Research Article

Utilization of Gamified Pocket Guides on Enhancing Adjective Order Usage Skills of the First-Year College of Education Students

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Abstract: The purpose of this study is to determine the relationship of gamified pocket guides in enhancing adjective order usage among first-year College of Education (COED) students of Laguna University. Based on the data gathered, the researchers found out the following. The pre-test results showed that the students' adeptness on adjective order usage was "below average", which supported the reason of the researchers for a study to be conducted as well as an intervention to be implemented to which the gamified pocket guide was used. The learning material undergone proper validity of three language teachers to measure its effectiveness and received "very evident" remarks in each criterion. After the intervention a post-test was conducted which showed a significant improvement across various student groups as all of the group of first year students scored within the "Good" range suggesting that the intervention had a beneficial impact for the development of students' skills in adjective order usage. The pre-test and post-test findings also revealed a statistically significant difference in the students' ability to use adjectives. The increase in mean scores. as well as the t-values and p-values, shows that the interactive learning tactics improved students' knowledge in using adjective order. These findings highlight the potential of interactive and student-centered approaches, such as gamified learning through pocket guides, in addressing gaps in language proficiency.

Keywords: language proficiency; pre-test and post-test evaluation; interactive pedagogy; digital learning tools; educational intervention; student engagement; grammar instruction

1. Introduction

Adjective order follows a specific sequence in English, yet many learners struggle with its correct placement, leading to grammatical errors that impact comprehension and language proficiency. While learners may have an intuitive sense of what sounds right, they still make mistakes in adjective arrangement, which can hinder their linguistic development. Schools may not fully recognize the extent of this issue, resulting in limited interventions.

To address this challenge, the study proposes the development of gamified pocket guides, which will provide step-by-step instructions and interactive activities to help learners grasp adjective order effectively. Research suggests that gamification enhances motivation, engagement, and retention in language learning (Anisa et al., 2020; Rahmani, 2020). The implementation of informative booklets has also been proven effective in improving student learning outcomes (Choir & Fitri, 2020).

Adjective Order Difficulties Several studies highlight the widespread issue of adjective order errors among English learners. Connolly (2020) found that adjective-noun order mistakes occur at all proficiency levels, emphasizing the need for targeted interventions. Similarly, Kemmerer, Tranel, and Zdanczyk (2009) noted that incorrect adjective order does not always hinder comprehension but reflects a lack of grammatical understanding.

Gamification has been identified as an effective educational strategy. Rahmani (2020) analyzed 13 academic sources and found that gamification improves motivation, engagement, performance, and social interaction in learning environments. Furthermore, Simatupang, Purnama, and Simatupang (2020) highlighted the effectiveness of interactive tools such as Flipbook applications in promoting active learning.

To implement gamification, this study will utilize pocket guides as the primary learning tool. Previous research shows that pocket guides enhance student efficiency, creativity, and independent learning (Choir & Fitri, 2020). By incorporating this approach, the study aims to address adjective order difficulties while making learning more engaging and accessible.

Statement of the Problem

H_0: There is no significant difference between the pre-test and post-test results of the students on the use of the gamified pocket guides in enhancing adjective order usage.

The research aims to answer the following key questions:

1.   What is the pre-test mean level of adjective order usage skills among first-year education students?

2.   How do selected language teachers evaluate the gamified pocket guides based on:

a)   Learning Objectives

b)   Content

c)   Suitability

d)   Presentation & Usefulness

3.   What is the post-test mean level of adjective order usage skills among the same students?

4.   Is there a significant difference between pre-test and post-test results after using the gamified pocket guides?

2. Materials and Methods

2.1. Design

This study utilized a one-group pre-test and post-test design which is a type of quasi-experiment in which the outcome of interest is measured two times, before and after an intervention. It also includes teaching materials (Pocket Guides) focused on literacy, specifically adjectives, which were validated by the instructors and professors of Laguna University. Data analysis includes a quantitative comparison of pre-test and post-test scores to identify engagement and learning outcomes.

2.2. Population and sampling

The researchers used a purposive sampling technique to select the target population for the study. As a result, the total population of first-year College of Education (COED) students was required to serve as respondents. The total population of 1st-year College of Education students in Laguna University is two-hundred forty-seven (247). Forty (40) from BSED-Mathematics, thirty-eight (38) from BSED-Science, seventy-nine (79) from BSED-English, ninety (90) from BEED.

