Development and Validation of Gameducation Module: A Supplementary Material in Enhancing Least Learned Competencies in English

Erica P. Binbing[1], Marinella D. Conchada[2], Micaella T. Deguzman[3], Ma. Alexandria B. Llanes[4], Jewela Angelie R. Ortega[5]

Ronnel C. Palasin, LPT, MAEd

Laguna University – College of Education, Santa Cruz, Laguna, Philippines

ABSTRACT

This study was conducted to create and validate Gameducation module, a supplementary learning material designed to address the least learned competencies in English among Grade 4 students of one of the public elementary schools in Pila, Laguna with a total of 38 respondents. More specifically, the study targeted the three least-learned competencies: (1) comprehending literary texts, (2) using words with literal and implied meanings, and (3) composing sentences appropriately for clarity and coherence. A descriptive quantitative research design was employed. A competency-based test revealed an overall mean score of 44.59%, indicating a low level of competency. The hypothesis stated: "There is no significant level of acceptability in the development of the Gameducation module based on the overall validation results of the five expert validators.". To test this, the module was validated by five experts using a Likert scale, assessing five criteria. Five expert validators evaluated it using a Likert scale across five criteria namely: Learning Objectives (M = 3.86), Content (M = 3.56), Format and Language (M = 3.92), Presentation and Organization (M = 3.96), and Accuracy and Usefulness (M = 3.84). The overall mean was 3.83 and showed the module is valid and acceptable. For the analysis, the mean was calculated to identify the competency levels of the students. To ensure consistency among validators, Cronbach's Alpha and Inter-Rater Reliability (ICC) were computed. The research also adopts the SAMR model for creating the Gameducation module by using gamification features and game-based learning platforms. The findings indicate that the Gameducation module is valid, engaging, and learner-centered material that can enhance learning gaps in English. The study supports that the integration of gamified learning activities in teaching promotes collaboration, motivation, and mastery of competency among elementary learners.

Keywords: gameducation module, least-learned competencies, validation, gamification, and competency-based test

INTRODUCTION

In education, one critical measure of student learning is the successful acquisition of essential knowledge and skills. The Most Essential Learning Competencies (MELCs), which outline the core skills students must develop, were adopted and implemented in the Philippines' K to 12 curriculum during the COVID-19 pandemic (DepEd Order No. 12, s. 2020). Due to its favorable impact, subsequent DepEd orders were issued (DepEd Order No. 29, s. 2021; DepEd Order No. 34, s. 2022), allowing continued implementation in the succeeding academic years.

The MELCs have been an integral part of the K to 12 curriculum. Developing these competencies and skills are vital for students' future success (Zalun, 2023). However, the study of Fernandez et al. (2021) identified the least learned competencies in some subjects. Migullas (2021) suggested that these identified least learned competencies must be prioritized and addressed by stakeholders, particularly, the teachers.

Moreover, in English, curricula that prioritize rote memorization tend to only target the lower order thinking skills of learners. As a result, the learners find it difficult to learn and engage in the subject. Learners often struggle with grammar, pronunciation, speaking skills, and vocabulary, which affects their overall performance (Labad et al., 2024). Hence, in the 21st century education, teachers are highly encouraged to adapt and/or adopt

innovative teaching strategies that could further stimulate active engagement, effective skill acquisition, and mastery of intended learning competencies in core subjects like English.

One innovative strategy that has gained more popularity in today's educational technology-driven environment is gamification. It is the application of game-design elements into non-game contexts like educational settings that are used to reinforce students' engagement and performance. It benefits for a transformative impact that goes beyond merely making learning 'fun'. For instance, Giray and Ballado (2025) found that incorporating gamification into English instruction not only fosters students' participation but, most importantly, aids in enhancing least learned skills and attaining proficiency in English. Currently, various digital game-based platforms offer customizable templates for creating interactive learning activities.

This study focuses on developing and validating the Gameducation module, a supplementary material intended for enhancing Grade 4 students' mastery of the least learned competencies in English. The module consists of gamified activities targeting three least-learned competencies: comprehending literary texts, using words with literal and implied meanings, and composing appropriate sentences for clarity and coherence. It underwent a validation process by five experts to ensure its acceptability and validity.

The findings of this study aimed to explore the potential validity and usability of the Gameducation module to offer engaging, student-centered learning material that contributes to the existing instructional approach and enhances the educational outcomes while addressing the learning gaps.

