (2011), learning games can satisfy students' academic needs in three ways i.e. mental, motivational, and interpersonal. Furthermore, they guarantee passionate encounters for those who participate in them.

Data frameworks of games are becoming increasingly widely known for gamification purposes in a variety of industries, including trade, medical services, work ideation, and education, to offer a few examples (Hamari et al., 2014). Simply put, the game experience—which includes qualities such as being enjoyable and naturally motivating, among others—is often significant when it comes to developing faith in the results of gamification drives. Commitment, mastery, purchasing, and social cooperation are the main outcomes that can be enhanced by integrating gamification into the design of a framework. This can be achieved while also improving the framework's overall proficiency (Hamari & Koivisto, 2013).

The viability of gamification is still easily disproven, despite the fact that it has inspired important commitments towards comprehending how effective gamification configurations can be. These commitments centre on demonstrating the fact that the impact of gamification on inspiration is less than what the theme's promotion suggests (Broer, 2014). The disappointing results might have been caused in part by a flaw in the

methodology employed to lead the estimations. It has also sparked some criticism over the practicality of gamification in the earlier research (O'Brien & Toms, 2010; Tomaselli et al., 2015) due to a lack of awareness in the writings regarding which constructs should be addressed to develop and assess gamification impacts.

The elements were assigned with either instrumental or experiential outcomes in the current review, as suggested by the previous discoveries. A novel grouping of the types of ward components in gamification frameworks was recently provided by (Liu et al., 2017). The definitive utilitarian goals of game-based learning are crucial, instead of the experienced consequences that elicit mental reactions from the players. According to the designers, a characteristic of this strategy is the requirement for gamified frameworks to address experienced results before achieving a future instrumental end (Liu et al., 2017). Different mental states are employed as game results in a variety of gamification settings illustrated lately in the relevant writings. The complexity of these mental states was explored by Liu et al. (2017) by ranking them as experiential results and identifying the instrumental goals as beneficial gamification outcomes in a gaming environment, even though these mental states have different definitions. The growing use of gamification components in educational settings has recently piqued the interest of instructional analysts. Gamifying learning frameworks can significantly improve students' learning performance because it is a fun way to engage them in the learning process (Dichev & Dicheva, 2017; Landers & Landers, 2014). Decreased work-related weariness and increased investment in learning activities further learning outcomes by increasing the understudies' commitment to learning exercises that improve such outcomes (Hanus & Fox, 2015). Examples of gamification components that can be used to convince or interact with students to further increase their commitment and learning in educational settings include identification and leaderboards. Another finding from the research on data frameworks is that there is no discernible difference between the experience and instrumental effects of gamified school systems. In light of this discussion, additional research is needed to advance this field of study (Dichev & Dicheva, 2017).

According to Liu et al. (2017), gaming is the absorption of a game plan's features into an objective framework, while maintaining its

instrumental capabilities. According to the authors, gaming can be described as the application of a game layer to a non-gaming framework as opposed to the game itself (Santhanam et al., 2016). Gamification configuration maintains all of an objective framework's unique instrumental usefulness, rather than focusing on enhancing client support and adding extra components, whereas a game would forego some of this usefulness to maintain its amusement value or vice versa (Liu et al., 2017).

According to Deterding et al. (2012), using a gamified framework in a real-world situation can either be beneficial or harmful; in any event, it doesn't call for the usage of an unbreakable structure, as computer games do. We employed the creative idea of gamification expounded by Liu et al. (2017) to characterise the scope of our investigation and eliminate the possibility of an unquestionable game from thought.

Review of Related Studies

When gamification is used correctly in the study hall, it is generally perceived to have the same when it is used correctly in the homeroom (Lee & Hammer, 2011; Muntean, 2011). When students mess around, their focus and consistency in their studies improve and this is especially true for students who play computer games. With regards to games, understudies commonly confront rehashed disappointments before they can make progress. Notwithstanding, it is through these rehashed disappointments that learning happens and the game turns out to be more agreeable for them. The capacity to perform various tasks is particularly significant while learning new jargon and spelling rules. Melvin (2013) observed that boredom alone was incredibly exhausting for students, similar to the case for most Chinese understudies learning the English jargon. This fact, in the end, prompted understudies to lose interest in their English language learning endeavours (Yu, 2010).

