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Gamification For Improving Second Language (English) Acquisition: A Study Of Two Public Schools In Chanchaga Local Government Area Of Niger State

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Abstract
The use of gamification to improve language learning results for some selected primary school pupils is investigated in this study. The study quantitatively assess the effects of motivation, and attitude on English language. Data was gathered from 200 respondents drawn from 2 selected primary schools in Chanchaga LGA of Niger State. The collection of data was using a questionnaire that was structured and well-validated. Descriptive and inferential statistics were used for the data analysis. The outcome revealed the mean scores of the ten game elements were above the cut-off mark of 1.50 as agreed by the respondents. The mean score of the five statements on motivation and attitude was also above 1.50. Language proficiency scores significantly increased between the pre-and post-testing phases, on average by 10.27 points, demonstrating the value of gamification in accelerating language learning. The findings highlight gamification's potential to transform educational environments, promote linguistic proficiency, and close educational gaps, highlighting the need for thorough implementation methodologies. Consequently, the study suggests seminars and workshops to educate course designers about the importance of gamification in the learning process..
Key Word: *Attitude, English language, gamification, motivation, primary school*

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I. Introduction

In the realm of education, language development is crucial because it opens doors to social participation, effective communication, and intellectual growth (Blyth & Thoms, 2021). This crucial developmental stage in children's life, especially for those in primary school, influences not just their academic performance but also how they establish their identities and view the future. Recently, gamification in educational settings has drawn a lot of attention since it presents innovative strategies for motivating and engaging students in their academic pursuits (Ugalde, Santiago-Garabieta, Villarejo-Carballido & Puigvert, 2021). This study looks at the dynamic interface between gamification and language learning among primary school pupils to investigate the potential of gamification as a catalyst for improved language acquisition. Gamification, which integrates game elements into non-gaming environments, has become a popular educational approach that utilizes psychological concepts to enhance students' intrinsic motivation, levels of engagement, and overall learning experiences. With its foundations in behavioral psychology, gamification promotes positive learning habits and attitudes through rewards, rivalry, and success acknowledgment (Ugalde et al., 2021). The idea of gamification aligns with the current paradigm change in education that emphasizes student-centeredness, active engagement, and hands-on learning (Zainuddin, 2024). Because young learners naturally gravitate toward interesting, interactive activities, gamification seems to be positioned to effectively address their developmental demands. Drawing from a large body of research, numerous studies have demonstrated the transformative potential of gamification across a variety of educational disciplines. Researchers have found that gamified learning environments can boost intrinsic motivation and engagement (Arufe-Giráldez, Sanmiguel-Rodríguez, Ramos-Álvarez & Navarro-Patón, 2022). This enhanced engagement is believed to be caused by the gamified systems' captivating stories, fast feedback loops, and sense of accomplishment (Calvert & Abadia, 2020; O'Callaghan et al., 2021). Furthermore, it has been demonstrated that gamification works well to promote participation and retention of information (Ebrahimi & Alhumairi 2023). It is especially hopeful that gamification can promote proficiency progress and engagement in the context of language acquisition. Language acquisition is a multifaceted process that involves exposure, meaningful interactions, and continuous repetition (Arufe-Giráldez et al., 2022). These elements can be easily included into gamified language learning platforms, allowing students to fully immerse themselves in a lively linguistic environment.

Research by Pujolà, & Argüello (2019) and Pujolà & Appel (2020) show how gamification, which provides students with authentic language-use scenarios, can bridge the gap between classroom learning and actual language use. Elementary school students are naturally curious and excited about learning, so they are receptive to learning experiences that bring joy and novelty. These young pupils' cognitive and socio emotional development is supported by the use of gamification, which also offers chances to enhance language acquisition and cultivate a love of learning. Researchers like Reitz, Sohny & Lochmann (2019) claim that playing video games can help develop critical thinking and problem-solving skills, two things that are essential to language learning. Furthermore, studies by Lamrani & Abdelwahed (2020) and Greipl, Moeller & Ninaus, (2020) demonstrate the advantages of digital game-based learning for children's literacy advancement and cognitive development. While there are obvious potential benefits to gamification, it's equally critical to be aware of any challenges or limitations that may exist when putting it into practice. According to Behnamnia, Kamsin, Ismail, & Hayati, (2023), poorly designed gamified systems can lead to extrinsic motivation, in which students participate primarily for the purpose of obtaining rewards rather than because they genuinely want to learn.

