

Gamification in Early Childhood Education: Designing Assamese Phonics and Vocabulary Games

Malikul Islam

Research Scholar, Department of Assamese, Nagaon University

Abstract:

The early years of childhood are the foundation for language development. In these years children learn to recognise sounds, understand the meaning of words, speak their needs and participate in social interaction. The language learning of the children in Assam can be made better if the learning material is in their linguistic and cultural environment. Assamese is the main language of Assam with a unique sound system, writing script, vocabulary and cultural vocabulary that merit attention in early childhood classrooms. The research journal is on use of Gamification in early childhood education with reference to development of Assamese phonics and vocabulary games. Gamification is the use of game elements such as points, levels, challenges, rewards, storytelling, feedback and collaboration in non-game learning contexts. Studies suggest gamified learning can increase motivation, engagement, participation and retention in young children if activities are developmentally appropriate and tightly aligned with learning goals. The journal suggests a set of low cost, culturally responsive, play-based games for Assamese speaking children around the age of four to six years. They include sound identification games, letter and sound matching games, syllable blending games, vocabulary picture games, memory cards, storytelling quests and classroom scavenger hunts. The study also includes the principles of game design, teacher facilitation, assessment, inclusion and ethical concerns and responsible use of digital technology. It suggest that gamification shouldn't replace human interaction, singing, stories, conversation or free play. Instead, it should provide meaningful repetition and joyful opportunities for children to listen, speak, recognition of sounds and use of Assamese vocabulary in context.

Keywords: gamification, early childhood education, Assamese, phonics, language learning, play-based learning, multilingual education

Introduction

The best language learning for children happens when children are exposed to language thru meaningful interaction. Young students develop sounds and words thru listening to adults, playing with other children, observing objects, listening to stories, singing songs and expressing themselves. They may not be interested in formal instruction that depends solely on memorisation. Games can, in contrast, transform the drudgery of practice into a pleasurable

*Corresponding Author Email: malikul553@gmail.com

Published: 31 August 2026

DOI: <https://doi.org/10.70558/IJMRS.2026.v2.i3.301173>

Copyright © 2026 The Author(s). This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0).

and meaningful activity. Gamification is relevant for early childhood education because children learn naturally by playing. A gamified activity could be as simple as a ‘mission,’ a character, some challenges, instant feedback, and a sense of accomplishment. It doesn't necessarily mean you have a mobile phone or computer. A teacher can gamify a learning environment with picture cards, a story map, tokens, movement or songs.

Current research suggests that gamification can improve motivation, attention, participation, language development and social cooperation of young children. Research on gamified phonological activities has also shown improvements in children's attention, engagement, syllable awareness and understanding of literacy tasks. However, gamification is not effective by itself. The success of this depends on the quality of the activity, the level of development of the children, the duration of the intervention and the match between the game mechanics and the learning objectives.

The current journal deals with Assamese phonetics and vocabulary as language materials for young children should be representative of their home language and local environment. Assamese children will find words related to Brahmaputra, paddy fields, rain, boats, birds, animals, festivals, food, family and life in the village or city. Such words can make the learning more relevant and help children to connect classroom language to lived experience.

Assamese Language Context

The Assamese language uses the Assamese–Bengali script, which has certain orthographic and phonological characteristics that should be carefully presented in early education. Children have to learn gradually to associate spoken sounds with written symbols. This process should begin with listening and speaking, rather than immediately pressuring to write. Hence, phonics instructions for young Assamese learners could involve sound discrimination, rhyme, syllable awareness, initial sound recognition, oral blending and at a later stage, association of letter-sound.

The main trouble is that the link between written letters and spoken sounds isn't always perfectly simple. Some letters may represent related sounds in different situations and pronunciation can differ by region and speech community. That's why early games should focus on children's oral language and phonological awareness. Teachers should introduce written symbols gradually and use familiar words whose pronunciation is clear and consistent.

Vocabulary teaching should also go beyond isolated word lists. Children learn words more fully when they hear them in sentences, stories, songs, conversations, and actions. For example, a lesson on the word “নাও” can involve a picture of a boat, a movement activity representing rowing, a short sentence, and a story about crossing a river. The child does not merely memorize a label; the child links sound, image, action, meaning, and social use.

Assamese vocabulary games should include both common everyday words and culturally meaningful terms. Possible categories include:

Family and people: আই, দেউতা, ককা, আইতা, বন্ধু.