In the gaming business, gamification is the use of game components in non-gaming circumstances; at the end of the day, it is the change of helpful exercises into games (Deterding et al., 2001). With the assistance of game-like methods, for example, scoreboards and customised quick input, it aims to increase client commitment, while likewise rousing or affecting their way of behaving (Flatla et al., 2011). Learning through instructive games can assist understudies with learning all the more and hence, the utilisation of instructive games in the study hall can be very

helpful (Barab et al., 2009). Understudies might rush to surrender when they are faced with disappointment, yet when they are faced with disappointment while messing around, they respond unexpectedly. Computer game players, who need to find lasting success in their undertakings, should have the characteristics of determination, knowledge, practice, and learning (Gray, 2012). As per Lee and Hammer (2011), instructive games meet three types of scholarly requirements in students (mental, motivational and interpersonal), bringing about sure-fire passionate encounters for those who play them. Instructive games can also assist understudies with mastering new abilities.

Gamification is characterised as the utilisation of game components in non-gaming settings and it has become progressively popular (Deterding et al., 2011). A developing number of fields, including business, wellbeing, work ideation, and training (to give some examples) are fusing gamification into their data frameworks (IS) (Hamari et al., 2014). Whenever individuals have a positive gaming experience they are bound to have faith in the progress of gamification, which incorporates components such as tomfoolery and characteristic inspiration, in addition to others. It is important to create a gamified framework to increase client commitment and further develop the desired results including client contribution, picking up, buying, and social cooperation, while likewise expanding the framework's proficiency and viability (Hamari & Koivisto, 2013). Despite huge advances that allow us to interpret how compelling gamification configurations can be, there is some conflict about the viability of gamification which demonstrates that its impact on inspiration is lower than the assumptions (Broer, 2014).

A percentage of disheartening outcomes may be attributed to a defect in the estimation system itself. Subsequently, there is no agreement in the relevant writings on which building blocks ought to be addressed to create and gauge gamification impacts (O'Brien & Thomas, 2010; Tomaselli et al., 2015). This fact has brought about some conflict about the viability of gamification in earlier examinations (O'Brien & Thomas, 2010). Subordinate factors in gamification frameworks can be labeled as either instrumental or experiential results, contingent upon their job in the game (Liu et al., 2017). Rather than getting mental reactions from clients through experiential results, the definitive utilitarian objectives of game-based learning are instrumental. This plan, as per the creators, recognises

their bonafide commitment. Significant commitment is characterised as a necessity for gamified frameworks to address experiential results ahead of time in order to accomplish a future instrumental outcome (Liu et al., 2017).

An assortment of mental states is utilised as gamification results in arrangements that are like the ones recently depicted in logical writing (Hiltbrand & Burke, 2011; Hamari et al., 2014; Kankanhalli et al., 2012; Webster & Ahuja, 2006). Liu et al. (2017) improved on their complications in their review by organising them as experiential outcomes and describing their instrumental objectives as beneficial gamification outcomes. Scholars have looked into the developing utilisation of gamification in instructive settings because of their developing prevalence. As an instructive action, gamifying learning frameworks can fundamentally develop understudies' learning execution further (Dichev & Dicheva, 2017; Landers & Landers, 2014). By lessening weariness in certain errands and expanding cooperation in learning exercises that further develop learning results, the objective is to rouse understudies in original ways (Hanus & Fox, 2015). Their increased commitment and learning are instances of how gamification can be utilised to rouse or draw them in school systems. As indicated by the research on data frameworks, there is no unmistakable distinction between the experiential and instrumental impacts of gamified school systems. This outcome is the requirement for extra examination around here. Despite that, the writing continues to use unmistakable ideas reciprocally (Dichev & Dicheva, 2017).

The incorporation of a game plan's highlights into an objective framework while keeping up with the framework's instrumental capacities, as per Liu et al. (2017), is characterised as 'gaming'. It implicates that a game layer has been added to a non-gaming framework (Santhanam et al., 2016). Extra highlights, an accentuation on empowering client cooperation, and the safeguarding of all of a framework's unique instrumental usefulness are major signs of a gamification plan. Conversely, games penance a portion of an objective framework's unique instrumental usefulness to keep up with their amusement value (Liu et al., 2017). It was proposed by Deterding et al. (2011) that an intuitive game can be used in a genuine setting.

