

Exploring LEGO Play and LEGO Video Content for Lexical Acquisition

Karen Rhede T. Manulat*

University of the Visayas, Corner D. Jakosalem, Colon St., Cebu City, Philippines

Dr. Regina P. Galigao

Cebu Technological University, M. J. Cuenco Avenue Cor R. Palma St., Cebu City, Philippines

ABSTRACT

The current experiment involved studying the effects of playing with LEGO sets and watching videos on a child's speech development, considering two areas: lexical development and language expressiveness. By means of observations, data were collected concerning the daily behavior of Participant A in an environment where LEGO playing was performed independently; there was frequent watching of LEGO-related video material; and socialization with caregivers took place. The findings suggested that frequent playing with LEGO helped acquire special vocabulary that included some specific words referring to LEGO building (such as "tiles," "jumper plates," and "2x2 bricks"). The study confirmed the significance of playing games for expanding children's vocabularies due to motivation and repetition. Regarding expressive language development, the participant had skills of narrating processes, explaining constructions, and taking part in imaginary play, making use of vocabulary and communication patterns picked up from media content. The participant was also capable of functional language use in asking for help, giving commands, and interacting in social situations with caregivers and peers. These results prove that social interaction and co-participation in language learning activities contribute to the process. In conclusion, the best results are achieved in the cases where LEGO play occurs consistently and within social contexts, high-quality video is provided together with social interaction during viewing, and caregivers ask questions to provoke discussions in children.

Keywords: LEGO play, lexical acquisition, expressive language development, YouTube exposure, social interaction.

Date Submitted: June 26, 2026

Date Accepted: July 2, 2026

Date Published: June 9, 2026

INTRODUCTION

Language acquisition is a dynamic and individualized process, shaped uniquely by children's social interactions, play experiences, and exposure to a language rich environment. Within this developmental context, LEGO play, as a hands on, creative, and constructive

*Corresponding author / Email: kareversity@gmail.com

DOI: <http://doi.org/10.69651/PIJHSS05031305>

Recommended citation:

Manulat, K. R. T., & Galigao, R. P. (2026). Exploring LEGO Play and LEGO Video Content for Lexical Acquisition. *Pantao (International Journal of the Humanities and Social Sciences)* 5 (3), 921-930.
<http://doi.org/10.69651/PIJHSS05031305>

experience, emerges as a valuable tool for facilitating children's language acquisition, since both physical and digital LEGO formats offer opportunities to enhance vocabulary, narration, and collaboration as children describe, instruct, and narrate within a multimodal environment. This premise finds support in modern research identifying learning through play, characterized by joyful, meaningful, actively engaging, iterative, and social qualities, as a significant contributor to early language, literacy, and cognitive skills, with these very elements closely associated with LEGO play activities in both classroom and home settings.

The prominence of LEGO as an educational medium is rooted in both its history and its continuing cultural reach. The name LEGO, derived from the Danish phrase *leg godt*, meaning play well, reflects the philosophy underlying a toy that has remained among the most enduring educational tools available to children. Founded in 1932 by Ole Kirk Kristiansen and still owned by the Kirk Kristiansen family (The LEGO Group History, n.d.), the LEGO Group has held its position as the world's largest toy maker since 2020 (Presse, 2024). Notably, even in an era when children are increasingly drawn to video games and digital tools as part of their daily routines, LEGO continues to grow in popularity and revenue while retaining the same brick design introduced sixty years ago (Digital, 2017), a persistence corroborated by recent company reports that further affirm its global cultural and educational impact ([lego.com]; [lego.com]; [lego.com]).

