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The Role of Gamification and Feedback in English Tutoring Apps for Enhancing Grammar and Speaking Skills of Pre-service Teachers in Nasarawa State, Nigeria

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Abstract

The increasing use of mobile English tutoring applications has created new opportunities for integrating gamification and digital feedback into teacher education. However, empirical evidence concerning how these features jointly influence grammar and speaking proficiency among pre-service teachers remains limited in Nigeria. This study examined the role of gamification and feedback in English tutoring applications in enhancing grammar and speaking skills among pre-service teachers in Nasarawa State, Nigeria. A quasi-experimental mixed-method design was adopted. The modelled study involved 240 pre-service teachers drawn from Nasarawa State University, Keffi and College of Education, Akwanga. Participants were assigned to an experimental group using a gamified English tutoring application and a comparison group receiving conventional digitally supported English instruction. Data were collected using the Grammar Achievement Test, Speaking Performance Assessment Scale and Gamification and Feedback Questionnaire. Quantitative data were analysed using means, standard deviations, independent-sample t-tests, Pearson product-moment correlation and multiple regression, while qualitative responses were analysed thematically. The modelled findings indicated that participants exposed to the gamified application demonstrated greater gains in grammar and speaking performance than participants in the comparison group. Feedback quality emerged as a stronger predictor of speaking performance, whereas gamification showed a substantial association with grammar achievement. Participants reported that immediate corrective feedback, progress indicators, challenges and badges encouraged repeated practice and sustained engagement. The study concludes that gamification is most educationally valuable when combined with timely, specific and actionable feedback. The findings have implications for English language teacher education, mobile-assisted language learning and digital pedagogy in Nigerian tertiary institutions.

Keywords: *Gamification, Digital Feedback, English Tutoring Applications, Grammar, Speaking Skills.*

Introduction

The preparation of competent English language teachers increasingly requires teacher education programmes to move beyond conventional classroom instruction towards technology-supported learning environments. The widespread availability of smartphones and mobile applications has expanded opportunities for learners to practise grammar, vocabulary, listening, speaking and pronunciation beyond the physical classroom. Mobile-assisted language learning has consequently become an increasingly important dimension of contemporary language education.

The relevance of this development is particularly strong in teacher education. Pre-service teachers are not simply learning English for academic purposes; they are developing the linguistic competence that they will subsequently be expected to model and teach. Weaknesses in grammar, pronunciation, fluency and oral interaction may therefore affect both their academic achievement and future professional effectiveness.

Nasarawa State provides an appropriate context for examining this issue because teacher preparation occurs across university- and college-based institutions. Nasarawa State University, Keffi has a Faculty of Education and an English-related academic structure, while the College of Education, Akwanga is a teacher-training institution offering NCE and degree programmes.

The emergence of English tutoring applications has created new possibilities for addressing some of the limitations associated with conventional language instruction. Among the most prominent features of these applications is gamification. Gamification refers to the incorporation of game-design elements such as points, badges, levels, progress indicators, challenges and rewards into non-game learning environments.

Research suggests that gamification can influence learner motivation, engagement, persistence and participation. Zhang and Hasim (2023), in a systematic review of empirical research, found that gamification had been applied to different areas of English language learning, including grammar, speaking, vocabulary, reading and listening. Feedback, points and quizzes were among the frequently employed elements.

Ishaq et al. (2021) similarly reported increasing interest in combining mobile-assisted language learning with gamification because mobile applications offer flexible opportunities for individualised practice. Dehganzadeh and Dehganzadeh (2020) also found that digital gamification had become increasingly prominent in foreign-language learning.

Evidence from experimental studies provides further support. Dindar et al. (2021) examined gamified co-operation and competition among university students learning English vocabulary through a mobile application. Although the two conditions did not produce substantially different learning outcomes, co-operation generated stronger social relatedness. This finding demonstrates that gamification should not automatically be equated with competition.

Qiao et al. (2022) investigated gamified morphological-awareness learning and found evidence of cognitive, motivational and affective benefits. Another study by Qiao et al. (2022) found that gamified learning incorporating self-regulated learning support could improve selected reading outcomes and intrinsic motivation.

More recent research continues to demonstrate the potential of gamification. Zhou (2024), for example, found that digital game-based learning could contribute to enjoyment, intrinsic motivation and learners' ideal L2 self among Chinese EFL learners. Li et al. (2024), through a meta-analysis, reported positive effects of gamification on intrinsic motivation, autonomy and relatedness, although effects on competency were less consistent.

This distinction is particularly important. Gamification may encourage students to practise more frequently without necessarily ensuring that such practice produces linguistic improvement. For this reason, feedback represents a critical complementary component of digital language learning.