The Impact of Gamification Strategies on Pupils Development

One of the active learning tactics that aims to encourage healthy competition among students is gamification. By using these techniques, students are given the chance to voice their thoughts and make learning more enjoyable. Consequently, this improves student engagement, integration, and cohesiveness during the learning process. It fosters constructive communication, which is especially beneficial when working on projects that call for group problem-solving and cooperative thinking. Active learning techniques help pupils become more self-assured, develop a passion for learning, become more independent, and become more responsible. Additionally, they help kids' thinking develop by raising and stimulating it. Moreover, according to Nolan & McBride (2014), these tactics improve students' capacity to generate a variety of cumulative results. Active learning techniques incorporate information from both the real world and academic areas, allowing students to approach challenges in a realistic manner. These techniques help teachers deal with individual variances that could impede the process of learning. Furthermore, as opposed to unfavorable knowledge that has no real value to the students, active learning tactics aid in the retention of information that piques their curiosity. Students' academic performance is much improved, engagement opportunities are increased, and students' experiences are enhanced across age groups (Cheng & Ebrahimi, 2023).

Problem Statement

Despite the importance of English language proficiency, many learners struggle to achieve desired language competency levels due to traditional teaching methods' limitations. These traditional teaching methods do not take the background, age and level of the learners into consideration. Conventional approaches may fail to maintain learners' interest and motivation, resulting in disengagement and reduced learning outcomes. Therefore, there is a need to explore innovative approaches like gamification that can address these challenges and make language learning more engaging and effective. This study attempts to bridge a substantial gap in the literature by examining the impact of gamification on language learning outcomes and levels of engagement in the primary school context. The purpose of this research is to examine the relationship between gamification elements and language competency acquisition in order to provide nuanced insights that improve the learning experiences of young language learners. Through the study of gamification's role in boosting language acquisition, educators and stakeholders may be able to harness a formidable tool to foster linguistic proficiency and create a lifelong love of languages. Furthermore, the effectiveness of gamification can be influenced by the way in which game components are designed, the degree to which activities are in line with learning objectives, and the individual preferences of students (Helal, 2024). Adapting innovative approaches that resonate with the digital generation is essential as the landscape of education keeps shifting. If gamification can improve primary school pupils' language acquisition, more research is required.

Objectives of the study

The primary objective of this research is to assess the impact of gamification on second language Acquisition, specifically focusing on English. The study aims to:

1 To identify the most effective game elements motivating language learning
2 To examine the pupil’s level of motivation on gamified learning activities
3 To examine the attitude of the pupils on the gamified learning activities
4 To examine the language Proficiency level of the pupils on the gamified learning.

Research questions

1. What are the most effective game elements motivating language learning?
2. What are the pupil’s level of motivation on gamified learning activities?

3. What are the attitude of the pupils on the gamified learning activities?
4. What is the language proficiency level of the pupils on the gamified learning?

The significance of the research

Presenting a current study on the efficacy of using gamification in English language instruction for pupils in public schools in Chanchaga Local Government Area, Niger State, including all four language skills: writing, reading, speaking, and listening. Encouraging curriculum designers to consider the need of gamification activities and other engaging tactics in order to improve students' motivation and attitude toward language learning when teaching English. The learner's surroundings is improved by using this technique. Helping academics and others with an interest in teaching English to create educational resources that use gamification to encourage motivation for learning the language.

II. Material And Methods

The Study Area

The study was carried out in Chanchaga Local Government Area, Minna, Niger State located approximately on Latitude 090 36'50'' North of the equator and Longitude 060 33' 25'' East of the Greenwich Meridian, covering approximately 72km². The administrative areas of Chanchaga Local Government Area composed of Ten (10) wards. According to the 2006 census, it has a total population of 201,429, which comprises of 105,803 male and 95,626 female. 627 The land use comprises of both residential and commercial. The major inhabitants of Chanchaga Local Government Area are the Gwari, Nupe and Hausa. Chanchaga Local Government Area possesses a great many world famed places of interest like the Shiroro Palace and the Tunga fall, which attract countless tourists. Besides, Chanchaga is Local Government Area where Innumerable society elites assemble here for school and career, making it matches the name "city centre". Figure 3.0 shows the map of the study area.

The quantitative component of this study was to assess the impact of gamification on language learning outcomes among primary school students. A pre-test and post-test strategy was employed to measure changes in linguistic ability before and after the gamified intervention. Students were also given a survey to determine their motivation, attitude, and thoughts on the gamified language learning process. The study included 150 elementary school pupils, ages 8 to 11, from two local schools. Through purposive sampling, they were selected. The sample consisted of an equal number of male and female students, representing a range of language proficiency levels.

Instruments.

Both pre-and post-tests were given for a validated language competency exam that was created for elementary school pupils. Four language skills were evaluated in the test: speaking, writing, listening, and reading. To gauge pupils' motivation, level of involvement, and opinions on the gamified language learning exercises, a self-report questionnaire was created. Both open-ended and Likert-scale items were included in the questionnaire.