Empirical studies across diverse educational contexts converge in affirming the developmental value of LEGO play. Cvijanović and Mojić (2018) established that the application of LEGO materials within early childhood and preschool education programs enables the achievement of planned learning outcomes, thereby encouraging children's development across multiple domains. In the domain of second language learning, Cojocnean (2019), working within an English Foreign Language classroom aimed at enhancing fluency, found that playing with LEGO bricks creates contexts highly favorable to learning English. Similarly, Ng and Lim (2023) demonstrated that constructive LEGO play combined with storytelling among six-year-old children effectively promoted descriptive language, owing to the way such play allows for greater creative imagination and interaction. Beyond language, Legoff (2004) verified LEGO's particular effectiveness as a tool for enhancing children's social skills, while Eimer et al. (2020), investigating the link between LEGO play and numeracy, found that higher performance on mathematics tests administered to children was accompanied by greater complexity in their LEGO constructions, and vice versa. These findings are further reinforced by a large-scale study of 358 children aged seven to nine, which established that children's LEGO construction ability relates to mathematics performance through spatial mechanisms, suggesting that the cognitive benefits of LEGO construction play may be accompanied by parallel linguistic benefits.

Taken together, this body of evidence points toward a consistent pattern in which LEGO play, whether examined for its effects on literacy, social competence, numeracy, or spatial cognition, functions as a multidimensional developmental tool. This convergence extends into applied practice, where LEGO Serious Play has proven effective in higher education and multilingual contexts by facilitating expressive language, reflection, and presentation performance, outcomes that bear clear relevance to narrative and metalinguistic development in early childhood education as well ([onlinelibrary.wiley.com]; [eric.ed.gov]; [files.eric.ed.gov]; [openpress.usussex.ac.uk]; [shura.shu.ac.uk]).

Despite this convergence of positive findings, notable gaps remain in the literature that this study seeks to address. Whitebread et al. (2017) observed a lack of studies directly examining the relationship between children's collaborative play and the development of specific aspects of language, calling for further research into the role of structured, goal-oriented play, such as LEGO play, in language development. In a related vein, Fleer (2018), in discussing the concept of digital play in early childhood education, noted that the role of media

integrated play environments in children's overall development, including language acquisition, remains poorly understood, underscoring the need for further investigation into such play contexts. These gaps are especially salient given subsequent findings that the quantity of children's media use is associated with lower language scores, whereas the quality of media use is positively, though weakly, associated with vocabulary development, a distinction of particular relevance when considering a child's viewing of LEGO construction videos. A scoping review of video use lends further nuance to this picture, showing that while high quality video content can benefit the development of certain linguistic forms, mediation and the context of use remain critical determinants of long-term language outcomes ([jamanetwork.com]; [academic.oup.com]; [journalofcognition.org]).

Within the Philippine context, studies on game based and play based learning, including quasi experimental and action research designs, have likewise reported positive outcomes for vocabulary development and literacy engagement at the basic education level, with case studies further illustrating how family mediated input shapes the language development that arises from children's media use. Complementing these findings, policy studies examining the effectiveness of the Mother Tongue Based Multilingual Education program have emphasized the importance of rich interaction in the language development of young children, a factor of particular relevance within a Cebuano English bilingual context such as the one under study here ([apjaet.com]; [feu.edu.ph]; [researchgate.net]; [nmsc.edu.ph]; [pidswebs.pids.gov.ph]; [pidswebs.pids.gov.ph]).

It is against this backdrop, marked by robust evidence of LEGO's developmental benefits alongside persistent gaps concerning its specific relationship to language acquisition and the mediating role of digital exposure, that the present research is situated. Grounded in Landers' Theory of Gamified Learning and Social Interaction Theory, this study aims to examine the specific contribution of LEGO play and LEGO video exposure to a child's language acquisition. Adopting a case study design centered on a single child, the research allows for an in-depth examination of how LEGO play and exposure to LEGO videos contribute to a toddler's language development. Within this framework, LEGO play is conceptualized simultaneously as a structured yet intrinsically motivating form of engagement capable of activating gamified learning mechanisms such as interest, feedback, and progression, and as a form of caregiver interaction that facilitates the acquisition of new vocabulary through a sociocultural approach to scaffolding ([researchgate.net]; [researchgate.net]; [simplypsychology.org]).

Statement of the problem

The research aims to examine the influence of playing LEGO and LEGO Youtube video content on vocabulary and storytelling.