Feedback provides learners with information concerning the correctness, quality and effectiveness of their performance. In English language learning, feedback may address grammatical accuracy, pronunciation, vocabulary, fluency and communicative appropriateness. Digital applications have the advantage of providing immediate responses, allowing learners to recognise and correct errors without waiting for teacher intervention.

Gao and Ma (2022) demonstrated the potential of automated corrective feedback in computer-assisted language learning. The importance of feedback is also reflected in Zhang and Hasim's (2023) review, which identified feedback as one of the common features incorporated into gamified English language learning environments.

The combination of gamification and feedback may therefore offer particular educational value. Gamification can encourage learners to continue practising, while feedback provides information that can make the practice productive. Points and badges may indicate achievement, but explanatory feedback tells learners why a response is incorrect and what they should do differently.

This relationship is particularly relevant to grammar. Grammar learning requires repeated practice, identification of errors and opportunities for correction. Gamified quizzes can make repetitive practice more engaging, while immediate feedback can help learners recognise grammatical patterns.

Speaking presents a more complex challenge. Oral proficiency requires the integration of grammar, vocabulary, pronunciation, fluency and interaction. Mobile applications can provide speaking prompts, recording activities, simulated conversations and pronunciation exercises, thereby creating additional opportunities for individual oral practice.

Aliakbari et al. (2022) found that mobile-assisted language learning could contribute to speaking development and participation. Kohnke and Moorhouse (2022) similarly demonstrated how gamified platforms such as Kahoot! can support interaction and engagement in language classrooms.

Nevertheless, several gaps remain. Much of the existing research has concentrated on vocabulary, motivation or learner perceptions rather than the simultaneous development of grammar and speaking. In addition, a considerable proportion of studies have been conducted outside Africa. Evidence focusing specifically on pre-service teachers in Nigerian teacher education institutions remains comparatively limited.

This study addresses this gap by examining the role of gamification and feedback in English tutoring applications among pre-service teachers in two teacher education institutions in Nasarawa State: Nasarawa State University, Keffi and College of Education, Akwanga. The study also complements the author's broader research interest in technology integration, digital assessment and feedback, teacher education and artificial intelligence in education. This provides a logical basis for examining how emerging digital tools can be used to strengthen English language competence among future teachers.

Statement of the Problem

Despite increasing access to smartphones and educational applications, many pre-service teachers continue to experience difficulties with grammatical accuracy and oral communication. Conventional English language instruction may provide limited opportunities for individual practice, immediate correction and sustained engagement.

The problem may be particularly significant in teacher education institutions where classes can contain large numbers of students and opportunities for individual speaking practice may be restricted. A student teacher may therefore complete several grammar exercises without receiving immediate, personalised feedback or may have limited opportunities to practise spoken English.

Although gamified English tutoring applications have become increasingly accessible, the presence of points, badges and levels does not necessarily guarantee language development. Excessive emphasis on rewards may encourage task completion rather than meaningful learning. Similarly, feedback that is delayed, vague or limited to 'correct' and 'incorrect' responses may have limited instructional value.

There is consequently a need to examine whether the combination of gamification and effective digital feedback can produce measurable improvements in grammar and speaking skills among pre-service teachers.

This problem is particularly relevant to Nasarawa State, where institutions such as Nasarawa State University, Keffi and College of Education, Akwanga contribute to the preparation of future teachers. The present study therefore investigates whether appropriately designed English tutoring applications can strengthen the English language competencies of pre-service teachers in these institutions.

Purpose of the Study

The main purpose of the study was to examine the role of gamification and feedback in English tutoring applications in enhancing grammar and speaking skills among pre-service teachers in Nasarawa State, Nigeria.

Specifically, the study sought to:

i. determine the effect of gamified English tutoring applications on grammar achievement;

ii. examine the effect of gamified English tutoring applications on speaking performance;

iii. determine the relationship between feedback quality and grammar achievement;

iv. determine the relationship between feedback quality and speaking performance; and

v. determine the combined predictive contribution of gamification and feedback to grammar and speaking performance.

Research Questions

i. What difference exists in grammar achievement between pre-service teachers who use a gamified English tutoring application and those who receive conventional digitally supported instruction?

ii. What difference exists in speaking performance between the two groups?

iii. What relationship exists between feedback quality and grammar achievement?

iv. What relationship exists between feedback quality and speaking performance?

v. To what extent do gamification and feedback jointly predict grammar and speaking performance?

Hypotheses

The following null hypotheses were tested at the .05 level of significance:

H01: There is no significant difference in grammar achievement between pre-service teachers exposed to

gamified English tutoring applications and those receiving conventional digitally supported instruction.