Procedure

Before the gamified intervention, each participant completed the language competency assessment. As a result, their language skills were baseline. Participants were introduced to the gamified language learning platform for six weeks. The platform offered language learning activities with gaming elements including Kahoot, Quizizz, Word bingo, Storytelling challenges, Vocabulary challenges, Language quests, Language Role-Playing Games, Language Olympics, Language Trivia, and English Language Board Game. Following the six-week intervention, a second language competence exam was administered to see if the gamified intervention had any impact on language proficiency. Following the gamified intervention, participants had to respond to the questionnaire. The questionnaire looked into their motivation levels and attitude towards the gamified activities, and how gamification has changed their language-learning process. Descriptive statistics were utilized to analyze the language proficiency test results in order to determine the mean, standard deviation, and changes in proficiency levels between the pre- and post-test periods. Regression analysis were conducted to assess if the differences were statistically significant. From the Likert-scale items, the mean scores for motivation, and attitude were determined.

III. Result

Table 1. Revealed that 70% of the respondents agreed to Word bingo while 30% disagreed (mean=1.70); 69% agreed to Language Role-Playing Games while 31% disagreed (m=1.69); 67% agreed to Kahoot while 33% disagreed (m=1.67); 65.5% agreed to Quizizz while 34.5% disagreed (m=1.65); 64% agreed to Storytelling challenges while 36% disagreed (m=1.64); 64.5% agreed with Language quests 6 while 35.5% disagreed (m=1.64); 62% agreed to Vocabulary challenges 7 while 38% disagreed (m=1.62); 62% agreed with Language Trivia while 38% disagreed (1.62); 61% agreed to English Language Board Game while 39 disagreed (m=1.61)

and 60.5% agreed to Language Olympics while 39.5% disagreed (m=1.60). The different game design elements implemented in the system showed a varying degree of success. All game design elements contributed to the participants to some degree. This is because the mean ratings of the items are above 1.50 with at least 70% level of acceptance. However, the majority of the participants preferred ward bingo as the most effective game element with a mean score of 1.70.

Table 1: The Effective Game Elements Facilitating Language Learning Activities

s/n	Game design elements	A	DA	Mean	Std
1	Kahoot	134 (67.0)	66 (33.0)	1.67	0.471
2	Quizizz	131 (65.5)	69 (34.5)	1.65	0.477
3	Word bingo	140 (70)	60 (30)	1.700	0.459
4	Storytelling challenges	128 (64.0)	72 (36.0)	1.640	0.481
5	Vocabulary challenges	124 (62.0)	76 (38.0)	1.620	0.486
6	Language quests	129 (64.5)	71 (35.5)	1.645	0.479
7	Language Role-Playing Games	138 (69.0)	62 (31.0)	1.690	0.464
8	Language Olympics	121 (60.5)	79 (39.5)	1.605	0.490
9	Language Trivia	124 (62.0)	76 (38.0)	1.620	0.487
10	English Language Board Game	122 (61.0)	78 (39.0)	1.610	0.489

Table 2. Revealed that different game design elements implemented in the system showed a varying degree of success with motivation. All game design elements contributed to motivating the participants to some degree with at least a high degree of users agreeing with the statement for the game design elements. However, 62.5% agreed with Gamification helped in improving my reading skills while 37.5% disagreed (m=1.62); 60% agreed that Gamification motivated me to improve my listening skills while 40% disagreed (1.60); 59% agreed with my motivation to learn English is the gamification strategy while 41% disagree; 58% agreed with Gamification motivated me to improve my speaking skills while 42% disagree; 57% agree with Gamification inspired me to improve my writing skills while 37.5% disagree with the statement. Therefore, the Table revealed agreement for the five statements by the respondents. This is because the mean ratings of the items are above 1.50 which is the acceptance level as indicated

Table 2: level of Motivation towards the Game Elements

s/n	Statement	A	DA	Mean	Std
1	My motivation to learn English is the gamification strategy	118 (59.0)	82 (41.0)	**1.590**	0.493
2	Gamification motivated me to improve my speaking skills	116 (58.0)	84 (42.0)	**1.580**	0.494
3	Gamification motivated me to improve my listening skills	120 (60.0)	80 (40.0)	**1.600**	0.491
4	Gamification inspired me to improve my writing skills	114 (57.0)	86 (43.0)	**1.570**	0.496
5	Gamification help in improving my reading skills	125 (62.5)	75 (37.5)	**1.625**	0.485

Table 3 indicates the attitude of respondents towards the gamified learning activities. The Table revealed 65% agreed that the game element makes language learning exciting while 35% disagreed (m=1.65); 64% of the respondents agreed to the statement the element make language learning easier and the element expedites language learning while 36% disagreed (m=1.64); 63% agreed to the game element make the environment conducive for language learning while 37% disagreed (m=1.63); and 60% agreed with “the game element enhanced my language skills while 40% disagreed (m=1.60). Therefore, it can be inferred from the respondents’ responses that they have a favorable attitude toward the gamified learning activities.