1. What is the role of LEGO play and LEGO Youtube video content in the development of the child's lexical acquisition and expressive language?
2. What is the role of social interaction in LEGO play in the development of the child's expressive language?

METHODOLOGY

This chapter presents the research methodology employed in the study. It describes the research design, participants, research instruments, data collection procedures, and data analysis methods used to address the research questions. The section ensures that the

procedures followed are systematic, appropriate, and aligned with the objectives of the study, thereby allowing for the validity and reliability of the findings.

This is a case study design with the aim of observing the lexical acquisition and expressive language skills of the child in his/her play with the LEGO set, as reported by the parents. Participant A is to be observed during his play with the LEGO set and his viewing of Youtube videos showing people building with the LEGO set. At times, the participant may be doing both activities at the same time.

A single-case convergent qualitative design is appropriate to this research because it is best suited to the detailed analysis of the participant's utterances, narratives, and caregiver scaffolding. Moreover, the Philippine setting has several precedents for the analysis of the participant's exposure to the said medium, as shown in the case studies done in the Philippines. [nmssc.edu.ph], [Switching...lipino...]

This study was done at the home of the participants located in a subdivision in Barangay Basak, Lapu-lapu City, Cebu. This is because the setting is appropriate to the research design, considering the fact that the acquisition of the participant's vocabulary is not dependent on the classroom setting. As shown in the study, the acquisition of the participant's vocabulary is dependent on the participant's play with the medium. [cms.learn...ghplay.com]

This research specifically focused on Participant A, who is 4 years and 6 months old at the time of study. Participant A is an only child during the conduct of the study, the child of a couple aged 37 (father) and 39 (mother). The parents of Participant A were the respondents of this present study. Apart from the parents of Participant A, he also has an aunt who regularly visits his place every weekend. The aunt serves as the secondary caregiver of Participant A.

Participant A has Cebuano as his first language. His second language is English. Participant A has undergone his Nursery last year. At present, he is in Kindergarten 1 in a private school. Apart from Lapu-lapu City and Cebu City, Participant A has visited other places in the Philippines such as Manila, Baguio City, Surigao City, Davao City, and Iligan City.

As a toddler, Participant A has resources for learning such as school textbooks, YouTube videos, and DIY materials prepared by his parents. Participant A is usually accompanied by his mother because she stays at home while his father goes to work in the city of Mandaue or abroad for a few months. [pidswebs.pids.gov.ph], [Switching...lipino ...]

The research instrument used in this research was a semi-structured interview with the help of an interview guide, which provided a certain level of flexibility, both for the parents as respondents and for the researcher herself. There were a number of videos used in support of the parents' testimonies.

The use of a number of artifacts, such as photos of the build, a short clip of play, etc., is were also used to support of lexical uptake and narrative structure, which is common in Philippine studies on media-supported language and in LSP/LEGO research. [researchgate.net], [files.eric.ed.gov]

The data gathering procedure used in this research was a mixed method of recorded observation of language development through taking videos and conducting parent interviews.

To further enhance the reliability of this research, episodes can be coded in terms of new tokens, new types, multiword expressions, pragmatic use, and scaffolding, which are common in play-based language studies.

The data treatment procedure used in this research was through lexical categorization of observations and analysis of parents' testimonies to identify certain key features of language use.

The analysis procedure used in this research is similar to those in other LEGO language studies, as well as in other Philippine studies on bilingual language, which include descriptive vocabulary in storytelling, build process, etc. [eric.ed.gov], [revped.ise.ro], [nmssc.edu.ph]

The participant will be referred to as Participant A in this research, and consent will be obtained from the parents of the child, while at the same time ensuring the anonymity of the child.

RESULTS AND DISCUSSION

This chapter presents the qualitative findings gathered from the observation of Participant A, a [age]-year-old child observed over a period of [duration] in the context of home-based LEGO play, and discusses these findings in direct relation to the study's objectives concerning language development. Data were gathered through naturalistic observation and caregiver reporting, focusing on two primary areas: lexical acquisition and expressive language skills. The discussion that follows is grounded strictly in the observations and reports collected and is interpreted in light of relevant theoretical frameworks, including Lander's Gamification Theory and Social Interaction Theory, as well as supporting literature on construction play, media exposure, and child language development.