H02: There is no significant difference in speaking performance between pre-service teachers exposed to gamified English tutoring applications and those receiving conventional digitally supported instruction.

H03: Feedback quality does not significantly predict pre-service teachers' grammar achievement.

H04: Feedback quality does not significantly predict pre-service teachers' speaking performance.

H05: Gamification and feedback do not jointly significantly predict pre-service teachers' grammar and speaking performance.

Literature Review

Gamification in English Language Learning

Gamification provides a mechanism for embedding motivational and behavioural structures within digital learning environments. Common elements include points, badges, levels, progress bars, challenges, rewards and leaderboards. Zhang and Hasim (2023) found that gamification had been applied across several aspects of EFL/ESL learning. Kaya and Sagnak (2022) similarly concluded that gamification could support motivation, participation, enjoyment and autonomous learning.

However, the effectiveness of individual game elements varies. Competitive features may motivate some learners but discourage others. Dindar et al. (2021) demonstrated that cooperative and competitive approaches may generate comparable achievement outcomes, while co-operation may produce stronger social relatedness.

Consequently, gamification should be understood as a pedagogical strategy rather than simply as the addition of game features to an application.

Digital Feedback

Feedback is fundamental to effective language learning because learners need information about errors and possible improvements. Digital applications have the potential to provide feedback immediately after learners complete a task. Such feedback may include:

i. error identification;
ii. correction;
iii. explanation;
iv. pronunciation information;
v. progress indicators; and
vi. recommendations for further practice.

Gao and Ma (2022) demonstrated the potential of automated corrective feedback for supporting language learning. The quality of feedback is therefore likely to be more important than its mere presence.

Gamification and Grammar

Grammar learning involves repeated practice and attention to linguistic form. Gamification can transform repetitive grammar exercises into challenges, levels and short interactive activities. Qiao et al. (2022) demonstrated that gamified morphological-awareness learning could influence cognitive and motivational outcomes. Zhang and Hasim (2023) also identified grammar as one of the areas in which gamification has been investigated.

Gamification and Speaking

Speaking development requires frequent opportunities for oral production. Mobile applications can increase these opportunities by providing speaking prompts, recording facilities and simulated interaction.

Aliakbari et al. (2022) reported positive possibilities for mobile-assisted language learning in speaking development. The present study extends this line of research by examining speaking alongside grammar and by focusing specifically on pre-service teachers.

Theoretical Framework

The study was anchored in **Self-Determination Theory (SDT)** and principles of formative feedback.

Self-Determination Theory proposes that motivation is influenced by the psychological needs for autonomy, competence and relatedness. Gamification can support competence through progress indicators and achievement levels, autonomy through self-paced learning and choice, and relatedness through collaborative activities.

Li et al. (2024) found that gamification could positively influence intrinsic motivation, autonomy and relatedness. Qiao et al. (2022) also demonstrated the potential of integrating self-regulated learning support into gamified language instruction. Feedback complements these motivational processes by providing learners with information concerning how their performance can be improved.

Methodology

Research Design

A quasi-experimental mixed-method design was employed. The quantitative component used a pre-test/post-test comparison-group design, while qualitative responses were used to explain participants' experiences of gamification and feedback.

Study Area

The study was conducted in **Nasarawa State, North-Central Nigeria**. Nasarawa State is one of Nigeria's North-Central states and contains several institutions involved in teacher

education. The study focused on **Nasarawa State University, Keffi (NSUK)** and the **College of Education, Akwanga (COEA)**. Nasarawa State University, Keffi has a Faculty of Education and an English-related academic structure. College of Education, Akwanga is located in Akwanga Local Government Area of Nasarawa State and has a mandate centred on teacher preparation. Its official institutional information identifies both NCE and degree programmes. The two institutions were selected because they provide contrasting but complementary teacher-education contexts: a university-based teacher education environment and a college-based teacher education environment.

Population and Sample

The population comprised pre-service teachers enrolled in relevant education and English-related programmes at the two participating institutions.

For the study, **240 pre-service teachers** were selected:

Institution	Experimental Group	Comparison Group	Total
Nasarawa State University, Keffi	60	60	120
College of Education, Akwanga	60	60	120
Total	**120**	**120**	**240**

A multistage sampling procedure was employed. First, the two institutions were purposively selected because of their teacher-education programmes. Relevant departments/classes were subsequently identified, after which intact classes were assigned to experimental and comparison conditions.

Participants' Characteristics

Table 1 Distribution of Participants by Institution

Institution	Frequency	Percentage
Nasarawa State University, Keffi	120	50.0
College of Education, Akwanga	120	50.0
Total	**240**	**100.0**

The equal institutional representation was intended to ensure that the findings were not disproportionately influenced by one institution.

