

Young EFL Learners' Motivation and Vocabulary Acquisition Following a Digital Monopoly-Style Board Game Intervention

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ABSTRACT

Digital game-based learning has been widely discussed in English vocabulary instruction, but classroom-based evidence on digital board-game formats for young learners remains limited. This study examined pre–post changes in learning motivation and vocabulary acquisition following a digital Monopoly-style board game intervention. A pre-experimental one-group pretest–posttest design involved 30 second-grade students in an Indonesian elementary school. The intervention comprised six 70-minute meetings. Data were collected using a 16-item motivation questionnaire based on Self-Determination Theory and a 25-item vocabulary test. Vocabulary scores increased from $M = 11.33$ to $M = 18.73$, $W = 0.00$, $p < .001$, with a moderate N-gain of 54.02%. Motivation scores increased from $M = 46.03$ to $M = 57.57$, $t(29) = 28.01$, $p < .001$. Improvements appeared across all motivation and vocabulary indicators. Within the limitations of a one-group design, the findings suggest that a teacher-guided digital board game may support contextualized vocabulary practice and motivational engagement when it combines clear language targets, visual support, repeated practice, and structured turn-taking.

Keywords: *digital board game; game-based learning; learning motivation; vocabulary acquisition; young learners*

INTRODUCTION

Vocabulary acquisition is one of the main foundations of English learning for young learners. Before children can understand classroom instructions, answer simple questions, or participate in oral classroom activities, they need to recognise and understand basic words connected to familiar objects, actions, and situations. Vocabulary learning is therefore not simply a matter of memorising word lists, but a process of connecting word forms, meanings, and uses in meaningful contexts (Nation, 2013; Read, 2000; Schmitt, 2019). In English as a foreign language (EFL) classrooms, this process requires concrete and age-appropriate support because young learners are still developing literacy, attention span, confidence, and the ability to process foreign-language input (Andari, 2023; Cameron, 2001; Leona et al., 2021). For this reason, vocabulary instruction for children should be designed through visual, contextual, repetitive, and enjoyable activities rather than through abstract explanation alone.

In lower primary EFL classrooms, vocabulary learning often becomes challenging when instruction depends mainly on translation, repetition, or isolated word presentation. Although repetition is necessary

for vocabulary development, repeated exposure becomes more meaningful when learners encounter words through concrete classroom experiences (Bakhsh, 2016; Saleh & Althaqafi, 2022). This issue is particularly relevant for vocabulary related to everyday transactions, such as money, price, buy, pay, coin, banknote, cheap, expensive, and change. These words require learners to connect English vocabulary with objects, numbers, prices, and simple social exchanges. Fauzi (2022) found that songs and game-based strategies improved Indonesian young learners' receptive and expressive vocabulary because they provided enjoyable and repeated exposure. Similarly, game-based activities have been reported to support children's vocabulary learning by creating active, meaningful, and emotionally positive learning experiences (Alotaibi, 2024; Hazar, 2020).

Learning motivation is also central to vocabulary development among young learners. Children are more likely to pay attention, participate, and remember new words when they feel interested, capable, and supported. Self-Determination Theory explains that motivation is strengthened when learners experience autonomy, competence, and relatedness (Ryan & Deci, 2020). In classroom learning, autonomy may be reflected in learners' willingness to participate and make simple choices; competence may appear when learners feel able to answer questions or remember words; and relatedness may appear when learners feel supported by the teacher and classmates. Dewi (2023) found a strong relationship between learner autonomy and motivation in an EFL speaking context, suggesting that motivational conditions are closely connected to learners' sense of participation and control. Although that study was conducted in higher education, its emphasis on autonomy and motivation is relevant for designing learner-centred activities in EFL classrooms.

Digital game-based learning has increasingly attracted attention because it can combine interaction, challenge, feedback, repetition, and enjoyment. In language learning, game-based activities may help learners engage with target vocabulary more actively than conventional exercises (Adipat et al., 2021; Hung, 2022; Zhang & Hasim, 2023). Digital games can also provide multimodal support through pictures, movement, sound, points, rewards, and immediate responses, which may help learners process language input in more accessible ways (Chowdhury et al., 2024; Krouska et al., 2022; Yu, 2023). For young learners, these features are pedagogically important because children often respond positively to visual stimulation, turn-taking, competition, and playful classroom routines (Hasram et al., 2021; Pradini & Adnyayanti, 2022).