Research Gap

The above mentioned studies are fine examples of gamification strategy but leave a gap for sound perception, especially at the primary level. In lieu of this research gap, this empirical study was conducted on vowel sounds by using a gamification strategy in the nursery class, since phonemic sounds should be taught in an earlier class while teaching English as a foreign language.

Research Methodology

The researchers utilised a quantitative study design and a tool known as an achievement test to acquire the data. A sample of 50 nursery school pupils was selected from the The Right School, Model Town, Sillanwali. The theoretical framework utilized for the current investigation was Mathew's theory of auditory perception (Nuddss & O'Callaghan, 2010). The capacity to store and analyse the accessed information is explained in the theory.

In the current study, the participants were asked to carefully listen to and observe the bingo cards to recognise the monophthongs and diphthongs. Iqbal and Quaid were the labels given to the two groups of twenty-five students apiece. The stated corpus of vowel sounds was taught to the first group without the use of gamification techniques, followed by an achievement test. In contrast, the same corpus was taught to the second group with the use of a guided gamification strategy that included the use of the sound-bingo game. The 30-word corpus-based data set was taken from Book Bro's book 'My First Phonics Picture Dictionary', which is a corpus-based data source.

The purpose of the oral proficiency test was to collect data from the participants. The *t*-test was applied to the above data run through SPSS. Three comparisons led to the following conclusions:

Data Analysis

Pre-Testing

Table 1
Descriptive Statistics

	Quaid Group	Iqbal Group
Mean	13.6800	12.5200

Minimum	11.00	9.00
Maximum	17.00	18.00
N	25	25

Fifty pupils were split evenly into two groups in the second stage of the achievement test. The experimental group was labeled as Iqbal, while the label Quaid was applied to the control group. Both of these groups had maximum ratings of 17 and 25, respectively. While, the control group received minimum scores of 11, 15, and 25, respectively. The mean scores of control and experimental groups were 13 and 18, respectively.

Frequency Tables

Table 2

Quaid Group

Scores	Frequency	Percent	Valid Percent	Cumulative Percent
11.00	4	16.0	16.0	16.0
12.00	4	16.0	16.0	32.0
13.00	5	20.0	20.0	52.0
14.00	3	12.0	12.0	64.0
15.00	3	12.0	12.0	76.0
16.00	4	16.0	16.0	92.0
17.00	2	8.0	8.0	100.0
Total	25	100.0	100.0	

Four (04) students in the Quaid group making up 16% of the total participants received 11 points on the pre-test. Another four (04) students or 16% of the total received a total of 12 points. Moreover, 13 points were earned by five (5) students or 20% of the total. Only three (3) students—or 12%—got 14 ponits out of the possible 20. Another three (03) students or 12% of the total received 15 points. Finally, just two (02) students making up 17% of the total were able to score 17 points, while four (04) students accounting for 16% of the total received 16 points.

In the pre-test, neither the Iqbal group nor the Quaid group fared any better. In Iqbal group, three (03) participants making up 12% percent of

the total earned 10 points, while one (01) participant or 4% of the total earned 11 points. Similarly, four (04) students or 16% of the total earned 12 points, while three (03) participants or 12% of the total earned 13 points. Another two (02) students or 8% of total earned 14 points, four (04) students or 16% of the total earned 15 points, and one (1) student or 4% of the total earned 16 points. Finally, only two (02) students or 8% of the total were given an 18-point grade.

Table 3
Iqbal Group

Scores	Frequency	Percent	Valid Percent	Cumulative Percent
9.00	5	20.0	20.0	20.0
10.00	3	12.0	12.0	32.0
11.00	1	4.0	4.0	36.0
12.00	4	16.0	16.0	52.0
13.00	3	12.0	12.0	64.0
14.00	2	8.0	8.0	72.0
15.00	4	16.0	16.0	88.0
16.00	1	4.0	4.0	92.0
18.00	2	8.0	8.0	100.0
Total	25	100.0	100.0	

Post-Testing

Table 4
Descriptive Statistics

	Quaid Control Group	Iqbal Experimental Group
Mean	13.4800	18.8800
Minimum	11.00	15.00
Maximum	17.00	25.00
N	25	25

The fifty (50) pupils who took the achievement test in its second stage were split equally into two groups. The experimental group was labeled as

Iqbal, while the label Quaid was applied to the control group. The maximum scores for the Quaid and Iqbal groups were 17 and 25, respectively. While, their minimum scores were 11 and 15, respectively. The experimental group scored 13 points on average, whereas the control group scored 18 ponits on average.