This study upholds ethical research practices by ensuring confidentiality, informed consent, and voluntary participation. Prior to data collection, the research was reviewed, allowed, and approved by the Dean of the College of Education. All respondents were informed about the purpose of the research, and their participation was entirely voluntary, with the option to withdraw at any time without consequences. Data collected from the respondents were kept confidential and used solely for academic purposes.

The researcher's followed proper ethical research standards to ensure the protection and well-being of all the participants involved. Prior to data collection, consent was obtained from all respondents, ensuring their voluntary participation. Confidentiality and anonymity were also strictly maintained with all responses kept private and used solely for research purposes. Additionally, all of the necessary approvals were secured from the appropriate institutional authorities to conduct the research as ethically and responsibly as possible.

2.3. Research instrument

In this study, the researchers employed a preliminary survey to screen and select their sample participants from the 1st-year COED students of Laguna University. After using a pre-survey, they will conduct the pre-test and post-test. The researchers developed their pre-test. The tests comprise of preferences and usage patterns of adjective order are carefully crafted for a specific group of individuals, aimed at collecting data and information. This will also identify the mean level of proficiency of the target participants before and after the intervention between the pre-test and post-test.

The material used in this research is a pocket guide designed to provide comprehensive information about adjectives to students. It is structured into three lessons: the introduction to adjectives, the degrees of adjectives, and the order of adjectives. The objectives of this

pocket guide are to help students grasp the concept and types of adjectives, correctly use the degrees of adjectives, and apply the correct order of adjectives in sentences through gamified instructions.

2.4. Data Gatherring Procedures

The researchers started by gathering information from teachers and students by casually discussing the challenges that they have encountered throughout their lessons, after that the researchers sought permission or approval from the management or the school heads before they start their research, they then created a letter of intent or a research proposal that outlines the purpose and objective of their research as well as the potential benefits that it may bring to the learners.

The ASSURE model is used by the researcher, they aim to improve the student's ability to properly use adjectives as well as correctly use their proper order in sentences. A pre-test is the method they chose to assess the needs and characteristics of the learners so that they can establish an order on where they will begin (A). Next, specific goals are set by the researchers to serve as a guide to the development of the student's proficiency (S). Then, to encourage the learner's participation and comprehension the researchers created a new learning strategy based on existing interactive learning strategies such as cooperative exercises, pocket guides, as well as gamification of the classroom (S). By incorporating materials such as the pocket guide, students are provided with a portable and accessible resource that they can use for reinforcement and reference even when they are outside the classroom (U). To promote a collaborative learning environment for the learners, their participation is actively encouraged by the use of group discussions, practical exercises, and peer evaluation (R). Finally, to maximize the learning outcomes of the learners and improve their competency in the proper ordering of adjectives, a comprehensive analysis of the post-test data was carried out so that they were able to evaluate the efficacy of the implemented instructional strategies(E).

2.5. Treatmen of the Data

Quantitative analysis utilized descriptive statistics (mean, standard deviation) to assess pre-test and post-test scores and inferential statistics (paired-sample t-test) to evaluate the effectiveness of gamified pocket guides and their perceived validity. Table 1 shows the statistical tools used during the research.

Table 1. Statistical tools.

Statement of the problem	Statistical treatment	Formula
1. What is the mean level of adjective order usage skills among the first-year students in the COED at Laguna University in terms of pre-test?	Mean and standard deviation	$$\overline{X} = \frac{\sum X}{N}$$ $$s = \frac{\sum (x - mean)^2}{n}$$
2. What is the mean level of validity of the gamified pocket guide among the three (3) selected language teachers on the following criteria? 2.1 Learning objectives; 2.2 Content; 2.3 Suitability; and 2.4 Presentation and usefulness	Mean	$$\overline{X} = \frac{\sum X}{N}$$
3. What is the usage level in adjective order of the students after the intervention of the gamified pocket guides in terms of post-test?	Mean and standard deviation	$$\overline{X} = \frac{\sum X}{N}$$ $$s = \frac{\sum (x - mean)^2}{n}$$

4. Is there a significant difference between the pre-test and post-test results of the students on the use of gamified pocket guides in enhancing adjective order usage?	Paired sample T-test	$$t = \dfrac{\bar{D}}{\sqrt{\dfrac{\sum D^2 - \dfrac{(\sum(D)^2)}{n}}{n(n-1)}}}$$

Source: The BMJ, n.d.

3. Results

This part presents the results, analysis, and interpretation of data gathered that determined the relationship of gamified pocket guides in enhancing adjective order usage among first-year college of education students. These are presented in tabular form in accordance with the specific questions stated in the statement of the problem. The following shows results for mean score, standard deviation, percentage score, and verbal interpretation.