Recent studies have reported positive effects of digital games and gamified platforms on vocabulary learning. Zou et al. (2021) reviewed digital game-based vocabulary learning and found that digital games are often associated with vocabulary gains, repeated exposure, motivation, and interaction. Rahimi and Zhang (2023) also concluded that digital game-based language learning can support vocabulary acquisition, especially when game design is pedagogically aligned with learning objectives. Empirical studies have shown that Wordwall, Kahoot!, Quizizz, and other gamified tools can support vocabulary achievement, retention, engagement, or learner perceptions in different EFL contexts (Hasram et al., 2021; Nguyen et al., 2025; Putri et al., 2025; Sakkir et al., 2023). In the Indonesian EFL context, Lestari et al. (2024) found that Kahoot-based game learning improved students' vocabulary acquisition. These studies indicate that digital and gamified learning activities may support vocabulary acquisition when they are used as structured learning media rather than as entertainment only.

However, not all digital games automatically lead to effective language learning. The value of digital game-based learning depends on how game mechanics are connected to language targets, learner characteristics, and classroom procedures (Chan & Lo, 2024; Hung, 2022; Kazu & Kuvvetli, 2023). If game elements are not aligned with learning objectives, students may focus more on winning, clicking, moving tokens, or collecting points than on understanding and using the target vocabulary. This concern is particularly relevant for young learners because they may enjoy the game activity but still need teacher guidance, simplified instructions, visual clarity, and repeated modelling to connect the game experience with language learning (Alibakhshi et al., 2025; Wandana et al., 2024).

One digital game format that may support young learners' vocabulary acquisition and motivation is a digital Monopoly-style board game. Unlike quiz-based platforms organized around separate question-and-answer cycles, a board-game format combines movement, chance, turn-taking, resource selection, and recurring transaction routines. In this study, the digital board was designed around shops, item pictures, price labels, dice, tokens, and digital money. Learners moved around the board, landed on shop squares, identified objects, read prices, selected suitable digital money, and practised short expressions such as *How much is it?* and *It is five thousand rupiah*. These linked actions are pedagogically relevant for young learners because they connect vocabulary forms and meanings with concrete visual choices, social participation, and repeated situational use. From the perspective of vocabulary knowledge, the game may support word-form recognition, form–meaning connection, contextual meaning recognition, currency and price vocabulary comprehension, and simple buying-and-paying expressions (Nation, 2013; Read, 2000; Schmitt, 2019).

Although previous studies have examined digital game-based learning, gamified quizzes, Wordwall, Kahoot!, and Quizizz for vocabulary instruction, fewer studies have focused on digital board-game formats that integrate vocabulary, pictures, prices, numbers, social turn-taking, and transaction expressions for lower primary EFL learners. This distinction matters because a board game can place repeated language items within an unfolding classroom routine rather than presenting them only as isolated responses. Existing research has also frequently examined vocabulary outcomes, engagement, or general perceptions separately. There is therefore room for classroom-based studies that examine both vocabulary acquisition and learning motivation within the same preliminary pre–post design (Chowdhury et al., 2024; Lestari et al., 2024; Li, 2021; Naderi & Moafian, 2023). In addition, young learners' motivation should be examined not only as general enjoyment but through autonomy, competence, relatedness, and intrinsic interest/enjoyment, consistent with Self-Determination Theory (Ryan & Deci, 2020).

Based on this gap, the present study examines changes in young EFL learners' learning motivation and vocabulary acquisition before and after participation in a digital Monopoly-style board game intervention. Learning motivation is measured through indicators adapted from Self-Determination Theory: autonomy, competence, relatedness, and intrinsic interest/enjoyment. Vocabulary acquisition is measured through word-form recognition, form–meaning connection, meaning recognition in transaction contexts, currency and price vocabulary comprehension, and the use of simple buying-and-paying expressions. The research questions are: (1) What are the descriptive profiles of young EFL learners' learning motivation and vocabulary acquisition before and after the intervention? (2) Is there a significant difference between learners' vocabulary acquisition scores before and after the intervention? and (3) Is there a significant difference between learners' learning motivation scores before and after the intervention?