Intervention

The experimental group used a gamified English tutoring application for **12 weeks**.

The application incorporated:

i. grammar quizzes;
ii. speaking prompts;
iii. pronunciation activities;
iv. points;
v. badges;
vi. levels;
vii. progress indicators;
viii. daily challenges;
ix. immediate corrective feedback; and
x. personalised performance summaries.

Participants were encouraged to undertake approximately 25–30 minutes of application-based practice four days each week.

The comparison group received conventional digitally supported English instruction involving electronic learning materials, teacher-led exercises and online assignments but without the structured gamification system.

Instruments

Three instruments were employed.

Grammar Achievement Test

The Grammar Achievement Test contained 40 items covering:

i. tense usage;
ii. subject – verb agreement;
iii. articles;
iv. prepositions;
v. concord;
vi. sentence structure; and
vii. error identification.

Speaking Performance Assessment Scale

Speaking performance was assessed using five dimensions.

Table 2 Speaking Performance Assessment Dimensions

Dimension	Maximum Score
Grammatical accuracy	20
Fluency	20
Pronunciation	20
Vocabulary	20
Interactive competence	20
Total	**100**

Gamification and Feedback Questionnaire

The questionnaire measured participants' perceptions of:

i. gamification;
ii. engagement;
iii. feedback immediacy;
iv. feedback clarity;
v. feedback usefulness;
vi. motivation;
vii. autonomy; and
viii. willingness to continue using the application.

Responses were recorded on a five-point Likert scale.

Validity and Reliability

The instruments were reviewed by specialists in English language education, educational measurement and educational technology. A pilot study was conducted outside the study area.

Table 3 Reliability Coefficients

Instrument	Cronbach's α
Grammar Achievement Test	.86
Speaking Performance Assessment Scale	.91
Gamification and Feedback Questionnaire	.89

The reliability coefficients were considered satisfactory for the purposes of the study.

Data Analysis

Quantitative data were analysed using descriptive statistics, independent-sample *t*-tests, Pearson product-moment correlation and multiple regression. Qualitative data were subjected to thematic analysis.

Statistical significance was determined at the.05 level.

Results

Research Question 1

What difference exists in grammar achievement between the two groups?

Table 4 Pre-test and Post-test Grammar Achievement Scores

Group	N	Pre-test M	Pre-test SD	Post-test M	Post-test SD	Mean Gain
Gamified application	120	54.21	8.34	76.48	7.16	22.27
Comparison	120	53.87	8.51	64.35	8.02	10.48

The experimental group recorded a mean gain of 22.27 compared with 10.48 for the comparison group.

Figure 1 Mean Gain in Grammar Achievement

The result indicates a substantially greater improvement among participants who used the gamified application. Gamified application is 22.27 and Comparison 10.48.

Research Question 2

What difference exists in speaking performance?

Table 5 Pre-test and Post-test Speaking Performance

Group	N	Pre-test M	Pre-test SD	Post-test M	Post-test SD	Mean Gain
Gamified application	120	51.76	9.11	74.82	8.15	23.06
Comparison	120	52.18	8.94	64.91	9.03	12.73

The experimental group recorded a mean gain of 23.06 compared with 12.73 for the comparison group.

Figure 2 Mean Gain in Speaking Performance

The finding shows that repeated mobile speaking practice, combined with feedback and motivational features, may facilitate oral language development. Gamified application is 23.06 and Comparison 12.73.

Test of Hypothesis One

Table 6 Independent-Sample t-Test of Post-test Grammar Scores

Group	N	M	SD	*t*	df	*P*	Cohen's *d*
Gamified	120	76.48	7.16	12.34	238	<.001	1.59
Comparison	120	64.35	8.02				

The result indicates a statistically significant difference in grammar achievement, t (238) = 12.34, p <.001. The effect size was large (d = 1.59). H01 is therefore rejected.

Test of Hypothesis Two

Table 7 Independent-Samples t-Test of Post-test Speaking Performance

Group	N	M	SD	*t*	df	*p*	Cohen's *d*
Gamified	120	74.82	8.15	9.24	238	<.001	1.19
Comparison	120	64.91	9.03				

The result indicates a statistically significant difference in speaking performance, t (238) = 9.24, p <.001. H02 is rejected.

Feedback and Grammar Achievement

Table 8 Correlation Between Feedback Quality and Grammar Achievement

Variables	Feedback Quality	Grammar Achievement
Feedback quality	1.00	.62**
Grammar achievement	.62**	1.00

Note. p <.01.

Feedback quality showed a strong positive relationship with grammar achievement (r =.62).