3.1. Statistics and Data Analysis

Table 2 shows the pre-test mean score, standard deviation, and percentage score of the first-year students of COED in Laguna University this is to determine their adjective order usage skills. overall, the first-year students of COED scored within the "Below Average" range, according to the predefined criteria this categorization is based on their overall percentage scores of 31.29%, with a total mean score of 10.95 and a total standard deviation of 3.63.

Table 2. Level of adjective order usage skills among the first-year students (pre-test).*

Citeria	Number of students	Mean score	Standard deviation	Percentage scores	Interpretation
First year	247	10.95	3.63	31.29%	Below average

*Legend: Excellent: 90-100% (32-35); Good: 75-89% (26-31); Average: 50-74% (18-25); Below Average: 25-49% (9-17); Poor: 0-24% (0-8).

The data indicates that the first-year students in the COED at Laguna University generally possess below average skills in adjective order usage. This suggests a potential need for targeted instructional interventions to improve their competency in this area. The suggestion of a potential need for intervention was supported by Andrew, A. (2020), who emphasized students who shows difficulties utilizing adjective order. He mentioned that adjective order errors are a common occurrence across all levels of English language students. Having a good and proper understanding of the correct placement of adjectives is crucial for language proficiency. His study in 2020 showed the common occurrence of these errors, emphasizing the need for the implementation of target intervention activities to enhance adjective order usage.

Table 3. Level of validity of the gamified pocket guides.*

Criteria	Mean score	Standard deviation	Percentage score	Interpretation
Learning objectives	3.67	0.31	91.67%	Very evident
Content	3.89	0.22	97.22%	Very evident
Suitability	3.67	0.47	91.67%	Very evident
Presentation & usefulness	3.56	0.49	88.89%	Very evident

*Legend: Very evident: 75-100% (3-4); Evident: 50-74% (2-2.9); Somewhat evident: 25-49% (1-1.9); Not evident: 0-24% (0-0.9)

Table 3 shows the mean level of validity of the interactive learning material's workbook among the three (3) selected language teachers on the following criteria: a) Learning objectives; b) Content; c) Suitability; d) Presentation and usefulness. The mean score for

learning objectives is 3.67, with a standard deviation of 0.31 and a percentage score of 91.67% indicating that the teachers find the learning objectives of the workbook to be clear, relevant, and well-aligned with educational goals, and it falls under the "excellent" category. This high score reflects a positive evaluation, suggesting that the objectives are effectively designed to meet the needs of the students.

The content of the workbook received a mean score of 3.89, with a standard deviation of 0.22 and a percentage score of 97.22%, which is the highest among all criteria. This suggests that the teachers perceive the content to be highly appropriate, comprehensive, and engaging, and it falls under the "excellent" category. The consistency in scoring (with two perfect scores) indicates strong satisfaction with the material provided.

The suitability criterion also scored a mean of 3.67, with a standard deviation of 0.47 and a percentage score of 91.67%. This uniformity across all three questions suggests that the teachers believe the workbook is well-suited for its intended audience, and it falls under the "excellent" category. It indicates that the materials are relevant and appropriate for the educational level and context of the students.

The mean score for presentation and usefulness is 3.56, with a standard deviation of 0.49 and a percentage score of 88.89%, which, while still positive, is slightly lower than the other criteria, and it falls under the "excellent" category. This suggests that while the workbook is generally well-presented and useful, there may be some areas for improvement, such as the clarity of presentation or the practical application of the materials.

Overall, the workbook received a positive remark from the selected language teachers. Validation is a widely known scientific process and a quantifiable way of authenticating a particular material that contains adequate or appropriate content to perform the task or objective it is meant to perform/deliver (Adefolarin & Gershim, 2022). It is widely used in the development of measuring scales or research questionnaire. In their study, the evaluation of materials by the end users is as important as that of the professionals, if the target users find materials not adequate during face validation, the process of expert validation could be a waste, because the materials are made for the consumption of the users.

The students within the COED scored within the "Good" range according to the predefined criteria, this categorization is based on their total percentage scores of 82.29, a total mean score of 28.80 and an overall standard deviation of 2.71 (table 4).

Table 4. Level of adjective order usage skills among the first-year students (post-test).*

Citeria	Number of students	Mean score	Standard deviation	Percentage scores	Interpretation
First year	247	28.80	2.71	82.29%	Good

*Legend: Excellent: 90-100% (32-35); Good: 75-89% (26-31); Average: 50-74% (18-25); Below average: 25-49% (9-17); Poor: 0-24% (0-8).

