Game-Based Technologies as a Tool for Developing Communicative Competence in Primary School Students within a Student-Centered Educational Context

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ABSTRACT

Aim. The aim of the study is to determine the pedagogical potential of game-based technologies for developing communicative competence in primary school students, taking into account their individual psychological and sensory characteristics.

Methods. The research methods include theoretical analysis (of scientific sources on communicative competence, game-based learning, developmental psychology), comparative review (of models by Dell Hymes, Michael Canale & Merrill Swain, Michael Halliday, Claire Kramsch), and empirical generalisation (of current international and Ukrainian practices in game-based learning). A typology of educational games was compiled (role-playing, dramatised, didactic), followed by the development of a model for adapting games to children's individual characteristics (temperament, motivation, communication level, perception style). Specific examples of games and digital platforms (e.g., Wordwall, Toontastic, Classdojo) were analysed.

Results. It was revealed that each type of game contributes to the development of certain components of communicative competence – linguistic, strategic, sociocultural, emotional. The adaptation model allows matching game formats to the Student's personality profile, thereby increasing engagement, confidence, and social inclusion. Multimodal games enhance interaction through verbal and non-verbal means, while digital tools ensure differentiated learning paths.

Conclusions. Game-based technologies serve as a powerful tool for developing communicative competence in primary education. Their correct adaptation provides an emotionally safe, inclusive, and interactive environment that supports both socialisation and language development in Students.

Keywords: communicative competence, primary school students, game-based learning, individualisation, role-playing games, multimodal learning, digital education.

Introduction

The development of communicative competence in primary school students is one of the key priorities of contemporary elementary education, as this stage marks a critical period for the formation of language, social skills, and interpersonal interaction. Successful interpersonal communication not only influences academic performance but also determines a child's level of social adaptation and psychological well-being. Consequently, there is a growing demand for effective pedagogical tools that foster active student engagement in speech activities, promote emotional intelligence, and build the capacity for constructive dialogue.

Among the most effective of such tools are game-based technologies, which combine educational value with emotional appeal and adaptability to individual learning needs. These methods provide a natural setting for children to engage in communication, encourage verbal improvisation, and stimulate interaction and creativity. Through play, educators can not only deliver language content but also organise a space for its meaningful application in a socially interactive context. As Roman Králik (2023) notes, both family and school play a decisive role in shaping the values and communicative patterns of children through structured and meaningful free-time activities, including pedagogically designed play.

Recent reseachs have reinforced the educational potential of various types of games – board, dramatic, and interactive – in developing verbal, emotional, and social components of communicative competence. For instance, Rostyslav Rudenskyi et al. (2024) emphasised the humorous potential of board games for preschoolers, underlining the emotional dimension of play as crucial for speech development.

Complementary findings by Andrea Lesková and Miri Johanna (2024), who critically examined value-oriented education of modern youth in the context of digitalisation and social transformation, together with those of Marlon D. Sipe and Christine Faith Avila (2024), who analysed intercultural communication in Asian English classrooms, point to the effectiveness of role-play, simulation, and digital games in shaping not only linguistic but also cultural communicative strategies. Their research confirms that gamified classroom tasks significantly increase students' readiness for intercultural dialogue and foster a deeper understanding of social and contextual language use. These insights are consistent with James Paul Gee's (2007) concept of «affinity spaces», in which collective language practices emerge within shared, interest-based digital or real-life communities. This trend is further supported by the findings of Aida Kairienė and Natalija Mažeikienė (2024), who explored the use of visual dialogue maps; Emilda Roseni and Anita Muho (2024), who investigated the impact of gamified practices on English language proficiency.

Additionally, Usman Durrani, et al. (2022) showed how group-based games like *CrossQuestion* can support gamified flipped classrooms by leveraging the ARCS motivational model, underlining the role of structured game mechanics in sustaining stu-

dent engagement. Similarly, Nisar Ahmed Dahri et al. (2025) emphasised the positive impact of AI-driven gamification on students' engagement and academic outcomes, reinforcing the idea that technology-enhanced game elements can effectively stimulate active participation and self-directed communication practice. The significance of digital social interaction in online settings was further confirmed by Yixuan Zhu et al. (2025), who highlighted how features like *Danmaku* comments foster collaborative and spontaneous language exchange among learners. Moreover, Teng Ma et al. (2025) stress the importance of integrating digital tools with self-determination principles, showing that thoughtful digital content – including interactive and gamified resources – can create supportive contexts for language learning and communicative competence development in diverse educational settings.