METHODOLOGY

Research Design

This study utilized a descriptive quantitative research methodology. The aim of quantitative research was to measure data and generalize findings from a sample by gathering, analyzing, and interpreting numerical data to evaluate hypotheses formulated in the study. It focused on measuring characteristics, frequencies, trends, and categories to deliver objective and reliable results. Descriptive research, a type of quantitative research, involves collecting quantitative data in numerical form, in addition to this research design describing the specific qualities rather than the difference to generate a research conclusion. Furthermore, quantitative research creates more consideration about the problem. Therefore, descriptive quantitative research design is suitable to use for having reliable and valid results which is essential in developing a research design (Ghanad, 2023).

Research Locale

This study was conducted at one of the public elementary schools located in Pila, Laguna. The school is located along a National Highway and is situated near the town hall. This school offers classes from kindergarten to Grade 6, with a structured learning environment that supports students' academic and personal development.

Population of the Study

The study involved a total of 38 Grade 4 students, selected through a simple random sampling method. According to Noor et al., (2022), simple random sampling method is widely used in quantitative study and where each participant has a chance or opportunity to be chosen or picked as the respondent of a certain study. This method of selection process is only favorable in a homogenous class and would be solely based on luck. Furthermore, to ensure the validity and reliability of the researchers' developed material, five (5) experts served as the validators to assess the validity and usability of the supplementary material which aims to enhance the least-learned competencies of Grade 4 students in English.

Research Instrument

The competency-based test evaluation and the adapted and modified validation questionnaire were the main instruments utilized in this study to collect data. The Competency-Based Test Evaluation was gathered to assess the least learned competencies of the learners prior to the implementation of the Gameducation supplementary module. It consisted of 20 multiple-choice items with situational questions, specifically aimed at evaluating
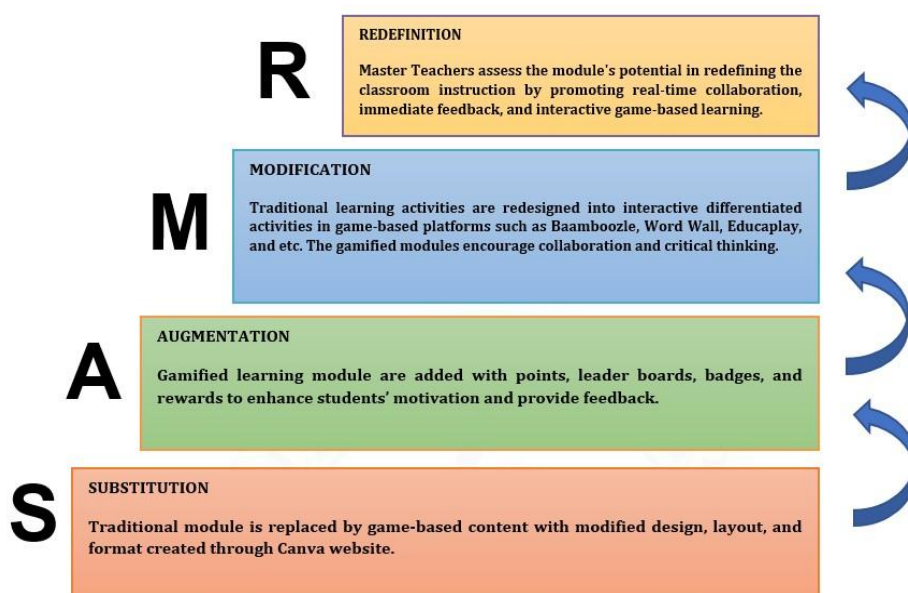
students' knowledge of word meaning, usage and recognition appropriate to their grade level, as aligned with the targeted language competencies. The test served as the main instrument in identifying areas for additional development and support. Additionally, to determine the validity of the developed modified module, the adapted and modified validation questionnaire using a Likert type rating scale was employed. The questionnaire is in the form of a checklist, and the responses were interpreted as Highly Acceptable, Acceptable, Moderately Acceptable, Less Effective and Not Acceptable.