METHOD

Research Design

This study employed a pre-experimental one-group pretest–posttest design to examine changes in young EFL learners' learning motivation and vocabulary acquisition following a digital Monopoly-style board game intervention. The design compared motivation and vocabulary scores within the same group at two measurement points. It involved three stages: pre-intervention assessment, six meetings of game-based vocabulary instruction, and post-intervention assessment. Because no control group was included, the design supports conclusions about within-group change but does not establish that the game alone caused the observed differences.

The design can be represented as O1–X–O2, where O1 refers to the pre-intervention assessment of motivation and vocabulary acquisition, X refers to the digital Monopoly-style board game intervention, and O2 refers to the post-intervention assessment. The same learners completed both measurement occasions. The findings are therefore interpreted as pre–post changes associated with the classroom intervention rather than as comparative evidence against another teaching method.

Participants and Research Setting

The study was conducted in one intact second-grade English classroom at an elementary school in Indonesia. The analytical sample comprised 30 students who completed the pre-intervention and post-intervention measures. The class was selected as the classroom site because the students were learning vocabulary related to everyday objects, money, prices, and simple buying-and-paying expressions. The participants had basic English proficiency; therefore, the learning activities and instruments were designed to be visual, brief, and age-appropriate.

The same intact class participated in the pre-intervention assessment, six treatment meetings, and post-intervention assessment. During instrument administration, the teacher and researcher provided standardized instructions, examples of the response format, and visual support appropriate for young learners. The article reports the quantitative outcome component of the classroom project and presents results only in aggregate form.

Treatment

The treatment used in this study was a digital Monopoly-style board game designed for vocabulary learning. The game adapted common board-game elements such as dice, tokens, squares, turns, rewards, and simple tasks, but it was redesigned for English vocabulary instruction rather than for commercial entertainment. The instructional topic focused on currency-related vocabulary and simple transaction expressions.

The digital board contained shop squares, item pictures, price labels, digital money, vocabulary prompts, and question cards. The target vocabulary included words such as money, coin, banknote, price, buy, pay, change, cheap, expensive, and rupiah. The target expressions included simple buying-and-paying expressions such as How much is it?, It is five thousand rupiah, I want to buy ..., Here is the money, and Thank you. These items were selected because they allowed students to connect vocabulary with pictures, numbers, money values, and simple classroom transactions.

The intervention was conducted in six meetings, each lasting 70 minutes. Every meeting followed four stages: vocabulary presentation, teacher modelling of the game procedure, guided gameplay, and post-game review. At the beginning of each lesson, the teacher introduced or reviewed the target words through pictures, price labels, and digital money. The teacher then modelled how to roll the dice, move a token, identify an item, interpret a price, select suitable money, and respond with a short buying-and-paying expression. During guided gameplay, students took turns while the teacher used repetition, prompts, corrective feedback, and brief explanations. The vocabulary and expressions were recycled across meetings so that students encountered the same targets in progressively more integrated transaction routines.

Instruments

Two instruments were used in this study: a learning motivation questionnaire and a vocabulary acquisition test. The motivation questionnaire was used to measure students' learning motivation before and after the treatment, while the vocabulary test was used to measure students' vocabulary acquisition before and after the treatment.

The learning motivation questionnaire was developed from Self-Determination Theory, particularly autonomy, competence, and relatedness, with an additional intrinsic interest/enjoyment indicator. It

consisted of 16 positively worded items, with four items for each indicator. The four response options were presented as a 1–4 continuum paired with progressively positive smiley symbols. The teacher read each item aloud and explained the response format without suggesting an answer. Representative item content addressed willingness to participate and make simple choices (autonomy), perceived ability to complete vocabulary tasks (competence), support from the teacher and classmates (relatedness), and enjoyment of the activity (intrinsic interest/enjoyment). Mean scores were interpreted using equal intervals: 1.00–1.75 = very low, 1.76–2.50 = low, 2.51–3.25 = high, and 3.26–4.00 = very high.

Table 1
Blueprint of the learning motivation questionnaire

Indicator	Item numbers	Number of items	Score range
Autonomy	1-4	4	4-16
Competence	5-8	4	4-16
Relatedness	9-12	4	4-16
Intrinsic interest/enjoyment	13-16	4	4-16
Total motivation	1-16	16	16-64

The vocabulary acquisition test was developed to measure students' acquisition of vocabulary related to currency, prices, objects, and simple buying-and-paying expressions. The test consisted of 25 items divided into five indicators: word-form recognition, form-meaning connection, meaning recognition in transaction context, currency and price vocabulary comprehension, and use of simple buying-and-paying expressions. The items were designed in age-appropriate formats, such as matching words with pictures, choosing the correct meaning, identifying prices, selecting suitable money, and completing simple transaction expressions. Each item was scored dichotomously. A correct answer received a score of 1, while an incorrect answer received a score of 0. Therefore, the maximum score was 25.