Animals and birds: ছাগলী, কুকুৰ, মেকুৰী, চৰাই.

Nature: নদী, বৰষুণ, গছ, ফুল, মাটি.

Food: ভাত, গাখীৰ, কল, মাছ.

Objects: কিতাপ, বল, কাপোৰ, ছাতি.

Actions: খোৱা, দৌৰা, বহা, শোৱা, হাঁহা.

Colours : ৰঙা, নীলা, সেউজীয়া,

The exact vocabulary should be adapted to the children's locality, home language, and developmental level.

Conceptual Foundation

Gamification is different from game-based learning, although the two approaches overlap. Game-based learning employs a full game as the core learning activity. Gamification adds selected game features to an existing learning task. A teacher may gamify a phonics lesson by creating a treasure hunt in which children collect picture tokens after identifying beginning sounds. The lesson remains a phonics lesson, but the game structure increases participation and provides a reason for repeated practice. Several principles are especially important for early childhood.

Motivation

Children are more likely to participate when activities are enjoyable, achievable, and meaningful. Points or rewards may attract initial interest, but intrinsic motivation develops when children feel competent, curious, socially connected, and able to make choices. A child should play because the activity is interesting, not only because an adult promises a prize.

Feedback

Young children need immediate and gentle feedback. A teacher might say, "Listen again. Is it /ম/ or /ব/?" rather than simply declaring an answer wrong. Feedback can be delivered through sound effects, gestures, pictures, peer responses, or a character's reaction. It should guide the child toward the answer without producing embarrassment.

Challenge

A good activity is neither too easy nor too difficult. The game doesn't have any educational value if every kid wins without thinking. If tasks are too difficult, children may become frustrated. Games should therefore have levels: listening first, then recognizing a sound, then matching it to a symbol, and finally using the word in speech.

Repetition

Phonics and vocabulary require repeated exposure. Gamification makes repetition less monotonous by changing the context. A child may hear the same word in a song, identify it in a picture game, find it in a classroom hunt, and use it in a story.

Social interaction

Language is social. Pair and group games allow children to hear multiple voices, negotiate rules, take turns, and use words for real purposes. Competition should be limited and cooperative missions should be encouraged.

Research Objectives

This research journal proposes the following objectives:

- To examine how gamification can support Assamese phonological awareness and vocabulary development.
- To design culturally relevant phonics and vocabulary games for children aged four to six years.
- To identify suitable game mechanics for early childhood classrooms.
- To develop a framework for teacher-led assessment.
- To discuss the opportunities and limitations of digital and non-digital Assamese language games.

The central research questions are:

- ❖ How can gamification make Assamese phonics practice more engaging?
- ❖ Which game activities best support sound recognition, syllable awareness, and vocabulary use?
- ❖ How can teachers ensure that games remain educational, inclusive, and developmentally appropriate?
- ❖ What challenges may arise when Assamese learning games are developed for diverse classrooms?

Methodology Proposed

The design research approach in classroom would be apt for developing and evaluation of Assamese language games. The study can be conducted in selected early childhood centers in Guwahati and nearby areas. Sample may be children of the age group of four to six years from Assamese medium as well as bilingual and multi-lingual background. The aim wouldn't be to unfairly compare children, but to see how different learners respond to the games. The project could be organised in four stages.

Needs assessment

Teachers, parents and children could be consulted to find out familiar Assamese words, common difficulties in pronunciation, preferred stories and available classroom resources. Researchers could observe current language use, record children's participation, attention and confidence.

Game Design

Games would be designed with clear learning objectives. Each activity would describe the target sound, vocabulary set, materials needed, instructions, estimated time and possible adaptations. Teachers and language experts should review the content for pronunciation, spelling, cultural accuracy and age-appropriateness.

Initial implementation

They could be played over six or eight weeks, with two or three short sessions weekly. Each session should be about 10 to 15 minutes, followed by conversation, drawing, storytelling or free play. Young students tend to react better to short interventions, as long or too complicated systems can lower engagement.(Lathifah et al.)

Evaluation

Assessment may consist of pre- and post-activity observations, picture naming, sound discrimination tasks, syllable clapping, and teacher interviews. Researchers could observe whether children recognise a target sound, recognise a word, understand its meaning, pronounce it distinctly, and use it in a sentence. Observation should also include participation, turn taking, collaboration, confidence and enjoyment.