Data Gathering Procedure

The data gathering process began with a survey that was conducted through a one-on-one interview with a grade four teacher from the chosen locale to identify the problems and needs of the learners. Following the pre-survey, it was revealed that students have difficulties in comprehending literary texts, using words with literal (denotative) and connotative meanings in sentences, and in composing clear and coherent sentences, which are indicated as the learners' least learned competencies in English. To assess the learner's competency level in the three areas, a letter of request was submitted to the principal's office to ask permission to conduct the study and administer a competency-based test among grade 4 students. Upon approval, the researchers coordinated with the grade 4 teacher to determine the respondents of the study from the two sections of grade 4. The simple random sampling method was utilized.

Once the respondents for the competency-based test were determined, an adapted and modified pre-test questionnaire was made. The researchers presented the pre-test questions to the grade 4 teacher for validation and approval. After ensuring the test questions' validity, a parental consent form was sent to the parents of learners to ask for their permission and approval of their child's participation in the competency-based test. The researchers assured the respondents that the data would be confidential. The test was then administered after acquiring parental consent. Afterwards, the test papers were collected and checked. The mean scores for each learning competency were then computed.

Following the completion of the preceding processes, the researchers proceeded to the development of the supplementary material–Gameducation module–centered on the three identified least learned competencies in English. The SAMR (Substitution, Augmentation, Modification, and Redefinition) Model, an educational model categorizing four levels of integrating technology into teaching and learning, guided the material's overall development and design process.

Figure 1. Conceptual framework based on SAMR Model of Dr. Ruben Puentedura

Treatment of Data

To interpret the data effectively, researchers employed the statistical tools to assess the validity and usability of the Gameducation Module. The mean and inter-rater reliability test (Cronbach's Alpha) were the tools used to

interpret the data. The mean was utilized to determine the mastery level of the Grade 4 students in their leastlearned competencies in English, based on their competency-based test result or pre-test scores. Furthermore, the inter-rater reliability tests were utilized to determine the consistency and reliability of the ratings of the (5) five expert validators on the Gameducation Module. These statistical measures provided insights into the degree of process and the consistency of the result, which highlighted the usability, reliability, and validity of the material's effectiveness.

Ethical Considerations

This study strictly adhered to ethical research guidelines to ensure the comprehensive protection and integrity of all participants. Informed consent was secured from the Grade 4 students' parents or legal guardians before participation, ensuring they were fully aware of the study's scope and procedures. The study strictly maintained confidentiality and anonymity, guaranteeing that no personal information would be disclosed in the reporting, and all data were analyzed using coded identifiers. Participants were granted the freedom to withdraw from the study at any point without any negative repercussions. Furthermore, the researchers ensured that the Gameducation module and the competency-based tests did not cause harm or undue stress to students, being utilized strictly for educational purposes. The research was conducted following the principles of fairness and objectivity, ensuring that no biases influenced the collection or interpretation of the results. All collected data were securely stored and used solely for academic purposes. Finally, formal permission was sought from the school's administration before conducting the study, and all ethical guidelines for working with minors were strictly observed. To uphold academic integrity, all sources used in the research were properly cited.

RESULTS AND DISCUSSIONs

Table 1. Expert Validators of Gameducation Module in Enhancing the Least-learned Competencies in English 4

Expert Validators	Educational Qualification	Position / Designation	Experience in Teaching
1	Doctorate Degree	Master Teacher I at Nanhaya Integrated National High School	15
2	Doctorate Degree	Head Teacher I at Gov. Felicisimo T. San Luis Integrated Senior High School	17
3	Master's Degree	Master Teacher I at Duhat Elementary School	20
4	Doctorate Degree	Teacher III at San Antonio Elementary School	11
5	Master's Degree	Teacher II at Ungos Elementary School	15

Table 2. The Mean level of Grade 4 Students' Competency-Based Test Performance on Least Learned Competencies

Competencies	Mean	SD	Percentage Score	Interpretation
Comprehend Literary Texts	2.63	1.26	43.86	Low Competency
Use Words with Literal/Implied Meanings	2.32	1.12	38.60	Very Low Competency
Compose Appropriate Sentences	3.08	1.51	51.32	Basic Competency
Overall	8.03	2.32	44.59	Low Competency

Legend:

Percentage Score Range	Interpretation
86–100%	Advanced Competency
66–85%	Proficient Competency
50–65%	Basic Competency
35–49%	Low Competency
0–34%	Very Low Competency

Table 2 shows the mean level of the Grade 4 students' competency-based test performance on the least-learned competencies. The competency-based test results provide evidence that the three identified competencies—comprehending literary texts, using words with literal/implied meanings, and composing appropriate sentences—are indeed the least mastered skills among Grade 4 students. With an overall mean percentage score of 44.59%, the data confirms significant gaps in these foundational areas.