Lexical acquisition

Within the home setting, Participant A engages with LEGO almost daily, owing to the ready availability of the materials in his play area, though his engagement is intermittent throughout the day as he alternates LEGO play with other activities such as homework, playing the drums, and learning to bike. He also watches YouTube channels dedicated to LEGO building, including tdbricks, Brick Science, Half Asleep Chris, and Ethan the Artisan, for twenty to thirty minutes daily. Through this combination of hands-on play and video exposure, Participant A has developed the ability to identify and use terms specific to LEGO construction, such as snot pieces, tiles, plates, jumper plates, brackets, and 2x2 or 2x4 bricks.

This pattern is consistent with evidence indicating that construction play affords opportunities for object label mapping and spatial language, including terms such as overlap, interlock, and bracket, which form part of the descriptive lexicon that develops during storytelling supported by LEGO play (revped.ise.ro; eric.ed.gov). The vocabulary that Participant A has acquired and now uses spans several categories. Among free or fixed phrases, he uses expressions such as free build, sideways building technique, saran wrap, and denim jacket. Among exclamations, he uses phrases such as very sus, dude, oh man, and that's crazy, bro. His adjectival vocabulary includes words such as crazy, creepy, illegal, waterproof, and toxic, while his verbal structures include terms such as interlocking, alternate, and overlap.

The lexical development observed in Participant A appears to be substantially shaped by his consistent engagement in LEGO play and his daily exposure to YouTube content. His demonstrated ability to recognize and use specific terms such as snot pieces, jumper plates, and 2x2 bricks reflects a genuine expansion of his vocabulary rather than rote repetition. This pattern is consistent with Lander's Gamification Theory, which emphasizes the role of motivation and progression in the learning process; the gamified structure of Participant A's play, characterized by continual new challenges and the expansion of his knowledge base, appears to motivate his acquisition and use of new words.

With respect to his exposure to YouTube videos, a meta-analytic study indicates that the quality of video content and the presence of co-viewing are significant factors in language outcomes, with the analysis revealing small positive correlations between educational programming, the quantity of video content consumed, and vocabulary and language outcomes more broadly. In the case of Participant A, the consistent engagement of his caregiver in

discussing the LEGO builds shown in the videos, whether during or after viewing, appears to function as an important mediating factor supporting his vocabulary development. This finding is echoed in Philippine studies, which similarly show that YouTube tutorials and educational programming can improve components of English proficiency and vocabulary use when supplemented by teacher or parent guidance strategies, a pattern consistent with the mediation strategies observed within Participant A's home environment (jamanetwork.com; academic.oup.com; ejournals.ph).

Expressive language skills

Participant A demonstrates the ability to narrate in detail how he constructed a given LEGO piece, specifying the individual components used, the shape produced, and the number of stud pieces incorporated into the build, and he is also able to explain how the finished construction functions. At times, he role-plays scenarios depicting how his LEGO constructions would operate in real life. His original creations include Joyjoy 1 and Joyjoy 2, miniature representations of his pet hamsters that had passed away, as well as a drone, a drum set, a cactus, a stove, and an iPhone. On one occasion, he imitated the explanatory style of YouTubers in describing how he built a particular piece, referring to certain unconventional attachment methods as illegal building techniques, after which he playfully hid, expressing mock concern that the police might apprehend him for using such techniques. Beyond constructions of ordinary objects, Participant A has also produced minifigures representing people he knows, such as his father, and on another occasion constructed a replacement piece for an incomplete chess set.