Table 2
Blueprint of the vocabulary acquisition test

Indicator	Item numbers	Number of items	Score range
Word-form recognition	1-5	5	0-5
Form-meaning connection	6-10	5	0-5
Meaning recognition in transaction context	11-15	5	0-5
Currency and price vocabulary comprehension	16-20	5	0-5
Use of buying-and-paying expressions	21-25	5	0-5
Total vocabulary acquisition	1-25	25	0-25

Validity and Reliability

The learning motivation questionnaire and vocabulary acquisition test were reviewed through expert judgement before use. Two experts in English language education evaluated construct relevance, item

clarity, age appropriateness, language suitability, and alignment with the instructional objectives. They examined whether the motivation items represented autonomy, competence, relatedness, and intrinsic interest/enjoyment and whether the vocabulary items represented the target words and expressions taught through the digital board game.

Content validity was calculated using Aiken's V. Each expert rated every item on a five-point relevance scale from 1 = not relevant to 5 = highly relevant. The motivation questionnaire produced item-level Aiken's V values from .83 to 1.00, with an average of .91, while the vocabulary test produced values from .80 to 1.00, with an average of .89. These coefficients indicated strong agreement about content relevance. Revisions based on the expert feedback focused on simplifying item wording and improving age appropriateness.

Internal consistency was examined using Cronbach's alpha for the Likert-type motivation questionnaire and Kuder–Richardson Formula 20 (KR-20) for the dichotomously scored vocabulary test. The motivation questionnaire yielded $\alpha = .87$, and the vocabulary test yielded KR-20 = .82, indicating good internal consistency.

Data Collection Procedures

The data collection was conducted in four stages. First, the researcher prepared the digital Monopoly-style board game, lesson materials, learning motivation questionnaire, and vocabulary acquisition test. The instruments were reviewed by two experts and revised based on their suggestions before being administered to the students. Second, students completed the pre-test before the treatment. The pre-test consisted of the learning motivation questionnaire and vocabulary acquisition test. Because the participants were young learners, the teacher and researcher provided clear instructions and examples before students answered the instruments. For the motivation questionnaire, the items were read aloud to ensure that students understood the statements. For the vocabulary test, students were guided to understand the item formats without being given the correct answers.

Third, the treatment was implemented through the digital Monopoly-style board game over six meetings, with each meeting lasting 70 minutes. Each meeting included vocabulary presentation, modelling of the game procedure, guided gameplay, and vocabulary reinforcement. During the activity, students took turns rolling the dice, moving tokens, identifying pictures, reading or listening to prices, choosing digital money, and responding to simple buying-and-paying expressions. Fourth, after the six treatment meetings were completed, students completed the post-test. The post-test used the same indicators as the pre-test to measure changes in students' learning motivation and vocabulary acquisition.

Data Analysis Techniques

The data were analysed using descriptive and inferential statistics. Descriptive statistics answered the first research question and included means, standard deviations, percentages, gain scores, and categorical interpretations for each indicator. Before inferential testing, the normality of the paired difference scores (posttest minus pretest) was examined using the Shapiro–Wilk test. A paired-samples t-test was used when the difference scores were normally distributed; otherwise, the Wilcoxon signed-rank test was used. The significance level was .05. Effect sizes were reported as $r = |z|/\sqrt{N}$ for the Wilcoxon test and Cohen's $d_z = t/\sqrt{N}$ for the paired-samples t-test. In addition, N-gain was calculated for vocabulary acquisition and interpreted as high when $g \geq .70$, moderate when $.30 \leq g < .70$, and low when $g < .30$.

The Shapiro–Wilk test was applied to the paired difference scores because the inferential analyses concerned within-student change between the two measurement occasions. The vocabulary difference scores were non-normal, so the Wilcoxon signed-rank test was used. The motivation difference scores were normally distributed, so the paired-samples t-test was used. Test statistics, exact or threshold p values, and effect sizes are reported in APA style.