First, using words with literal/implied meanings emerged as the weakest competency with a mean score of 2.32 and an SD of 1.26 and percentage score of 38.60%, reflecting that the students struggle with distinguishing denotative and connotative word usage. Second, comprehending literary texts having a mean score of 2.63 and percentage score of 43.86% scored only marginally higher, underscoring difficulties in analyzing texts beyond surface-level understanding. The high standard deviation of 1.26 further indicates inconsistent mastery, with some students entirely unable to infer meaning. Lastly, while composing sentences had a slightly higher mean score which is 3.08, its percentage score of 51.32% still fell under Basic Competency, revealing persistent issues in clarity and coherence. The notably large SD of 1.51 suggests extreme disparities, where some students lack even basic sentence construction skills.

These results validate the study's focus on these three competencies as the most urgent areas for intervention. The consistently sub-50% scores across all categories—coupled with high variability—demonstrate systemic gaps that justify the need for the Gameducation module's targeted, gamified approach to address these least learned skills.

The study conducted in Tupi National High School (TNHS) supported the existence of the least learned competencies (LLCs) among the learners. The LLCs were identified by the teachers in their topics in English, which were the positive and negative messages and transitional devices (Souribio and Protacio, 2023). Wherein, these identified LLCs had been addressed through a gamified supplementary program which, in their study, proved that the use of gamification highly affects the academic performance in English and helped to cope learners in LLCs as well as, assess their learning.

Similarly, in the study of Moquerio, W.R et al., (2025), mentioned that learners' worldwide face challenges in their academics, specifically on how they construct grammatically sound and coherent sentences. In which, these identified problems were often rooted from the learners' weak foundation of vocabulary and limited grammar knowledge, and that the use of interactive sentence-building games in sentence construction can help learners' effectively improve their English skills

Table 3. The Level of Validity of the Gameducation Module

Criterion	Mean	SD	Statistical Tests		Interpretation	Recommended Action
			Cronbach's α	ICC		
Learning Objectives	3.86	0.35	0.91	0.88	Excellent Validity	No revisions needed.
Content	3.56	0.50	0.89	0.85	High Validity	Refine per expert comments.
Format & Language	3.92	0.28	0.93	0.90	Excellent Validity	No revisions needed.
Presentation & Organization	3.96	0.20	0.94	0.92	Excellent Validity	No revisions needed.
Accuracy & Usefulness	3.88	0.33	0.92	0.89	Excellent Validity	No revisions needed.

Mean Range	Interpretation	Action
3.6–4.0	Excellent Validity	No revisions needed.
3.4–3.59	High Validity	Refine per expert comments.
2.5–3.39	Moderate Validity	Substantial revisions.
below<2.5	Low Validity	Reject or redesign.

Table 3 shows the level of validity of the Gameducation Module. The validation results demonstrate that the Gameducation module effectively targets Grade 4 students' least learned competencies as identified in the study. The excellent validity scores across all criteria with a mean score of 3.56 to 3.96 confirm the module's strong alignment with the key competencies of: (1) comprehending literary texts, (2) using words with literal and implied meanings, and (3) composing clear and coherent sentences.

For the learning objective the mean score of the validator given to the Gameducation module has a value of 3.86 and an SD of 0.35 suggesting that the validator scored the learning objective excellently high while the Cronbach α of 0.91 suggest that the learning objective have excellent validity with its construction and the ICC of 0.88 suggesting the inter-rater reliability confirming the agreement of the validator score toward the learning objective for the Grade 4 students' learning competencies.