Assamese Phonics Games Sound Detective

In Sound Detective, the teacher presents a target sound, such as the initial sound in “মাছ”. The teacher shows some pictures and says names of them. Kids listen and pick out the pictures that begin with the target sound. They may show a card with a magnifying glass, touch the right picture or go to a corner of the room that is marked. The activity starts orally. Children hear the words before they see the symbols in print. When they can discriminate the sound the teacher introduces the letter that goes with it. The game can be played by one, two, or more players. Supports listening, recognition of initial sounds, vocabulary and attention.

Garden of Letter-Pictures.

The classroom is a garden of paper plants. Each flower has a letter and picture cards are used for common words. Children “plant” a picture next to the letter that starts the sound. For example, a picture of a fish and the correct initial letter can be matched.

The game should not imply that each letter always makes only one sound. The teacher can explain pronunciation thru examples and by modelling the sound clearly. The primary goal is not to require perfect mastery, but rather to create a developing link between speech and print.

Syllable Drums

Awareness of rhythm can be obtained by splitting Assamese words into spoken parts. Syllable Drum: The teacher says a word and the children tap a drum, clap, or stamp once for each syllable. The child can then take that number of tokens and place them on a mat. This game develops awareness of syllables, memory, rhythm and pronunciation. It can be linked to local songs and movement. The teacher should use words of varying length, but begin with familiar

two syllable words. Studies on gamified syllabic literacy indicate that well-designed activities can enhance children's engagement and awareness of syllable structures.(Jogo et al.)

Sound Train

Sound rule of children in arranging picture cards in a train .One train can carry words beginning with a certain sound, and another train can carry words ending with a certain sound. The teacher shows the cards one by one and the children talk about where each card belongs. The format of the cooperative is important. Children can help each other and the teacher can ask them to explain their choices. The game promotes oral reasoning, listening, classification, and vocabulary retrieval.

Circle of Rhyme

The teacher presents a word, song or picture while everyone sits in a circle. The child suggests a word that sounds the same or is involved in a rhyme. Because exact rhyme may not be easy for young children or may vary in ordinary Assamese speech, the activity can initially focus on noticing similar sound patterns rather than on producing perfect rhymes. Songs and rhythmic chants are particularly useful as they make sound patterns memorable. The teacher might use nonsense words as a way to play with sounds provided children understand that these are not regular vocabulary words but simply made-up sounds. (Lathifah et al.)

Assamese Language Games

Memory of an Image

Picture Memory uses paired cards. One card shows an image and the other the Assamese word, or for younger children, a second identical picture. The children turn two cards at a time and say the name of the object when they find a match. The cards should have images, not words for the beginner learner. Older or advanced kids can match a picture to the Assamese word. The teacher should prompt the children to use a sentence like 'এইটো বল' or any other appropriate sentence rather than naming the object only once.

Vocabulary Scavenger Hunt

The teacher conceals picture cards around the classroom. Kids are given a story-based mission where a character has lost some objects and needs help finding them. Each child takes one card, brings it to the group, names it and places it in the right category. Categories could be animals, foods, clothing, nature or school objects. Activity involves movement, word recognition, memory and classification. It also allows children of different abilities to contribute. One child might find the card, another child might name the card and a third child might put the card into a category.

Assamese Story Hunt

A short story is made up of a number of scenes. Children get a game board and move a character forward as they complete language tasks. For example, they might identify an animal, repeat a phrase, answer a question, or select a picture related to the story. The story should feel culturally familiar without being stereotypical. A story, about a river, rain, market, school or festival can

give a meaningful context to vocabulary. Children might be asked to alter the story, to devise dialogue or show an alternative ending. This is how vocabulary learning becomes practice in expressive language.

Market Game

The classroom is set up as a mini-market. Children act as shopkeeper and customer. Objects are labelled in Assamese and children use simple phrases to request, count, describe or exchange items. The Market Game builds functional vocabulary and social language. This can include words about food, colour, quantity and politeness. The emphasis should be on communication not on correct commercial calculation. The teacher models the phrases and gradually fades support.

Word Basket

The teacher puts picture cards in a basket. A child draws a card and does one of a number of things with it. They can name it, describe it, act it out, say what colour it is or use it in a sentence. The other children do the guessing. This game is great for verbs and descriptive words. For example playing out দৌৰা or হাঁহ can associate meaning with body movement. Children who are shy may start off with gestures before they speak.