Despite the active spread of game methods in pedagogical practice, the mechanism of their adaptation to the individual characteristics of younger schoolchildren, in particular to differences in temperament, level of anxiety, communicative activity and perception style, still remains insufficiently studied. The structure of communicative competence itself, which in modern scientific discourse is considered as a multicomponent and interdisciplinary phenomenon, also needs to be clarified.

Against this backdrop, the present study explores the theoretical and methodological foundations of communicative competence in primary education, critically analyses the pedagogical effectiveness of various game formats, and proposes an adaptive model for game-based instruction that accounts for the developmental and individual differences of young students.

Theoretical Foundations of Communicative Competence

Over the past few decades, the concept of communicative competence has acquired interdisciplinary significance, encompassing not only linguistic but also sociocultural, psychological, and ethical aspects of speech activity. The historical development of this term reflects a shift from a purely functional command of language to the ability to interact effectively across a variety of social and intercultural contexts. As early as the 1970s, Dell Hymes (1972) introduced the notion of «communicative competence» as the knowledge of when, where, how, and with whom it is appropriate to use language, taking into account the norms and conventions of a given speech community.

Subsequently, the theory was expanded by Michael Canale & Merrill Swain (1980), who identified four core components of communicative competence: grammatical, sociolinguistic, discourse, and strategic competence. This framework became foundational for subsequent pedagogical models in foreign language education.

Further developments were contributed by Jan Ate van Ek (1986), who added a fifth component – sociocultural competence – emphasising the importance of cultural con-

text as an integral part of linguistic behaviour. Lyle F. Bachman and Adrian S. Palmer (1996) proposed a multi-layered model that distinguishes between organisational (grammatical and textual) and pragmatic (functional and sociolinguistic) competence, a perspective particularly relevant in the domain of language assessment.

With the evolution of sociolinguistics and cognitive linguistics, the concept of communicative competence has continued to expand, incorporating intercultural sensitivity (Kramsch, 2006; 2010), symbolic interaction, and multimodal communication (Royce, 2002) – dimensions that are especially crucial in a globalised and digitised society.

Thus, communicative competence should be viewed not merely as a set of linguistic skills, but as a dynamic and multifaceted construct that integrates cognitive, emotional, social, and cultural capacities for meaningful interaction in diverse environments. The theoretical evolution of this concept lays a robust foundation for designing modern educational strategies, particularly those that leverage gamified, simulation-based, and role-play methodologies to enhance language learning in primary education. Therefore, we conducted a comparative analysis of the scientific concepts proposed by leading foreign scholars, which allowed us to identify common and distinct components of this competence, their structural interrelations, and the methodological basis. To systematise the results of the analysis, we present a comparative Table A1 in Appendix A.

Recent studies emphasise that both the motivation of teachers and learners, emotional engagement, and the structure of pedagogical practice play a crucial role in shaping effective, student-centered learning environments, especially when implementing game-based technologies to foster communicative competence (Lobotková, 2018; Sirotova & Lobotková, 2018; Tamášová et al, 2024).

It is worth noting that in the current post-pandemic and wartime context, the need for new communication strategies in the educational process is growing, particularly those based on social interaction and gamification. Maryna Vasylyeva-Khalatnykova et al. (2025) emphasise the importance of fostering psychological resilience among teaching staff during wartime, which directly affects the classroom's communicative environment. Similarly, Michal Olah (2025) highlights the significance of an empathetic approach to interactions with elderly individuals, an approach that can be projected into the school environment to develop ethical communication.

Myroslava Anatoliivna Sadova and Galyna Lapshun (2025), in their analysis of the realisation of gifted adolescents' potential, underscore the value of individualised educational practices – among which game-based methods emerge as effective tools. Emilia Oleksakova and Silvia Putekova (2025) point to the importance of procedural precision in professional medical environments, which can be translated into a need for structured learning environments in primary education. Likewise, Hedviga Tkacova et al. (2025) demonstrate that digital tools enhance social participation, including through simulation-based and educational games.

A considerable body of research also focuses on marginalised groups, whose experiences can be modelled within school curricula to cultivate tolerance and social

skills. For instance, Cakarova et al. (2025) explore the role of Centers for Children and Families as key hubs of social protection, knowledge of which can be integrated into role-playing educational scenarios. Similarly, Jana Debnarova et al. (2025) examine the post-cesarean motivation of mothers, emphasising the importance of social support through online learning formats, which aligns with current trends in distance gamification.