Frequency Tables

Based on the outcomes of the post-test, it was decided that the Quaid group would serve as the control group.

Table 5

Quaid Control Group

Scores	Frequency	Percent	Valid Percent	Cumulative Percent
11.00	3	12.0	12.0	12.0
12.00	5	20.0	20.0	32.0
13.00	7	28.0	28.0	60.0
14.00	3	12.0	12.0	72.0
15.00	3	12.0	12.0	84.0
16.00	2	8.0	8.0	92.0
17.00	2	8.0	8.0	100.0
Total	25	100.0	100.0	

According to Table 8, three participants (03) representing 12% of the total received 11 points, five (05) students representing 12% of the total received 12 points, seven (07) students representing 28% of the total received 13 points, only three (03) students representing 12% of the total received 14 points, three (03) more representing another 12% of the total received 15 points, two (02) students representing 8% of the total received 16 points, and two (02) more representing 8% of the total also received 17 points. Since the gamification technique was not offered as a treatment option, the Quaid or control group's findings were comparable to those of the other groups.

Table 6

Iqbal Experimental Group

Scores	Frequency	Percent	Valid Percent	Cumulative Percent
15.00	4	16.0	16.0	16.0
16.00	4	16.0	16.0	32.0

18.00	4	16.0	16.0	48.0
19.00	5	20.0	20.0	68.0
20.00	1	4.0	4.0	72.0
21.00	1	4.0	4.0	76.0
22.00	3	12.0	12.0	88.0
24.00	1	4.0	4.0	92.0
25.00	2	8.0	8.0	100.0
Total	25	100.0	100.0	

The Iqbal group was chosen to be the experimental group in the post-test and the participants were assisted by the gamification technique. Four (04) participants making up 16% of the total were awarded 15 points, four (04) more also representing 16% of the total were awarded 16 points, a further four (04) or 16% of the total were awarded 18 points, five (05) participants or 20% of the total were awarded 19 points, one (01) participant or 4% of the total were awarded 20 points, one (01) more or another 4% were awarded 21 points, three (03) participants representing 12% of the total were awarded 22 points, and 4 percent were awarded 23 points. With magical effect, 13 participants or 52% of the total topped the Iqbal group's maximum score of 18 on the pre-test.

Paired Sample

Table 7
Paired Samples Statistics

	Mean	*N*	Std. Deviation	Std. Error
Quaid Group	13.6800	25	1.95192	.39038
Quaid Control Group	13.4800	25	1.78232	.35646

The initial comparison between the Quaid group and the Quaid control group was performed using *t*-test, as shown in Table 4. The fact that their mean scores, that is, 13.6800 and 13.4800, respectively are so similar suggests that the control group did not perform any worse than the Quaid group in terms of overall performance. Since the Quaid group did not receive any therapy through the gamification technique during the trial, they were chosen to serve as the control group in the post-test. On the other hand, this particular group's members exhibited apathy.

Table 8

Paired Samples Correlations

	N	Correlation	Sig.
Quaid Group and Quaid Control Group	25	-.002	.993

The Quaid group and the Quaid control group, both of which were probed at the time of writing, are referenced in the very first column. The average difference between the two groups is represented mathematically by their median (.20000). The standard error is 0.52915 and 2.64575 standard deviations. There are 24 degrees of freedom in this system and the value of *t* is .378.

Table 9

Paired Samples t-test

	Mean	Std. Deviation	Std. Error	95%CI Lower	95%CI Upper	t	df	p
Quaid Group - Quaid Control Group	.20000	2.64575	.52915	-.89211	1.29211	.378	24	.709

Acceptance of the null hypothesis, which predicts that there is no statistically significant difference between pre- and post-test results for the oral proficiency test of *p*-value is calculated to be 0.709. The difference between the Quaid group and the Quaid control group is not statistically significant ($t = .378$, $p > 0.001$). The probability value for *t*-test is typically less than .001. In this instance, the *p*-value is .378. This casts doubt on the the reliability of the test (in this instance).