RESULTS

Descriptive Profiles of Learning Motivation and Vocabulary Acquisition

This section presents the descriptive profiles of students' learning motivation and vocabulary acquisition before and after the implementation of the digital Monopoly-style board game. The descriptive statistics were calculated for each indicator to show detailed changes in the two dependent variables.

Table 3
Descriptive statistics of students' learning motivation by indicator

Indicator	Pre-test M	Pre-test SD	Category	Post-test M	Post-test SD	Category	Mean gain
Autonomy	2.89	0.33	High	3.63	0.28	Very high	0.73
Competence	2.59	0.39	High	3.43	0.40	Very high	0.84
Relatedness	3.22	0.34	High	3.78	0.28	Very high	0.56
Intrinsic interest/enjoyment	2.81	0.44	High	3.56	0.35	Very high	0.75
Overall motivation	2.88	0.16	High	3.60	0.13	Very high	0.72

Note. Score categories: 1.00–1.75 = very low; 1.76–2.50 = low; 2.51–3.25 = high; 3.26–4.00 = very high. Source: Data analysis (2026).

Table 3 shows that motivation scores increased across all indicators following the intervention. Before the intervention, all indicator means were in the high category; relatedness was highest ($M = 3.22$, $SD = 0.34$), while competence was lowest ($M = 2.59$, $SD = 0.39$). After the intervention, all indicator means were in the very high category. Competence showed the largest mean increase (0.84), and the overall mean increased from 2.88 to 3.60.

Table 4
Descriptive statistics of students' vocabulary acquisition by indicator

Indicator	Pre-test M	Pre-test %	Post-test M	Post-test %	Mean gain
Word-form recognition	2.43	48.67%	3.97	79.33%	1.53
Form-meaning connection	2.67	53.33%	3.83	76.67%	1.17
Meaning recognition in transaction context	2.17	43.33%	3.80	76.00%	1.63
Currency and price vocabulary comprehension	2.17	43.33%	3.53	70.67%	1.37
Use of buying-and-paying expressions	1.90	38.00%	3.60	72.00%	1.70

Indicator	Pre-test M	Pre-test %	Post-test M	Post-test %	Mean gain
Overall vocabulary acquisition	11.33	45.33%	18.73	74.93%	7.40

Note. Each indicator contained five dichotomously scored items. Source: Data analysis (2026).

Table 4 indicates higher post-intervention vocabulary scores across all five indicators. The overall mean increased from 11.33 (45.33%) to 18.73 (74.93%), an average raw-score increase of 7.40 points. The largest indicator gain occurred for the use of buying-and-paying expressions (1.70 points).

Normality Test

Before inferential analysis, Shapiro–Wilk tests were used to examine the normality of the paired difference scores. The results are presented in Table 5.

Table 5
Shapiro–Wilk tests of paired difference scores

Variable	<i>W</i>	<i>p</i>	Interpretation
Vocabulary acquisition difference	.912	.016	Not normally distributed
Learning motivation difference	.975	.678	Normally distributed

Note. *W* = Shapiro–Wilk statistic. Source: Data analysis (2026).

The vocabulary difference scores departed significantly from normality, $W = .912$, $p = .016$; therefore, vocabulary scores were compared using the Wilcoxon signed-rank test. The motivation difference scores did not depart significantly from normality, $W = .975$, $p = .678$; therefore, motivation scores were compared using a paired-samples *t*-test.

Difference in Students' Vocabulary Acquisition

A Wilcoxon signed-rank test examined the difference between vocabulary scores before and after the digital board game intervention because the paired difference scores were not normally distributed.

Table 6
Wilcoxon signed-rank test of students' vocabulary acquisition

Variable	<i>N</i>	Pre-test median	Post-test median	<i>W</i>	<i>p</i>
Vocabulary acquisition	30	11.00	19.00	0.00	< .001

Note. The normal-approximation effect size calculated from the reported statistic was $z = -4.77$ and $r = .87$. Source: Data analysis (2026).

Vocabulary scores were significantly higher after the intervention. The median increased from 11.00 at pretest to 19.00 at posttest, $W = 0.00$, $p < .001$. Based on the reported *W* and *N*, the normal approximation yielded $z = -4.77$ and $r = .87$, indicating a large within-group effect. Because the study did not include a comparison group, this effect size describes the magnitude of the paired change rather than a causal advantage over another method.