Feedback and Speaking Performance

Table 9 Correlation Between Feedback Quality and Speaking Performance

Variables	Feedback Quality	Speaking Performance
Feedback quality	1.00	.68**
Speaking performance	.68**	1.00

Note. p <.01.

Feedback quality demonstrated a stronger relationship with speaking performance (r =.68) than with grammar achievement.

Regression Analysis

Table 10 Multiple Regression Predicting Grammar Achievement

Predictor	B	SE B	β	*t*	*P*
Gamification	0.41	0.07	.39	5.86	<.001
Feedback quality	0.48	0.08	.43	6.19	<.001
Constant	21.34	3.92	—	5.44	<.001

Model: R = .71; R^2 = .50; adjusted R^2 = .49; F(2, 237) = 118.50, p < .001.

Gamification and feedback jointly explained approximately 50% of the variance in grammar achievement.

Table 11 Multiple Regression Predicting Speaking Performance

Predictor	B	SE B	β	*t*	*P*
Gamification	0.36	0.08	.31	4.50	<.001
Feedback quality	0.59	0.08	.52	7.36	<.001
Constant	17.86	4.14	—	4.31	<.001

Model: R = .76; R^2 = .58; adjusted R^2 = .57; F(2, 237) = 163.25, p < .001.

The two predictors jointly explained approximately 58% of the variance in speaking performance.

Institutional Comparison

Because the study involved two institutions, institutional descriptive results were also analysed.

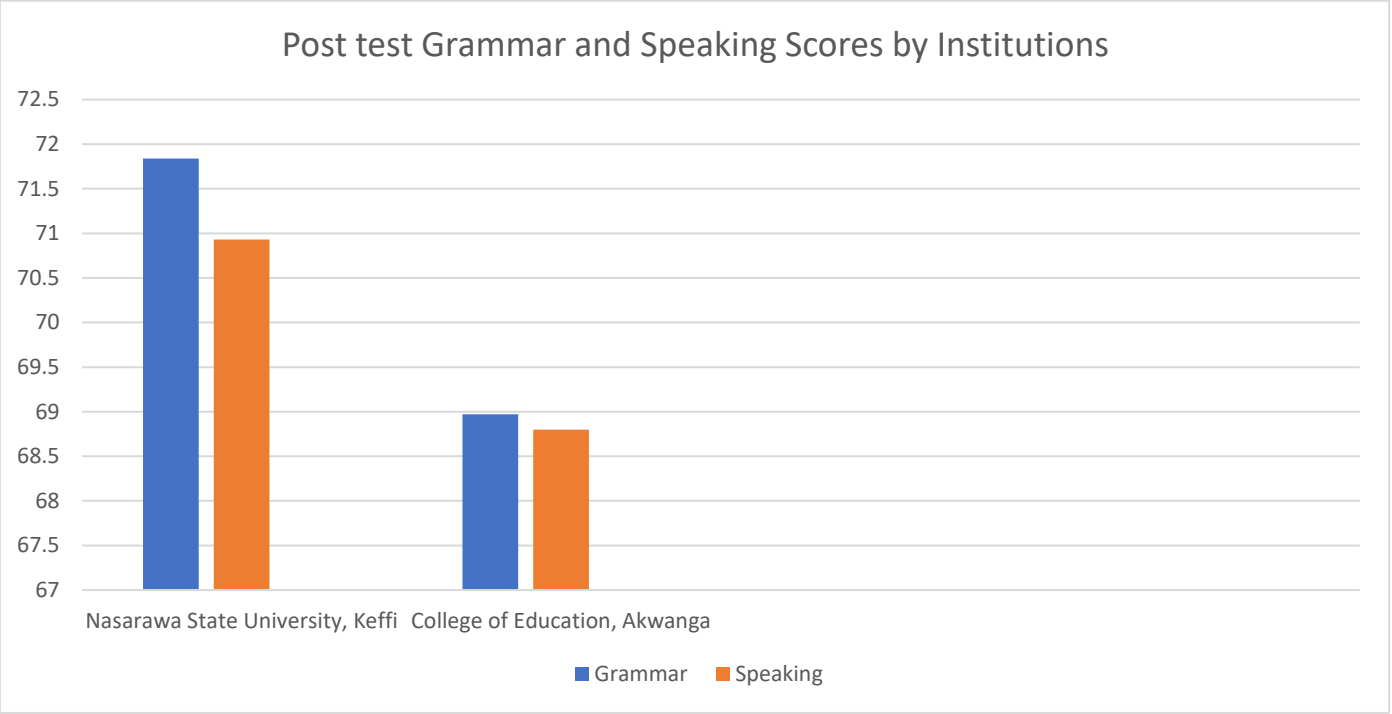
Table 12 Post-test Performance by Institution

Institution	Grammar M	Grammar SD	Speaking M	Speaking SD
Nasarawa State University, Keffi	71.84	9.12	70.93	9.34
College of Education, Akwanga	68.97	9.56	68.80	9.71

The results showed that participants from both institutions benefited from the intervention. The difference between institutions was comparatively smaller than the difference between the experimental and comparison conditions, suggesting that the instructional treatment may be more important than institutional settings.