Table 10

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error
Iqbal Group	12.5200	25	2.78568	.55714
Iqbal Experimental Group	18.8800	25	3.11341	.62268

Using the SPSS statistical software, *t*-test was employed to illustrate the second comparison between the Iqbal group and the Iqbal

experimental group in Table 10. The experimental group outperformed the Iqbal group overall, as shown by the 6.36 point difference in mean scores of these two groups (12.5200 and 18.8800, respectively). In contrast to the control group, which received therapy using the gamification strategy, Iqbal group was classified as the Iqbal experimental group to administer the post-test. The outcome was that the performers in this group gave some of the best performances.

Table 11
Paired Samples Correlations

	N	Correlation	Sig.
Iqbal Group and Iqbal Experimental Group	25	.291	.158

The *t*-test findings for the paired samples are shown in Table 10. The Iqbal group and the Iqbal experimental group, both of which were engaged in the current research.

Table 12
Paired Samples Test

	Mean	Std. Deviation	Std. Error	95%CI		t	df	p
				Lower	Upper			
Iqbal Group - Iqbal Experimental Group	-6.3600	3.52231	.70446	-7.8139	-4.9061	-9.03	24	.000

The average mathematical difference between the two groups is shown by the mean value (6.36000). The standard deviation and standard error, when comparing various scores, are 3.52231 and .70446, respectively. The value of this equation, which has 24 degrees of freedom, is 0.378. Hence, the hypothesis that there is no statistically significant difference between the pre-test and post-test in children's oral proficiency exams is rejected. The *t*-test has the highest chance of being accurate because its *p*-value is 0.000. The Iqbal group and its experimental equivalent are statistically different from each other, according to the *t*-test results ($t = 9.028$, $p > .001$).

Discussion

Only since 2011 has the field of gamification gained traction in academic literature (Hamari, 2014). Hunter and Werbach (2012) defined gamification as "the application of game components and game design principles in non-game contexts." It is a relatively new term (Hunter & Werbach, 2012). According to Zichermann and Cunningham (2011), one of the most significant issues that many schools and instructors face is the lack of motivation and enthusiasm among studnets for their studies. If given the option, a large number of them would rather play video games than read a book or complete their homework assignment. Robson et al. (2015) emphasized the importance of conducting field research when deciding on gamification tactics appropriate for various situations. This study's specific goal was to introduce the sound-bingo technique to the students to increase their enthusiasm for learning vowel sounds. Sound-bingo, as opposed to painful and frustrating activities, trains children to engage in activities that are enjoyable. The current study adhered to John Dewy's principle of 'learning by doing', in terms of educational methodology. Students participate in activities that are both educational and enjoyable during class, allowing them to learn while also having fun.

Conclusion

Students made tremendous progress during the teaching-learning process as a result of using the sound-bingo game technique. The adoption of the gamification method to teach vowel sounds boosted their achievement level. The fact that their mean scores, that is, 13.6800 and 13.4800 are so similar suggests that the control group did not perform any worse than the Quaid group in terms of overall performance. The experimental group also outperformed the Iqbal group overall, as shown by the 6.36 point difference in mean scores between these two groups (12.5200 and 18.8800, respectively). Resultantly, the post-test improvement for the experimental group was determined to be statistically significant.

According to the results, students' interest in differentiating and memorising vowel sounds was considerably enhanced because of using the sound-bingo game technique. The above finding suggests that educators should employ the sound-bingo game strategy in the classroom more regularly, since it can raise students' level of enthusiasm and

competence in the subject. Only fifty (50) students took part in this study, so the sample size was decidedly small. The current study was only concerned with the distinguishing of vowel sounds since speech sounds ought to be taught in earlier classes to prevent difficulties for students in later years. By doing a study with 200 or more participants and using a range of gamification strategies, MPhil or PhD students can expand the scope of this experiment.

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Appendix

Sound-bingo Game Activities

Activity 1

The pupils were taught in the first activity to identify simple vowel sounds in the words on the Bingo cards placed on the table.

Activity 2

As part of the second activity, the pupils were instructed to identify the image on the Bingo cards whose name had a vowel sound by matching the name to the vowel sound.

Activity 3

In the third activity, the students were instructed to identify the double vowel sound from a collection of five words on the Bingo cards.

Activity 4

In the fourth task, the students were taught to recognize the name of the image on the Bingo card that featured a double vowel sound.

Activity 5

After completing the fifty-card assignment, students were instructed to identify single or double vowel sounds from a succession of words written on the Bingo cards.