The effectiveness is further emphasized by Simatupang, Purnama, and Simatupang (2020); they stated that Pocket guides are a valuable resource that can enhance learning as well as the learners adjective order skills. Pocket guides provide a portable and interactive method for students to grasp and utilize the proper order of adjectives. Educators can promote interactive learning and offer students a practical self-study tool through the use of pocket guides. These guides reinforce classroom teachings, aiding students in retaining and applying adjective order knowledge. Integrating pocket guides into teaching approaches reflects the aim of improving learning with innovative tools.

Table 5. Difference between the pre-test and post-test results.

Criteria	Mean score	t-value	p-value	Crit-value	Interpretation
Pre-Test	10.95	-75.3752	5.4661E-172	1.9697	Significant
Post-Test	28.80				

Table 5 shows the difference between the pre-test and post-test results of the students on the use of pocket guides in enhancing adjective order usage. This is further supported by their total mean score that went from 10.95 (pre-test) to 28.80 (post-test) illustrating a substantial increase in the mean scores. The results also show a t-value of -43.6731, a p value of 2.95E-60, and a crit-value of 1.9845, indicating a statistically significant improvement. This suggests that the gamified pocket guide is highly effective in enhancing the students'

understanding and usage of adjective order.

With the help of pocket guides that contain interactive learning strategies such as the gamified exercises, the leaners started showing significant result. This was further supported by Tolentino and Roleda (2019), in their research about the impact of gamification on the learner's motivation and in their physics education, their results suggested that implementing gamified elements like points, badges, and leaderboards does indeed affect a learner's motivation. Therefore, the interactive learning strategies used during the intervention triggered a vast development of the students' learning competency leading to have a significant relationship between the result of pre-tests and post-tests presented in the data.

4. Discussion and Conclusions

The pre-test results revealed a noticeable gap in students' adeptness with adjective order, highlighting a common challenge in language learning. However, after the implementation of the gamified pocket guides, a significant improvement was observed, demonstrating the intervention's effectiveness. The post-test results suggest that the pocket guides successfully enhanced students' understanding and application of adjective order. This supports the notion that interactive, student-centered teaching methods can effectively bridge learning gaps in grammar. Consequently, the study rejects the null hypothesis, which stated that there would be no significant difference before and after utilizing the gamified pocket guides in improving students' adjective order usage.

These findings align with previous research emphasizing the persistent difficulties learners face in mastering adjective order (Connolly, 2020; Kemmerer et al., 2009). Connolly (2020) noted that adjective-noun order mistakes occur across all proficiency levels, reinforcing the need for targeted instructional interventions. Similarly, Kemmerer, Tranel, and Zdanczyk (2009) argued that while incorrect adjective order may not always obstruct comprehension, it reflects a deeper grammatical deficiency that must be addressed through structured learning strategies. The improvements seen in this study's post-test results suggest that the pocket guides effectively addressed this issue by offering a structured, gamified learning approach.

The study's findings support existing research on the benefits of gamification in language learning. Rahmani (2020), Anisa, Marmanto, and Supriyadi (2020) highlighted that gamification increases motivation, engagement, and retention among students. These insights are strongly reflected in the observed improvement in adjective order proficiency, suggesting that the interactive nature of the pocket guides helped sustain student interest and participation. Furthermore, Simatupang, Purnama, and Simatupang (2020) demonstrated that interactive learning materials contribute to better academic performance and increased retention of grammatical concepts. The present study echoes these findings, as students who engaged with the pocket guides not only improved their accuracy but also exhibited a higher level of engagement during the learning process.

The effectiveness of informative booklets and pocket guides as learning tools is also well-documented. Abdullah, Hussin, and Ismail (2019) found that well-structured instructional materials significantly enhance student learning outcomes, while Choir and Fitri (2020) emphasized that pocket guides promote efficiency, creativity, and independent learning. The present study's results reinforce these claims, suggesting that pocket guides serve as a valuable instructional resource in developing grammatical proficiency.

Given these findings, the study recommends that students should actively engage with gamified learning materials to enhance their grammatical skills. Teachers should consider integrating such materials into their instructional practices to support students in overcoming persistent grammatical challenges. Additionally, schools should invest in developing and implementing interactive learning materials across different subjects, ensuring that educators receive professional development training to effectively incorporate these tools in their classrooms.

Future research should explore the effectiveness of other interactive learning strategies and examine how gamified materials compare to traditional teaching methods in language acquisition. Expanding research in this area will provide valuable insights into optimizing educational interventions for grammar instruction, particularly in adjective order proficiency.

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