Mechanics appropriate are:

- ❖ Story missions that give kids a reason to do things
- ❖ Tokens that correspond to discovered sounds or words.
- ❖ Levels from listening to speaking to print.
- ❖ Cooperative goals where the whole class finishes the language journey.
- ❖ Cards for children to choose a picture, song or challenge.
- ❖ Instant feedback with gestures, songs or words of encouragement.
- ❖ Word card collecting systems. Children collect the cards.
- ❖ Brief challenges that can be repeated without pressure.

It is usually not recommended to put young children on leaderboards with competition. They might refuse children who are still learning Assamese, children who have speech or hearing differences, or children who need more time. Instead, you get cooperative rewards such as completing a class story or contributing to a shared picture wall. The visual design should be simple. Children can be overwhelmed by too many sounds, animations, colours or instructions. Each game should have one main goal. "If you're using technology, sound quality matters. Poor audio quality can leave children confused about pronunciation, especially if they are learning to distinguish similar sounds.

The Role of the Teacher

The teacher as a main enabler of a gamified language environment. No game can substitute for

responsive conversation. Teachers should listen to children's speech, model pronunciation, ask questions, extend utterances and provide opportunities for children to communicate with each other. The teacher should present the vocabulary or sound using a story, object, song or conversation before the game. The teacher should watch children's strategies and give clues rather than provide answers immediately during the game. After the game, the teacher should review the words in a new context. Teachers need to change games to individual differences, too. If a child speaks another home language, they might need visual support or assistance from peers. For example, a child who has difficulty hearing may benefit from visual symbols, visible mouth movements, or tactile cues. A person with limited mobility could be a card selector, storyteller or game leader.

The teacher should take brief notes of observations, e.g.

- ❖ Recognition of target sound separately.
- ❖ Requires a verbal or visual cue.
- ❖ Correctly identify the picture.
- ❖ Understands the word but cannot say it yet.
- ❖ Puts the word in a sentence.

Assessment Matrix

Assessment in early childhood should be ongoing, playful, and low pressure. A teacher can use a simple four-level rubric:

Skill	Emerging	Developing	Consistent
Sound discrimination	Notices some differences with support	Identifies familiar target sounds	Identifies target sounds independently
Letter-sound association	Recognizes selected symbols	Matches some symbols and sounds	Matches familiar symbols and sounds consistently
Syllable awareness	Claps irregularly	Counts syllables in familiar words	Counts and compares syllables accurately
Vocabulary recognition	Understands a few words	Recognizes familiar words in pictures	Recognizes words across contexts
Vocabulary use	Repeats isolated words	Uses words in short phrases	Uses words spontaneously in sentences
Participation	Watches or needs encouragement	Participates with reminders	Participates actively and cooperatively

Digital Vs Non-Digital Methods

Digital Assamese games can give recorded pronunciation, animated feedback, interactive stories and personalised practice. They might be useful where devices, electricity and adult supervision are available. Digital gamification has been shown to benefit children's skills in terms of cognition, language, motivation and cooperation.

But technology should be used with care. Too much screen time can mean less physical activity, less face-to-face interaction and less imaginative play. Young children also need adult mediation to interpret instructions and to link the actions of the game with real language. A digital game should therefore be short, socially shared and followed by oral interaction or physical activity.(Mukarromah and Agustina).

Most classic games are more practical and inclusive. Picture cards, puppets, songs, objects, paper boards, story maps and movement activities require little resources. They work in classrooms with bad connectivity and teachers can change them on the fly. A combination of audio/digital and physical local content could be a suitable model for early childhood education in Assamese.

Culturally Responsive

Cultural responsiveness is needed in Assamese language game development. Games should use pictures, names, objects, foods, landscapes and situations that children know. Classrooms could have examples from both rural and urban Assam so that no particular experience is taken as universally true. Also the pronunciation should reflect regional variation. Assamese is spoken in communities with different accents and multilingual influences. Early education should not be about shaming children for the language of their home, but about increasing their ability to communicate in the language of instruction. Teachers may identify differences but model the pronunciation that is used in their teaching context.

Local stories need to be selected carefully. Traditional stories can be good for vocabulary and listening, but need to be altered to remove fear, violence or rigid gender roles which might not be appropriate for young children. Encourage children to retell stories in their own words, and to draw in experiences from their families.