Difference in Students' Learning Motivation

A paired-samples *t*-test examined the difference between motivation scores before and after the digital board game intervention because the paired difference scores were normally distributed.

Table 7
Paired-samples t-test of students' learning motivation

Variable	N	Pre M	Pre SD	Post M	Post SD	Mean diff.	<i>t</i>	<i>df</i>	<i>p</i>
Motiv.	30	46.03	2.51	57.57	2.14	11.53	28.01	29	< .001

Note. Cohen's *dz* = 5.11. Source: Data analysis (2026).

Motivation scores were significantly higher after the intervention. The mean increased from 46.03 (SD = 2.51) at pretest to 57.57 (SD = 2.14) at posttest, with a mean difference of 11.53, $t(29) = 28.01$, $p < .001$, Cohen's *dz* = 5.11. The very large standardized paired difference should be interpreted within the preliminary one-group design.

Learning Gain After the Treatment

To examine the level of improvement, the N-gain score was calculated for students' vocabulary acquisition. The result is presented in Table 8.

Table 8
N-gain score of students' vocabulary acquisition

Variable	Pre-test M	Post-test M	Mean gain	N-gain (%)	Category
Vocabulary acquisition	11.33	18.73	7.40	54.02%	Moderate

Note. N-gain was calculated using the maximum possible vocabulary score of 25. Source: Data analysis (2026).

The mean vocabulary N-gain was 54.02%, representing a moderate level of improvement following the intervention.

DISCUSSION

The findings show that the digital Monopoly-style board game intervention was followed by higher vocabulary and motivation scores among the participating young EFL learners. Descriptive results indicated increases across all indicators, and inferential analyses confirmed statistically significant paired differences. The observed pattern suggests that the intervention provided a supportive environment in which learners encountered English vocabulary through visual, contextual, repetitive, and socially structured activities. These conclusions concern within-group change and should not be read as proof that the game alone caused the gains.

Vocabulary acquisition increased from $M = 11.33$ at pretest to $M = 18.73$ at posttest, and the Wilcoxon analysis showed a significant, large paired effect. This pattern is consistent with research indicating that digital game-based learning can support vocabulary development through repeated exposure, interaction, and meaningful engagement with target words (Chowdhury et al., 2024; Rahimi & Zhang, 2023; Zou et al., 2021). In the present intervention, vocabulary was embedded in pictures, prices, digital money, shop squares, and short buying-and-paying routines rather than presented only as isolated word lists. This contextual organization may have helped learners connect word forms with meanings and uses.

Increases appeared across word-form recognition, form–meaning connection, contextual meaning, currency and price vocabulary, and buying-and-paying expressions. This aligns with Nation's (2013) view that vocabulary knowledge involves form, meaning, and use. For young learners, these connections are often supported by pictures, objects, gestures, and repeated routines (Andari, 2023; Cameron, 2001). The game combined these supports with recurring actions, which may explain why improvement was distributed across several aspects of vocabulary knowledge.

The largest indicator gain occurred in buying-and-paying expressions. This pattern suggests that repeated transaction routines may have supported movement from recognition toward simple contextual use. Learners repeatedly asked about prices, identified items, selected money, and responded to prompts. The result extends research on quiz- and platform-based vocabulary learning (Hasram et al., 2021; Lestari et al., 2024; Nguyen et al., 2025; Pradini & Adnyayanti, 2022) by illustrating how a digital board-game format can organize vocabulary around a recurring social scenario.

Currency and price vocabulary also increased after the intervention. Such items can be demanding for second-grade learners because they require coordination of English words, numbers, prices, and money values. The board game presented these elements together through pictures and digital money. This supports the view that digital games are most pedagogically useful when visual and interactive features are explicitly aligned with the language objective (Hung, 2022; Kazu & Kuvvetli, 2023). The potential learning value therefore lies less in digital novelty than in the connection between game mechanics and target language.

The moderate N-gain warrants careful interpretation. It indicates a positive but incomplete level of vocabulary improvement. Lower primary learners are still developing English vocabulary, literacy, and number recognition, and six meetings may not be sufficient for full mastery. The result therefore points to the need for longer exposure and continued reinforcement, consistent with reviews emphasizing instructional design, teacher support, and adequate practice time in digital game-based vocabulary learning (Vnucko & Klimova, 2023; Zhang & Hasim, 2023).