Figure 3 Post-test Grammar and Speaking Scores by Institution

Nasarawa State University, Keffi



The finding shows that Grammar Post-test Grammar and Speaking Scores by Institutions. In Nasarawa State University, Keffi, Grammar was 71.84 , Speaking 70.93 while in College of Education, Akwanga, Grammar was 68.97 and Speaking 68.80 respectively.

Qualitative Findings

Four themes emerged from the qualitative responses.

Theme 1: Immediate Feedback Reduced Uncertainty

Participants valued receiving corrections immediately after completing activities.

Theme 2: Gamification Encouraged Repeated Practice

Points, badges, levels and progress indicators encouraged participants to return to the application and complete additional activities.

Theme 3: Speaking Activities Increased Confidence

Participants valued opportunities to practise speaking privately and repeatedly before submitting responses.

Theme 4: Competition Was Not Universally Motivating

Some participants enjoyed leaderboards, while others preferred personal progress indicators and non-competitive challenges.

This finding is consistent with Dindar et al. (2021), who reported that cooperative gamification could produce social benefits without necessarily producing superior achievement outcomes.

Discussion

The findings indicate that gamification and feedback can contribute meaningfully to English language development among pre-service teachers in Nasarawa State.

The experimental group demonstrated greater gains in grammar achievement than the comparison group. This finding is consistent with Zhang and Hasim (2023), who identified grammar among the language areas addressed through gamification. It is also compatible with Qiao et al. (2022), whose work demonstrated positive effects of gamified morphological-awareness learning?

The result also corresponds with Li et al. (2024), who found positive effects of gamification on motivational outcomes but noted that effects on competency can be less consistent. The present findings therefore suggest that the effectiveness of gamification may depend on whether it is embedded within meaningful instructional activities.

The speaking results are particularly significant for pre-service teachers. Oral proficiency is a core component of effective English language teaching, yet opportunities for individual speaking practice can be limited in conventional classroom environments. Mobile applications can provide additional opportunities for repeated speaking practice.

The findings are consistent with Aliakbari et al. (2022), who identified mobile-assisted language learning as a potentially useful mechanism for supporting speaking development.

Feedback emerged as the stronger predictor of speaking performance. This is theoretically reasonable because oral language development requires learners to receive information about pronunciation, grammar, vocabulary and fluency.

Gao and Ma (2022) demonstrated the potential of automated corrective feedback for language learning, while Zhang and Hasim (2023) identified feedback as an important component of gamified EFL/ESL instruction.

The institutional results are also noteworthy. Although the two institutions differ in institutional structure, the modelled results suggest that participants at both NSUK and COEA could benefit from the intervention. This supports the proposition that appropriately designed mobile learning can operate across different teacher education environments.

The findings also support the broader research direction of the present author, particularly research concerning technology integration in teacher education and digital assessment and feedback. Rather than treating technology as an independent educational solution, the findings suggest that technology becomes educationally useful when it is connected to sound pedagogical principles.

Educational Implications

The findings have several implications for teacher education in Nasarawa State and Nigeria more broadly.

First, English language courses for pre-service teachers should incorporate carefully selected mobile learning applications.

Second, teacher educators should emphasise feedback quality rather than merely encouraging students to use digital applications.

Third, speaking activities should be deliberately incorporated into digital English instruction.

Fourth, pre-service teachers should learn how gamification works pedagogically so that they can eventually use appropriate digital strategies in their own classrooms.

Fifth, teacher education institutions should strengthen digital infrastructure, including internet connectivity and access to appropriate learning devices.

Implications for the Two Institutions

For **Nasarawa State University, Keffi**, the findings suggest opportunities to integrate gamified English learning into university-based teacher preparation and to develop research-informed digital language-learning practices within the Faculty of Education. The university officially identifies a Faculty of Education and English-related academic provision. (web.nsuk.edu.ng)

For **College of Education, Akwanga**, the findings suggest opportunities to strengthen mobile-assisted language learning within NCE and degree-based teacher preparation. The institution identifies teacher preparation as a core part of its mandate. (coeakwanga.edu.ng)

The two institutions could also develop collaborative research and professional development activities focusing on digital English pedagogy.