Ethical issues

Gamifying with young children calls for careful consideration of consent, privacy, safety, and mental health. Parents/guardians will be notified of all research activities, recordings, photographs or digital data collection. Children should be able to opt out of participating and not be punished for it. The games should not make children feel like they are failing or publicly compare their abilities. Rewards should not be tied to costly gifts. Teachers should not use food as a regular reward. Food can create unhealthy associations and exclude children with allergies/dietary restrictions.

Results should be presented in a manner that protects the identities of children. Digital applications should limit data collection and avoid advertising, unnecessary tracking or manipulative reward systems. The child's learning and well-being must be the priority, not

engagement metrics.

Expected results

A well designed Assamese gamification program may result in several outcomes. Children may become more sensitive to the sounds of speech, better able to recognise familiar words and more confident in speaking. Games can help children remember vocabulary and use new words in context thru repeated exposure. The program may also enhance classroom relationships. Children playing cooperative games need to listen, wait, help peers, and share materials. Even if not directly measured by phonics tests, these social behaviours are important outcomes of early childhood education. Previous studies of gamification in preschool have indicated positive effects on engagement, motivation, learning, communication, creativity and social interaction.(Dhanya et al.)

Results, however, may vary. Some children might enjoy movement games but not table games. Some may like stories or visual tasks. Results will vary depending on language background, hearing and developmental differences, teacher preparation, family involvement, and access to resources. Gamification should thus be viewed as a flexible pedagogical method, not as a guarantyd solution.

Restrictions and Limitations

There are several limitations with this proposed research.

First, the pronunciation, vocabulary, and classroom language of Assamese educational games are difficult to standardise due to the variation across communities.

Second, increased participation may not always translate into sustained gains in phonics or vocabulary. The child may enjoy a game without retaining the learning targeted.

Third, teacher enthusiasm can influence the results. A good and supportive teacher is able to make almost any activity more effective, and a badly explained game may fail despite the great design.

Fourth, digital games can breed inequity if some children have regular access to devices and others don't.

Finally, research with young children calls for developmentally sensitive assessment. The short-term gains may be more about familiarity with the game than lasting language development. Follow-up assessments and comparisons of gamified activities with other play-based approaches should be included in future studies, rather than considering gamification as the only effective approach.

Conclusion

Gamification is a promising approach for Assamese phonics and vocabulary education for early childhood. Its greatest value is not in points, badges or screens but in providing structured opportunities for children to listen, speak, move, remember, collaborate and use language meaningfully. Assamese games can be particularly powerful when they engage with familiar objects, local stories, songs, landscapes and everyday experiences. Clear language goals are

the starting point of good game design. A game about sound should really teach awareness of sound. A vocabulary game should teach children to understand and use words. Activities should be short, inclusive, repeatable, culturally responsive, and supported by an attentive teacher. Picture-based tasks, storytelling, rhythm and movement, cooperative missions are probably more suitable for young children than complex competitive systems.

The development of Assamese phonics and vocabulary games is therefore an educational and cultural project. It can support early literacy, while affirming Assamese as a language of knowledge, imagination, play and identity. Future research should involve teachers, parents, language experts, designers and children in the development process. If carefully planned, gamification can serve as a bridge between traditional play and innovative language education, rather than a substitute for either.

Bibliography

- Dhanya, N., et al. "Integrating Gamification into Preschool Concepts: A Developmental Approach." *Indian Journal of Educational Technology*, vol. 7, no. 2, 2025.
- Jogo, Danielle Akemi, et al. "Investigating How Gamified Syllabic Literacy Impacts Learning, Flow and Inappropriate Behaviors: A Single-Subject Study Design." *International Journal of Child-Computer Interaction*, vol. 33, Sep. 2022.
- Lathifah, Inayatul, et al. "Gamification in Early Childhood Education: A Meta-Analysis of Learning Outcomes and Engagement." 2025, pp. 236–44, <https://doi.org/10.5220/0014069000004935>.
- Mukarromah, Tsali Tsatul, and Putri Agustina. "Gamifikasi Berbasis Aplikasi Dan Pembelajaran Anak Usia Dini." *Edukids: Jurnal Pertumbuhan, Perkembangan, Dan Pendidikan Anak Usia Dini*, vol. 18, no. 1, May 2021, pp. 18–27, <https://doi.org/10.17509/edukids.v18i1.33338>.