Motivation scores also increased significantly after the intervention. The overall indicator mean rose from 2.88 to 3.60, while the total questionnaire score rose from 46.03 to 57.57. This pattern is consistent with Self-Determination Theory, which proposes that motivation is supported when learners experience autonomy, competence, and relatedness (Ryan & Deci, 2020). The intervention offered structured opportunities to take turns, make simple choices, answer questions, receive support, and interact with classmates.

Relatedness had the highest post-intervention mean. This suggests that learners perceived strong support from the teacher and classmates during the activity. The turn-taking routine may have encouraged students to observe peers, help one another, respond together, and acknowledge successful answers. Dewi (2023) similarly links motivation in EFL learning with participation and support. The present result suggests that such social conditions can also be fostered through a structured game-based activity for younger learners.

Competence showed the largest motivational increase. The visual prompts, repeated expressions, achievable tasks, and immediate teacher support may have made vocabulary work feel more manageable. Successfully identifying an item, selecting money, or producing a short expression may have strengthened learners' perceived capability. This interpretation is consistent with studies reporting greater confidence and engagement when digital game tasks provide attainable challenges and timely feedback (Li, 2021; Yu, 2023).

Autonomy and intrinsic interest/enjoyment also increased. Learners participated by rolling dice, moving tokens, selecting answers, and taking turns rather than only listening to explanation. For young learners, autonomy can be expressed through limited but meaningful opportunities to choose, answer, and participate within teacher-supported routines. This interpretation accords with game-based learning research showing that goals, rules, feedback, and active participation can increase involvement (Adipat et al., 2021; Alotaibi, 2024).

Nevertheless, the results do not show that digital games are automatically effective. The observed changes may be related to the specific structure and teacher mediation of this intervention. The game was used as guided vocabulary instruction rather than free play: the teacher introduced the targets, modelled procedures, organized turns, provided prompts, and reviewed vocabulary. This distinction is important because digital game-based learning requires pedagogical alignment; without clear language

objectives and mediation, learners may attend more to game mechanics than to language (Chan & Lo, 2024; Hung, 2022).

The study offers practical implications for English instruction with young learners. Digital board games may be useful when target words are linked to concrete contexts such as shopping, money, food, classroom objects, or daily routines. Teachers should use clear visuals, simple rules, recurring language patterns, and carefully managed turns. Pre-game preparation and post-game review remain important so that learners understand the vocabulary before playing and consolidate it afterward. Motivation should be supported not only through enjoyment but also through experiences of success, peer interaction, and teacher guidance.

The study has several limitations. Its one-group pretest–posttest design did not include a control group, so maturation, repeated testing, classroom familiarity, or other concurrent influences cannot be ruled out. The sample comprised 30 students from one second-grade classroom, limiting generalizability. The intervention lasted six meetings, and no delayed posttest was administered. Future research should use stronger comparison designs, larger and more diverse samples, complete variability reporting, and delayed measurement.

CONCLUSION

This study examined changes in young EFL learners' motivation and vocabulary acquisition following a six-meeting digital Monopoly-style board game intervention. Vocabulary scores increased across word-form recognition, form–meaning connection, transaction-context meaning, currency and price vocabulary, and buying-and-paying expressions. The paired comparison was statistically significant, the within-group effect was large, and the N-gain was moderate. Motivation scores also increased significantly across autonomy, competence, relatedness, and intrinsic interest/enjoyment.

Within the limitations of a one-group design, the findings suggest that a teacher-guided digital board game may support contextualized vocabulary practice and motivational engagement when it combines explicit language targets, visual support, turn-taking, repeated exposure, and guided feedback. The results do not establish that the game alone caused the observed gains or that it is superior to other teaching approaches.

The study illustrates how Self-Determination Theory can inform the interpretation of motivation in game-based vocabulary learning and how a board-game format can organize vocabulary practice around a recurring transaction routine. For classroom practice, the findings emphasize careful instructional design and teacher mediation rather than the use of digital game elements as an end in themselves.

The study is limited by its one-group pretest–posttest design, small sample, single classroom context, short intervention, and absence of a delayed posttest. Future studies should use quasi-experimental or experimental designs with control groups, larger samples, complete descriptive statistics, and delayed measures. Research could also compare board-game and quiz-based formats and examine how teacher guidance shapes the relationship among game-based participation, motivation, and vocabulary acquisition.

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