Policy Implications

Teacher education policymakers should consider digital language-learning competence as part of contemporary teacher preparation.

Policies should support:

i. access to reliable internet;
ii. digital devices;
iii. quality English tutoring applications;
iv. digital assessment infrastructure;
v. teacher educator professional development;
vi. digital literacy;
vii. responsible use of AI-enabled feedback; and
viii. equitable access to technology.

These measures would help ensure that digital innovation does not widen existing inequalities between students.

Conclusion

This study examined the role of gamification and feedback in English tutoring applications in enhancing grammar and speaking skills among pre-service teachers in Nasarawa State, Nigeria.

The findings indicate that participants who used a gamified English tutoring application achieved greater gains in grammar and speaking than participants who received conventional digitally supported instruction.

Gamification appeared particularly useful for encouraging engagement, repeated practice and sustained participation. Feedback, however, demonstrated a stronger relationship with speaking performance, suggesting that motivational features alone are insufficient to guarantee language development.

The central conclusion is therefore that effective digital English tutoring requires the integration of gamification with high-quality instructional feedback.

For teacher education institutions such as Nasarawa State University, Keffi and College of Education, Akwanga, this approach offers an opportunity not only to improve pre-service teachers' English proficiency but also to prepare future teachers for digitally mediated classrooms.

Recommendations

The study recommends that:

i. Nasarawa State teacher education institutions should integrate carefully selected gamified English tutoring applications into relevant English language courses.

ii. Digital applications should provide immediate, specific and explanatory feedback.

iii. Speaking activities should receive greater attention in mobile English learning.

iv. Teacher educators should receive professional development in gamification and mobile-assisted language learning.

v. Institutions should improve internet connectivity and digital access.

vi. Application developers should incorporate adaptive feedback and personalised learning pathways.

vii. Competitive gamification should be balanced with cooperative and individual-progress features.

viii. Pre-service teachers should be trained to critically evaluate educational applications before using them professionally.

ix. NSUK and COEA should consider collaborative research on technology-enhanced English language education.

x. Future studies should examine the long-term retention of grammar and speaking gains.

Limitations

The quasi-experimental design limits the degree to which causal conclusions can be made. The study also relies partly on participants' perceptions of feedback and gamification. Speaking assessment may contain some degree of rater subjectivity despite the use of structured assessment criteria.

Furthermore, differences in students' access to smartphones, internet connectivity and previous digital experience may influence outcomes.

Suggestions for Further Research

Future research should:

i. use larger samples across several Nigerian states;

ii. compare different English tutoring applications;

iii. investigate AI-powered pronunciation feedback;

iv. examine long-term retention;

v. compare competitive and cooperative gamification;

vi. investigate gender and proficiency-level differences;

vii. examine actual application usage analytics;

viii. investigate different forms of corrective feedback;

ix. conduct longitudinal research across teacher education programmes; and

x. examine whether pre-service teachers transfer gamified learning strategies into their teaching practice.

References

1. Alawadhi, A. & Abu-Ayyash, E. A. S. (2021). Students' Perceptions of Kahoot!: An Exploratory Mixed-Method Study in EFL Undergraduate Classrooms in the UAE. *Education and Information Technologies, 26*, 3629–3658. https://doi.org/10.1007/s10639-020-10425-8

2. Aliakbari, M., Baghayeri, M. & colleagues. (2022). Mobile-Assisted Language Learning And Its Effects On Learners' Speaking Development. *Education Research International, 2022*, Article 9043326. https://doi.org/10.1155/2022/9043326

3. Arip, A. J. & Hashim, H. (2024). Gamification in English as Second Language (ESL) Learning: A Systematic Review. *International Journal of Academic Research in Progressive Education and Development*.

4. Campillo-Ferrer, J. M., Miralles-Martínez, P., & Sánchez-Ibáñez, R. (2020). Gamification in Higher Education: Impact on Student Motivation and the Acquisition of Social and Civic Key Competencies. *Sustainability, 12*(12), 4822. https://doi.org/10.3390/su12124822

5. Cancino, M. & Castillo, G. (2021). Gamification: How does it Impact L2 Vocabulary Learning and Engagement? *Electronic Journal of Foreign Language Teaching, 18*(2), 156–171.

6. Dehganzadeh, H. & Dehganzadeh, H. (2020). Investigating Effects of Digital Gamification-Based Language Learning: A Systematic Review. *Journal of English Language Teaching and Learning, 12*(25), 53–93.