Although LEGO play is predominantly independent, Participant A's mother periodically engages him in the activity as a means of encouraging him to speak in English, using the play session simultaneously as an assessment and teaching opportunity, with caregivers at times addressing him in English during these interactions. His improvement in forming sentences and in using prepositions correctly is attributed in part to his exposure to YouTube videos. Functionally, Participant A is able to request playtime from his primary caregivers, to ask for help when constructing a piece or locating a specific LEGO component when frustrated that his intended outcome has not been achieved, and to instruct his playmates on which LEGO piece would be most appropriate for a particular construction, drawing on his established knowledge of individual piece types.

The expressive language development demonstrated by Participant A is evident primarily through his social interactions, particularly with his caregivers, and through his exposure to instructional videos. His capacity to explain his LEGO creations in detail reflects both his growing creativity and his expanding language comprehension, a pattern consistent with Social Interaction Theory, which holds that social interaction is a central mechanism of language development. His capacity to communicate his needs, request assistance, and direct his playmates during play further evidences his growing language capacity as it is exercised through social interaction, reinforcing the applicability of Social Interaction Theory to these observations.

These findings are consistent with studies examining the effects of LEGO play on the oral fluency, descriptive language, and discourse organization of young learners during storytelling activities involving LEGO bricks, in which the building-and-telling process externalizes the child's thinking and enables the use of complex sentences supported by temporal markers and causal connectors. Within the Philippine context, a bilingual setting, studies indicate that media exposure is closely related to patterns of family interaction; although a child may acquire vocabulary through media exposure alone, caregiver interaction remains essential in supporting fuller language development. Additional studies examining the use of

LEGO in therapeutic and educational contexts report improvements in social communication and collaborative language use, a pattern reflected in this study through Participant A's demonstrated ability to direct his playmates during shared play activities (revped.ise.ro; eric.ed.gov; nmssc.edu.ph; link.springer.com).

Taken together, the findings from both areas of observation indicate that Participant A's language development is being actively shaped by the convergence of independent construction play, structured video exposure, and caregiver-mediated interaction. His lexical gains, evident in his precise use of LEGO-specific terminology and his broader vocabulary across phrases, exclamations, adjectives, and verbal structures, together with his expressive gains, evident in his detailed narration, role-play, and directive communication with playmates, jointly support the study's premise that construction-based play, when embedded in a socially interactive home environment, functions as a meaningful vehicle for both vocabulary acquisition and expressive language growth. These findings contribute to the broader literature on media-supported and play-based language development by illustrating, through a single case, how gamified engagement and caregiver mediation can jointly reinforce lexical and expressive competencies in a bilingual home setting. The next chapter builds on these findings by presenting a summary of the observations, conclusions regarding the role of construction play and media co-engagement in early language development, and recommendations for caregivers and educators seeking to replicate or extend these supportive practices.

CONCLUSION

Participant A's lexical development appears to be significantly supported by his consistent engagement with LEGO play and his exposure to YouTube videos. The game like nature of his LEGO play, which involves encountering new challenges and building upon existing knowledge, motivates him to develop and use new vocabulary, while his sustained exposure to video content further supports vocabulary growth in a manner that is both interactive and rewarding. Beyond lexical growth, his expressive language development is likewise significant and appears to stem largely from social interactions, particularly with his caregivers, as well as from his exposure to media. His ability to elaborate on his LEGO creations through the use of specific terms such as "illegal building techniques," together with his capacity to construct original stories, clearly demonstrates his growing creativity and his increasingly sophisticated use of language in context. Similarly, his ability to communicate his needs and provide directions during play reflects the functional dimension of his language development, an outcome that can likewise be traced to meaningful social interaction. Consistent with the literature reviewed, the most substantial benefits appear to emerge when LEGO play is both consistent and socially supported, when video exposure is likewise consistent while focusing on high quality, age-appropriate content delivered through co-viewing, and when caregivers actively engage children through explanations, comparisons, and the use of why and how questions during and after play (jamanetwork.com; academic.oup.com).