This shows that learning objectives are attainable and address the learning gaps that support learning progress in achieving the intended learning outcomes. In line with the study of (Adonis, 2020), ensuring the alignment and strengthening the connections among Learning Objectives, Assessments, and Instructional Strategies can lead to a more measurable, effective, and meaningful learning process. For the content criterion, the validators' evaluation yielded a mean score of 3.56 with a standard deviation of 0.50, indicating strong but slightly more varied agreement compared to other sections. This high mean score demonstrates that experts consistently recognized the content's alignment with Grade 4 vocabulary competencies, while the moderate standard deviation suggests some divergence in opinions regarding specific elements. The Cronbach's α coefficient of 0.89 provides evidence of excellent internal consistency among the content items, confirming a "High Validity" among the validator for the content criterion. And the ICC value of 0.85 establishes inter-rater reliability, showing that multiple independent experts agreed in their assessment of the content's quality. These results validate that the workbook's content effectively targets Grade 4 learning needs, with the slightly lower metrics compared to other sections pinpointing where focused improvements could further enhance the material's effectiveness for classroom implementation.

This implies that the module content sufficiently meets the expected standards and addresses the least learned competencies identified at the Grade 4 level. The positive evaluation from the validators reflects a high validity between the material and the intended learning outcomes. The results of Fran (2022), which emphasized the significance of content being suitable, relevant, and well compatible to the learners' academic needs. Expert validation is a reliable means of evaluating the educational significance of materials, supporting the idea that high-quality content is essential for improving student learning and engagement.

For the format and language criterion, the validation results showed exceptional performance with a mean score of 3.92 and a remarkably low standard deviation of 0.28, reflecting the expert approval of the workbook's ageappropriate design. The outstanding Cronbach's α of 0.93 provides an "Excellent Validity" among the formatrelated items and language that the validator deemed to be appropriate for the grade 4 students. The ICC value of 0.90 further strengthens these findings by showing almost perfect agreement among different validators in their independent assessments. These exceptionally high reliability metrics both internal and inter-rater offer compelling evidence that the module's format and language components are optimally tailored for Grade 4 learners' comprehension levels and engagement needs, requiring no modifications before implementation.

This affirms the study of Silverio and Catris (2021) entitled: "Model for Contextualization: Bridging Gaps in Science Education" which states that utilizing a contextualized IMs such as localized elements, pictures, language, and activities are suitable for learners' interest and helps them more understand a lesson with format and language appropriateness of a material. Similarly, this finding is aligned with the study of Tolentino et al., (2020), which suggests that intervention materials or IMs can facilitate the students' learning with contextualization of contents such as appropriate and proper labeled text, realistic, appropriate colors of materials, attractive and appealing, and also culturally relevant for the learners.

Regarding the presentation and organization criterion, the validation data revealed a result with a mean score of 3.96 - the highest among all criteria - and an impressively low standard deviation of 0.20, indicating virtually unanimous expert consensus. The Cronbach's α coefficient reached 0.94, demonstrating near-perfect internal consistency that it has an "Excellent Validity" confirming all organizational elements and presentation is valid to address the learning competencies of the grade 4 students in English. The ICC value of 0.92 provides equally

strong evidence of inter-rater reliability, showing different experts independently arrived at nearly identical evaluations. These extraordinary statistical outcomes provide proof that the module's structure and presentation represent its strongest feature, perfectly organized for maximum pedagogical effectiveness in Grade 4 English instruction, with no need for revisions.

This finding attests to the significance of clear presentation and organization of instructional materials' content to support students' learning and attainment of learning competencies. Similarly, Aguelo (2024) highlighted that lessons and contents of instructional materials that are well-designed and organized supports better attainment of educational outcomes and fosters positive and meaningful learning experience. Lessons and instructions that are well-structured can increase motivation and engagement, and at the same time, facilitate more effective and efficient teaching and learning. Furthermore, alignment and suitability of words, sentence length, and structure of instructional material to students' level leads to improved comprehension.

For accuracy and usefulness criterion, the validators scored a high mean score of 3.88 with a standard deviation of 0.33, reflecting strong agreement about the workbook's practical classroom value. The Cronbach's α of 0.92 offers evidence of excellent internal consistency among validators, confirming an "Excellent Validity" for the accuracy and usefulness of the Workbook. The ICC of 0.89 further validates these findings by demonstrating high agreement among independent experts. While these results are slightly lower than the top-performing criteria, they still far exceed minimum thresholds, with the minor variation primarily reflecting expert suggestions about answer key refinements rather than questioning the fundamental usefulness of the activities for Grade 4 mastery of the least learned competencies.