Table 3: Attitude of Pupils towards the Gamified Learning Activities

s/n	Statement	A	DA	Mean	Std
1	The game element enhanced my language skills	120 (60.0)	80 (40.0)	**1.600**	0.491
2	The game element Make language learning exciting	130 (65.0)	70 (35.0)	**1.650**	0.478
3	The game element make the environment conducive for language learning	126 (63.0)	74 (37.0)	**1.630**	0.484
4	The element Make language learning easier	128 (64.0)	72 (36.0)	**1.640**	0.481
5	The element expedite language learning	128 (64.0)	72 (36.0)	**1.640**	0.481

Table 4 displays the descriptive data for the language proficiency level. The pre-test and post-test language proficiency scores of the participants are displayed in the "Pre-Test" and "Post-Test" columns, respectively, and the difference between the post-test and pre-test scores is indicated in the "proficiency" column. Prior to the test, the mean score was 65.23; following the test, it increased to 75.50. This demonstrates that language proficiency improved by 10.27 as a result of the gamified intervention. The standard deviations for the pre- and post-tests were 7.12 and 6.81, respectively. The lower standard deviation indicates that the scores were spread more evenly around the mean after the intervention.

Table 4: The Proficiency Level of the Gamified Learning Activities

Tests	Mean	Std Dev	Proficiency Level
Pre- test	**65.23**	**7.12**	**+10.27**
Post test	**75.50**	**6.81**	

IV. Discussion

This study aims to evaluate the effects of gamification on the acquisition of second languages, with an emphasis on English. The difference between the averages of the experimental group and the control group could be seen when the quantitative data were collected. Compared to the control group, the experimental group's language proficiency increased statistically significantly. There was a lot of student participation in the game-like features used to introduce each class. When compared to the control group, which received instruction in traditional methods for introductions and procedures, it was evident that gamified learning not only grabs students' interest but also inspires them to study. Although they were initially perplexed, they then stated that they found it to be captivating, lively, and appealing.

The use of game components, whose goal was to connect frequent adverbs with everyday verbs, also had a good impact on language acquisition (Purgina, Mozgovoy & Blake, 2020). This platform allowed students to be finalists, winners, or to receive awards based on a point system, making it incredibly engaging. Their constant focus and desire to improve was maintained by this system of rewards depending on their progress in learning the language. In order to improve speaking and listening abilities, the game features were incorporated into a lesson where students were instructed to practice pronouncing words correctly and received feedback after listening to the lesson and reviewing their responses. They enjoyed that this gamification method of educational experiences was available to all pupils and allowed them to improve with practice and ultimately get a higher score. For the game components boosted the participants' confidence and enthusiasm, the respondents' attitudes toward the game features were positive. Another way that gamification was beneficial was by increasing pupils' motivation to use the platforms. After receiving instruction, pupils were more likely to engage with the various learning contexts. They became designers and assessors of their inventions as a result of the engagement, which ignited their creativity and inventiveness in the systems. Since all of the class objectives involved work, students could be driven by the desire to succeed; more motivation arises when the effort is required to fulfill the target (Cook & Artino, 2016). Furthermore, learning will be consolidated in the brain and students will have acquired knowledge if they exhibit high motivation, high confidence, and low fear (Luria, Shalom, & Levy, 2021).

V. Conclusion

Our goal in this study was to find out how gamification and language acquisition may coexist in elementary school students. The purpose of the study was to investigate how gamification might enhance students' motivation and attitude toward language learning. It accomplished this by utilizing a mixed-approaches strategy that involved quantitative analysis. The quantitative study yielded compelling results that demonstrate how game-based learning might completely transform the field of education. The improvement in language proficiency scores between the pre-and post-tests that were found lends credence to the idea that gamification can speed up language acquisition. This result is consistent with other studies that have highlighted the positive impacts of gamified treatments on the language acquisition skills of young learners. These consistent findings provide credence to the notion that gamification serves as a potent incentive for elementary school students' acquisition

of language proficiency and fluency. The survey's findings shed light on the gamified language learning environment's motivating and attitude components. The high mean ratings for attitude and motivation align with the theoretical underpinnings of gamification, emphasizing the technology's capacity to stimulate intrinsic drive through successes, rewards, and prompt feedback. This bolsters the claims made by scholars such as the effect that gamification harnesses the potency of engaging game elements to foster more profound learning experiences.

Recommendations

Host seminars and workshops to educate course designers about the importance of gamification in the learning process. Provide educational programs to help teachers and students become better designers. Gamification can be used to develop instructional activities for e-learning programs. Apply gamification strategies in your classes, particularly in language instruction, as evidenced by the successful results of this study.

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