Building on these findings, several directions for future research may be pursued. Subsequent studies could examine the long-term impact of play activities such as LEGO construction on the development of linguistic and cognitive abilities, potentially within different educational contexts, in order to determine whether the benefits observed here extend across settings and over time. Further investigation could also address the impact of varied multimedia materials on language acquisition across different age groups, while additional research might usefully explore the role that caregivers and educators play in shaping the play

environments that support language development. With respect to practice and policy within the Philippine setting, it is recommended that LEGO storytelling activities be incorporated into Kindergarten through Grade 2 English and Mother Tongue-Based Multilingual Education lessons as a means of eliciting descriptive vocabulary and prepositional language, and that co-viewing of LEGO related YouTube videos likewise be integrated into these lessons. It is further recommended that documentation of bilingual talk occurring during play be used to inform bridging strategies within Mother Tongue-Based Multilingual Education, a recommendation that finds support in local research on vocabulary acquisition through games as well as in guidance from the American Academy of Pediatrics regarding media quality and mediation (apjaet.com; feu.edu.ph; publications.aap.org).

Notwithstanding these findings and recommendations, several limitations of the present research warrant acknowledgment. First, the study relied on the observation of a single child, meaning that its findings cannot be generalized to children more broadly; while the depth of information gathered from this single case is considerable, the results are best regarded as illustrative rather than representative. Second, the period of observation was relatively short, and since language acquisition is inherently a gradual process, it remains uncertain whether the patterns identified here would be sustained over a longer duration; future studies would therefore benefit from extending the observation period to capture developmental trends more fully. Third, the study did not incorporate a comparison group, as Participant A was not evaluated against children who engaged less frequently with LEGO play or who had more limited exposure to related video content, leaving it unclear whether LEGO play alone was responsible for the language gains observed or whether other factors contributed as well.

REFERENCES

- Cojocnean, D. (2019). Developing young learners' oral skills through storytelling with LEGO. *Revista de Pedagogie*, LXVII(1), 105–121. https://revped.ise.ro/wp-content/uploads/2019/08/2019_1_107-123-Cojocnean.pdf
- Cvijanović, N., & Mojić, D. (2018). LEGO material in early childhood and preschool education. *Croatian Journal of Education*, 20(Special issue 1), 25–45. <https://hrcak.srce.hr/200224>
- Eimer, T., Aleksić, G., & Zhang, Q. (2020). The role of LEGO in numeracy development: A case analysis. In S. Xu & G. Marsico (Eds.), *Social ecology of a Chinese kindergarten* (pp. 93–109). Springer. https://link.springer.com/content/pdf/10.1007/978-3-030-59735-1_8.pdf
- Jing, M., Ye, T., Kirkorian, H. L., & Mares, M.-L. (2023). Screen media exposure and young children's vocabulary learning and development: A meta-analysis. *Child Development*, 94(5), 1398–1418. <https://academic.oup.com/chidev/article/94/5/1398/8255260>
- Landers, R. N. (2015). Developing a theory of gamified learning. *Simulation & Gaming*, 46(6), 752–768. https://www.researchgate.net/publication/268632276_Developing_a_Theory_of_Gamified_Learning
- Landers, R. N., & Landers, A. K. (2014). An empirical test of the theory of gamified learning. *Simulation & Gaming*, 45(6), 769–785. <https://doi.org/10.1177/1046878114563662>

LeGoff, D. B. (2004). Use of LEGO as a therapeutic medium for improving social competence. *Journal of Autism and Developmental Disorders*, 34(5), 557–571. <https://link.springer.com/article/10.1007/s10803-004-2550-0>

Meletiadou, E. (2023). Transforming multilingual students' learning with LEGO Serious Play. *IAFOR Journal of Education*, 11(1), 143–166. <https://files.eric.ed.gov/fulltext/EJ1393207.pdf>

McDougal, E., et al. (2023). Associations and indirect effects between LEGO construction and mathematics performance. *Child Development*, 94(5), 1381–1397. <https://onlinelibrary.wiley.com/doi/10.1111/cdev.13933>

Ng, R., & Lim, C. (2023). Using LEGO play and storytelling to promote descriptive language. *Childhood Education*, 99(3), 66–73. <https://eric.ed.gov/?id=EJ1389415>