This shows that the module has a strong validity, with a high mean score and reliability that indicates excellent validity. With minor suggestions for improvement, these results prove that this module has a practical value and is effective to support Grade 4 students' mastery of the least learned competencies. In line with the study of (Tadesse et al., 2022) the constructivist learning theory, students can learn deeper with the help of exploring media and learning materials to shape the experience of the learners to build their knowledge.

Table 4. Gameducation Module's Overall Validity

Criterion	Mean	SD	Cronbach's α	ICC	Interpretation	Recommended Action
Overall Module	3.84	0.18	0.89	0.91	Excellent Validity	No revisions needed.

Mean Range	Interpretation	Action
3.6–4.0	**Excellent Validity**	**No revisions needed.**
3.4–3.59	**High Validity**	**Refine per expert comments.**
2.5–3.39	**Moderate Validity**	**Substantial revisions.**
below<2.5	**Low Validity**	**Reject or redesign**

For Cronbach α α ≥ 0.90: Excellent Validity

0.70–0.89: Valid

< 0.70: Poor Validity

For the overall module's acceptability, the validators' composite evaluation yielded a mean score of 3.84 with a remarkably low standard deviation of 0.18, demonstrating near-unanimous agreement of the score about the workbook's quality. The Cronbach's α coefficient of 0.89 provides evidence of excellent internal consistency across all module's components, confirming they function as a unified instructional tool. The ICC value of 0.91 establishes near-perfect inter-rater reliability, showing independent experts achieved exceptional agreement in

their overall assessments. These results collectively validate that the Gameducation Module meets the highest standards for Grade 4 vocabulary instruction, with the tight clustering of scores SD of 0.18 particularly indicating that no validator disputed its readiness for classroom implementation. The slightly lower α compared to individual sections reflects expected variation when aggregating multiple dimensions, yet still far exceeds the 0.70 reliability threshold, while the outstanding ICC confirms the validation process was rigorous and replicable across different evaluators. This comprehensive statistical evidence fully supports the module's immediate usability with only the previously noted minor content refinements suggested.

Velasco and Villanueva (2022) have produced similar research where they reported the development of a reading comprehension scale which returned alpha values of 0.569 to 0.639, which they considered good reliability. The Gameducation Learning Module has a larger alpha and ICC than those reported by Velasco and Villanueva, which provided support for it being a reliable and valid tool and suggested there are no limitations on the effective use of the Gameducation component in grade 4 vocabulary instruction in a local context.

CONCLUSION

Based on the indicated findings, the following conclusions were drawn:

1.   Grade 4 students from one of the public elementary school in Pila Laguna have a low competency level particularly with the three learning competencies in English: comprehending literary texts, using words with literal and implied meanings in sentences, and composing appropriate sentences for clarity and coherence.
2.   The Gameducation module was rated as exceptionally valid with no revisions needed.

3.   Therefore, the study's hypothesis, "There is no significant level of acceptability of the Gameducation module's development based on the results of overall validation of five experts," is rejected since the overall rating of the validators, as reflected in the statistical evidence, indicates the module's excellent validity.

RECOMMENDATIONS

Based on the findings and conclusions presented, the following recommendations were suggested:

1. The Gameducation module was strongly recommended as an instructional tool to address the identified least learned competencies among grade 4 students in English. The gamified approach of the module encourages active participation and collaboration making learning both enjoyable and effective.

2. In light of the positive outcomes associated with the Gameducation Module, it was recommended that the module be officially adopted as a supplementary learning tool to address learning gaps among students. Its design made it particularly suitable for targeted interventions such as summer programs and learning camps, especially for learners experiencing difficulties in specific areas.

3. Given the favorable results in experts' ratings, the researchers suggested that teachers may undergo seminars or tutorial sessions for effective utilization of the gamified module. The training should focus on how to implement the gamified activities and how to use the gamified platform.

4. To maintain the accuracy and relevance of the module. The researchers recommend regularly reviewing and updating the content of the module to ensure that the information is aligned and up to date with the latest curriculum standards to enhance its educational value.

5. The gamification approach used in the module can be adapted for other grade levels and different subject areas. Doing so, it encourages innovative teaching across the curriculum and highlights the benefits of using games and interactive activities to support student learning.

6. In contexts with limited or no access to digital devices, teachers were encouraged to creatively adapt the module's activities. For example, collaborative games could still be conducted with a single device or modified into low-tech formats to preserve interactivity and learner engagement.