Aneela Gul et al. (2025) address the stigmatisation of women with HIV in traditional communities, while Ulfat Nisa et al. (2025) analyse the impact of social media on young adults' cognitive functioning – a factor that may inform the design of educational games. The works of Richard Hasaj (2025), which focus on the notion of the common good and paternalism, and Rivka Rosenberg (2025), which examines the transformation of theories in social work, provide a theoretical basis for rethinking methods of developing communicative competence. Finally, within the field of healthcare system analysis, Boris A. Osmann et al. (2025) reveal structural deficits in prison healthcare – topics that can be translated into educational practice as social case studies for discussions or role-plays designed to foster empathy, argumentation, and communicative flexibility.

Based on the analysis of leading scholarly concepts, we argue that communicative competence is a multifaceted construct encompassing not only a set of linguistic knowledge and skills but also the individual's holistic ability to interact effectively, ethically, and flexibly within diverse sociocultural contexts. Thus, this competence involves not merely the correct use of language tools but also the consideration of context, emotional tone, cultural features, and dialogue strategies.

It is important to note that in contemporary education, communicative competence is recognised as one of the key components of a student's holistic development in primary school. Its formation is considered a priority task, as the ability to communicate effectively, express one's thoughts, listen to others, engage in dialogue, resolve conflicts peacefully, and work collaboratively constitutes a foundation for further successful learning and social integration.

Therefore, we consider it appropriate to include the following components in the structure of communicative competence: *linguistic* (language accuracy); *discursive* (coherence and logical consistency of speech); *sociolinguistic* (appropriateness and adaptability); *strategic* (ability to overcome communicative difficulties); *emotional-psychological* (empathy, self-regulation); *sociocultural* (understanding norms, traditions, roles in communication); *multimodal* (use of nonverbal means and visual resources). Such a comprehensive approach allows for a more complete and up-to-date understanding of communicative competence and ensures that students develop the ability to engage in flexible, meaningful, and ethically grounded communication in contemporary society.

In this regard, there is a growing need to identify and implement effective pedagogical tools that not only facilitate the acquisition of linguistic material but also create conditions for active verbal interaction, development of emotional intelligence, and social skills.

Pedagogical Concepts of Game-Based Learning and Their Impact on Communicative Competence

One tool that organically integrates both educational and developmental potential is *game-based learning (GBL)*. A number of studies confirm the effectiveness of using GBL in the educational process. In particular, it has been found that the implementation of GBL increases student motivation and fosters a positive attitude towards learning (Bourgonjon et al., 2013). Other researchers emphasise that games in educational settings can positively influence academic outcomes, especially in primary. In particular, a meta-analysis by Behnamnia Najmeh et al. (2024) found a significant positive effect of Digital Game-Based Learning (DGBL) on elementary school students' learning outcomes in STEM subjects such as mathematics, language arts, and science. The study included 18 empirical papers published between 2010 and 2020 and found a significant positive effect of DGBL on learning outcomes, especially in mathematics, language arts, and science. Moreover, empirical evidence indicates that students better retain and understand learning material when it is presented through game formats (Wouters et al., 2013). In their research, Elizabeth A. Boyle et al. describe a wide range of effects of game-based learning, including perceptual, cognitive, motivational, and behavioural dimensions (Boyle et al., 2016).

A systematic review of empirical studies in primary education conducted by Thomas Hainey et al. (2016) demonstrates that GBL is increasingly being integrated into educational practice across various levels – from primary to higher education. GBL is widely recognised as an innovative tool capable of enhancing student engagement and making the learning process more effective (Hainey et al., 2016). It is worth emphasising that game-based technologies represent a natural, accessible, and emotionally comfortable means of fostering communicative competence among younger school-aged children. It is precisely through play that conditions are created for modeling real-life communicative situations, supporting the development of speech, creative thinking, negotiation skills, active listening, and the ability to be heard. Due to their inherent flexibility, game-based methods can be easily adapted to suit the age-specific, individual, and sociocultural characteristics of children.

Contemporary theory and practice regarding the application of game-based methods in the development of communicative competence among primary school children are actively evolving through an interdisciplinary approach that integrates insights from psychology, pedagogy, linguistics, game studies, and neuroeducation. However, the origins of research into the role of play in speech and communication development can be traced back to the early 20th century.