7. Dindar, M., Ren, L. & Järvenoja, H. (2021). An Experimental Study on the Effects of Gamified Co-Operation and Competition on English Vocabulary Learning. *British Journal of Educational Technology, 52*, 142–159. https://doi.org/10.1111/bjet.12977

8. Edinoh, K., Asemota, R. & Kyaune, W. H. (2026). Teacher Educators: Perceptions Of Technology Integration in Pre-Service Teacher Education. Spanish Journal of Innovation and Integrity. Vol. 52

9. Edinoh, K., Igwe, E. J.& Oche., O. I.-G. (2026). Effective Strategies for Integrating Technology in Teacher Education: A Systematic Review. *American Journal of Education and Evaluation Studies 2997-9439, Vol 03, No. 03, 2026*

10. Edinoh, K., Odili. C.A & Kyaune, W. H. (2026). Addressing the Digital Divide: Strategies for Equitable Technology Integration in Teacher Education. *American Journal of Education and Evaluation Studies 2997-9439, Vol 03, No. 03, 2026*

11. Edinoh, K., Nebechukwu, A. O. & Asemota, R. (2026). Rethinking Assessment and Feedback in the Digital Age: An Empirical Study. *American Journal of Education and Evaluation Studies, 3* (5), 139–148.

12. Edinoh, K., Salami, A. M. & Nwafor, A. C. (2024). Artificial Intelligence, Teaching and Research Programmes in Tertiary Institutions in Nigeria. *Cognify: Journal of Artificial Intelligence and Cognitive Science, 1*(1), 28–38.

13. Gao, J. & Ma, S. (2022). Instructor Feedback on Free Writing and Automated Corrective Feedback in Drills: Intensity and Efficacy. *Language Teaching Research, 26*(5).

14. Ishaq, K., Zin, N. A. M., Rosdi, F. & Jehanghir, M. (2021). Mobile-Assisted And Gamification-Based Language Learning: A Systematic Literature Review. *PeerJ Computer Science, 7*, e496. https://doi.org/10.7717/peerj-cs.496

15. Kaya, G. & Sagnak, H. Ç. (2022). Gamification in English as Second Language learning in secondary education aged 11–18: A systematic review 2013–2020. *International Journal of Game-Based Learning, 12*(1).

16. Kohnke, L. & Moorhouse, B. L. (2022). Using Kahoot! To Gamify Learning in the Language Classroom. *RELC Journal, 53*(3), 769–775. https://doi.org/10.1177/00336882211040270

17. Lee, J. & Park, S. (2024). Effects of Gamification on Non-Cognitive Outcomes in English Language Learning: A Meta-Analytic Review.

18. Li, L., Hew, K. F., & Du, J. (2024). Gamification Enhances Student Intrinsic Motivation, Perceptions of Autonomy and Relatedness, But Minimal Impact on Competency: A Meta-Analysis and Systematic Review. *Educational Technology Research and Development, 72*, 765–796. https://doi.org/10.1007/s11423-023-10337-7

19. Qiao, S., Chu, S. K. W., Shen, X. & Yeung, S. S. (2022). The Impact of an Online Gamified Approach Embedded with Self-Regulated Learning Support on Students' Reading Performance and Intrinsic Motivation: A Randomised Controlled Trial. *Journal of Computer Assisted Learning, 38*(5), 1379–1393. https://doi.org/10.1111/jcal.12684

20. Qiao, S., Yeung, S. S.-S., Shen, X. & Chu, S. K. W. (2022). The Effects of a Gamified Morphological Awareness Intervention on Students' Cognitive, Motivational and Affective Outcomes. *British Journal of Educational Technology, 53*, 952–976. https://doi.org/10.1111/bjet.13178

21. Stockwell, G. (2022). *Mobile Assisted Language Learning: Concepts, Contexts and Challenges*.

Cambridge University Press. https://doi.org/10.1017/9781108652087

22. Zhang, S. & Hasim, Z. (2023). Gamification in EFL/ESL Instruction: A Systematic Review of Empirical Research. *Frontiers in Psychology, 13*, 1030790. https://doi.org/10.3389/fpsyg.2022.1030790

23. Zhou, S. (2024). Gamifying Language Education: The Impact of Digital Game-Based Learning on Chinese EFL Learners. *Humanities and Social Sciences Communications, 11*, 1518. https://doi.org/10.1057/s41599-024-04073-3

Author's Related Research

The present study is situated within the author's wider research programme on technology-enhanced education, teacher education, digital assessment and feedback, and artificial intelligence in education.

The author's research profile includes work addressing technology integration in pre-service teacher education, effective strategies for technology integration, the digital divide in teacher education, digital assessment and feedback, and artificial intelligence in education. These areas provide a coherent foundation for the present investigation of gamification and feedback in English tutoring applications.

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Final publication note

The literature search confirms that the study is **strongly grounded in a current research gap**.