REFERENCES

1. Adonis, M. (2020) . DepEd to Teachers: Take steps to prevent student ―Burnout‖. Retrieved from: https://newsinfo.inquirer.net/1347488/deped-to-teachers-take-steps-o-prevent-student-burnout
2. Aguelo, J. (2024). Development and validation of contextualized learning material in mathematics (Bikol Central) for kindergarten. International Journal of Research Studies in Education, 13(17), 41-53. Retrieved from: https://doi.org/10.5861/ijrse.2024.24749
3. Department of Education. (2020). Adoption of the Basic Education Learning Continuity Plan for school year 2020-2021 in the light of the COVID-19 public health emergency (DepEd Order No. 12, s. 2020). Retrieved from: https://www.deped.gov.ph/wp-content/uploads/2020/06/DO_s2020_012.pdf
4. Department of Education. (2022). School calendar and activities for school year 2022–2023 (DepEd Order No. 34, s. 2022). Retrieved from: https://www.deped.gov.ph/wpcontent/uploads/2022/07/DO_s2022_034.pdf
5. Fran, F. A. (2022). Development and validation of competency-based research I workbook for distance learning. International Journal of Education and Learning, 4(1), 81–88.Retrieved from: https://doi.org/10.31763/ijele.v4i1.615
6. Giray Jr., Alejandro L., & Ballado, R. S. 2025. Gamification techniques in enhancing English for elementary level students". Asian Journal of Advanced Research and Reports 19 (4), 176-84. Retrieved from: https://doi.org/10.9734/ajarr/2025/v19i4972
7. Labad, C. M. B., Rabena, R. P., Garduce, S. J. S., & Neri, E. (2024). Speaking difficulties and academic performance in English among junior high school students. International Journal of Research and
8. Innovation in Social Science, 8(3), 2645–2656. Retrieved from: https://dx.doi.org/10.47772/IJRISS.2024.803192S
9. Moquerio, W. R., Agravante, Z. R., A, V. H., & Fernandez, E. J. (2025). Interactive Sentence-Building Games as an Effective Tool for Enhancing Sentence Construction Skills Among Grade 7 Learners.
10. European Journal of Literature Language and Linguistics Studies, 9(1). https://doi.org/10.46827/ejlll.v9i1.602
11. Noor, S., Tajik, O., & Golzar, J. (2022). Simple random sampling. International Journal of Education & Language Studies, 1(2), 78–82. Retrieved from: https://doi.org/10.22034/ijels.2022.162982
12. Silverio, A. D. P., & Catris, L. V. (2021). Model for contextualization: Bridging gaps in science education. SDCA Asia-Pacific Multidisciplinary Research Journal, 3(1), 40–51. https://doi.org/10.5281/zenodo.8022219
13. Souribio, C. N., & Protacio, A. V. (2023). RAJAH'S QUEST: A gamified offline assessment of least learned competency in English 8 in the post-pandemic pedagogy [Experiment findings]. ResearchGate. Retrieved from: https://doi.org/10.13140/RG.2.2.26383.87207
14. Tadesse, T., Melese, W., Ferede, B., Getachew, K., & Asmamaw, A. (2022). Constructivist learning environments and forms of learning in Ethiopian public universities: Testing factor structures and prediction models. Learning Environments Research, 25(1), 75–95. Retrieved from: http://dx.doi.org/10.1007/s10984-021-09351-4
15. Tolentino, J. C., Miranda, J. P., Maniago, V. G., Sibug, V. B. (2020). Development and evaluation of localized digital learning modules for indigenous peoples' health education in the Philippines. Universal Journal of Educational Research. Retrieved from http://dx.doi.org/10.13189/ujer.2020.081251
16. Velasco, S. B., & Villanueva, J. S. (2022). Development and validation of a reading comprehension scale. American Journal of Education and Technology, 1(1), 10–17. Retrieved from: https://doi.org/10.54536/ajet.v1i1.327
17. Zalun, J. G. (2023). The teachers' utilization of the most essential learning competencies (MELCS) and its relation to the learning development of grade six pupils in a public school in the Philippines: Basis for a proposed program. International Journal of Multidisciplinary: Applied Business and Education Research, 4(6), 1888-1903. Retrieved from https://doi.org/10.11594/ijmaber.04.06.15