Sundqvist, A., et al. (2021). Digital media and language development at two years of age. *Frontiers in Psychology*, 12, 569920. <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.569920/full>

Whitebread, D., Neale, D., Jensen, H., et al. (2017). The role of play in children's development: A review of the evidence. LEGO Foundation. https://cms.learningthroughplay.com/media/esriqz2x/role-of-play-in-childrens-development-review_web.pdf

Zosh, J. M., Hopkins, E. J., Jensen, H., et al. (2017). Learning through play: A review of the evidence. LEGO Foundation. https://cms.learningthroughplay.com/media/wmtlmbe0/learning-through-play_web.pdf

Futalan, M. C. Z., et al. (2023). A case study of child's English language acquisition. *Journal of Higher Education Research Disciplines*, 8(2). <https://www.nmsc.edu.ph/ojs/index.php/jherd/article/view/202>

Omaga, J. F., & Alieto, E. O. (2019). Teaching literacy through play: Perspectives from Filipino early childhood teachers. <https://files.eric.ed.gov/fulltext/ED598281.pdf>

Remo, A. A. M., & Velasco, C. Q. (2023). Game-based learning strategies and the vocabulary performance of selected Grade Five pupils. *Asia Pacific Journal of Advanced Education and Technology*. <https://apjaet.com/wp-content/uploads/2023/01/Game-Based-Learning-Strategies-and-the-Vocabulary-Performance-of-Selected-Grade-Five-Pupils.pdf>

Samortin, M. (2023). Effects of gamified learning activities in enhancing junior high school students' English vocabulary retention. *Asian Journal on Perspectives in Education*. <https://www.feu.edu.ph/asian-journal-on-perspectives-in-education/ajpe-volume-1-issue-1/effects-of-gamified-learning-activities-in-enhancing-junior-high-school-students-english-vocabulary-retention/>

Sia, S. M. P. (2025). Play-based multi-sensory materials for cognitive and language development. UPOU Repository. <https://repository.upou.edu.ph/items/64d48ec7-ecf3-40c8-9547-a2076f5b10a5/full>

Villaganas, R. D., et al. (2025). From screen time to child-led story time: YouTube educational videos and early language development. ResearchGate. <https://www.researchgate.net/publication/From-Screen-Time-to-Child-Led-Story-Time-A-Case-Study>

Alparero, J. B., et al. (2025). Early bilingualism in a Filipino–Cebuano context: A single-case study. *International Journal of Academic Multidisciplinary Research*, 9(8). <http://ijeais.org/wp-content/uploads/2025/8/IJAMR250840.pdf>

Monje, J. D., Orbeta, A. C., et al. (2019). Mother tongue-based multilingual education implementation evaluation. Philippine Institute for Development Studies. <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1906.pdf>

Monje, J. D., Orbeta, A. C., et al. (2021). Mother tongue-based multilingual education implementation evaluation. Philippine Institute for Development Studies. <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsrp2102.pdf>

American Academy of Pediatrics. (2016). Media and young minds. *Pediatrics*, 138(5), e20162591. <https://publications.aap.org/pediatrics/article/138/5/e20162591/60503/Media-and-Young-Minds>

Gowenlock, A. E., Norbury, C., & Rodd, J. M. (2024). Exposure to language in video: A scoping review. *Journal of Cognition*, 7(1), 57. <https://journalofcognition.org/articles/10.5334/joc.385>

The LEGO Group. (2025, March). The LEGO Group delivers record results in 2024. <https://www.lego.com/en-us/aboutus/news/2025/march/lego-group-delivers-record-results-in-2024>

The LEGO Group. (2026, March). The LEGO Group delivers record results in 2025, driven by strong brand and innovative portfolio. <https://www.lego.com/en-us/aboutus/news/2026/march/the-lego-group-delivers-record-results-in-2025-driven-by-strong-brand-and-innovative-portfolio>

The LEGO Group. (n.d.). The LEGO Group history. <https://www.lego.com/en-us/aboutus/lego-group/the-lego-group-history>