A pivotal figure in the conceptualisation of play as a foundation for personality development was Friedrich Fröbel, a German humanist educator, who was the first in European pedagogy to theorise play as the leading activity of preschool and early school-age children. His system of so-called *Fröbel's Gifts* – specially designed educational play materials – was aimed at fostering sensory perception, spatial imagination, speech,

and communication skills through play structured around the principles of natural harmony and the laws of the world (Fröbel, 1906). By developing this system of didactic toys, Fröbel laid the methodological groundwork for sensory-interactive communication through play, focusing on the development of basic forms of social interaction via shared manipulation of objects and interpretation of others' actions. Each *Gift* was not merely a toy but a learning tool designed to stimulate thinking, speech, and interpersonal interaction. We align with the views of many researchers who argue that it is precisely through play based on Fröbel's Gifts that the child learns to interact, express thoughts, and listen to others – in other words, to master the foundations of communicative competence.

It is important to highlight that in the 20th century, Fröbel's ideas were adapted within European pedagogical frameworks and further developed in the works of Maria Montessori. Her pedagogical model emphasised the autonomous development of the child in a prepared environment, which also included educational play materials designed to foster interpersonal interaction. In Montessori's approach (Montessori, 1967), play was seen as a tool for free choice and self-directed activity within a structured setting. Special attention was given to the development of internal speech motivation and dialogic engagement with both oneself and the environment – features that resonate with modern open-ended digital games.

Maria Montessori and Célestin Freinet notably expanded the pedagogical function of play by attributing to it an individualised (Montessori, 1967) and collectively project-based (Freinet, 1993) character. As previously noted, Montessori's method emphasised the child's autonomy in selecting modes of action and verbal expression within a prepared learning environment. In contrast, Freinet's system conceptualised play as a medium of *communicative co-creation*, realised through collaborative projects, dialogic interaction, and the coordination of joint actions – all of which contribute to the development of communicative competence through real-life social situations.

Jean Piaget, in turn, emphasised the importance of symbolic and role play in the development of logical and communicative structures of a child's consciousness (Piaget, 1951). He particularly stressed the child's ability to consider other perspectives – a key skill for interpersonal communication. His ideas significantly influenced the formation of communicative competence in primary school Students by underlining the role of cognitive development in acquiring linguistic and social skills. According to Piaget, cognitive development occurs through active interaction with the environment, which fosters the emergence of reflective thinking and constructive dialogue. His theory of cognitive development enables educators to consider age-specific characteristics of communicative skills, thereby supporting differentiated instructional approaches. As a result, contemporary educational technologies increasingly target the development of both cognitive and language skills through game-based and problem-oriented activities.

In Ukrainian national pedagogy, particularly in the works of Sofia Rusova (1918), play is conceptualised as a tool for linguistic and moral socialisation. She emphasised its importance in shaping national identity, ethical reflection, and social sensitivity

within the communicative process. In this framework, play is viewed not merely as a form of entertainment or instruction, but as a *cultural-linguistic environment* through which children internalise social norms and communication rules.

In the second half of the 20th century, these ideas were developed further by American psycholinguist Jerome Bruner, who emphasised that play-based environments stimulate verbal experimentation, reduce the fear of mistakes, and support the natural acquisition of communicative models (Bruner, 1983). Simultaneously, British educator Guy Cook argued that the playful format of learning ensures higher levels of emotional involvement and more effectively fosters the development of verbal interaction skills (Cook, 2000).

In 2001, French sociologist and cultural theorist Roger Caillois proposed a significant classification of play types, distinguishing them by principles such as competition (*agon*), chance (*alea*), simulation (*mimicry*), and vertigo (*ilinx*) (Caillois, 2001). This taxonomy offered educators clearer guidance for selecting play formats tailored to the development of specific communicative competencies.

In the 21st century, scholarly interest in game-based methods for language education has intensified. British educators Gordon Lewis and Günter Bedson (1999), in their methodological guide *Games for Children*, presented a structured system for teaching foreign languages to children through play. They described more than 20 game types aimed at developing vocabulary, auditory comprehension, and dialogic speaking skills. However, their approach remained focused largely on lexical and grammatical competencies, without fully addressing communicative competence as a holistic construct. An important extension to pedagogical models was provided by Gee (2007), who analysed how digital game environments facilitate cognitive and verbal interaction among children. He introduced the concept of «affinity spaces» – learning environments where gameplay stimulates collaborative speech, idea exchange, and collective problem-solving in communicative contexts.

Meanwhile, contemporary Ukrainian researchers such as Svitlana Lukianchuk and Maryna Komogorova (2023) and Ratmir Turchaninov and Olga Beshlei (2022) have examined the impact of role-playing and sport-based games on the activation of Students' speech, enhancement of their confidence, and the reduction of anxiety about making mistakes.

In recent years, Ukrainian scholar-practitioners have also increasingly focused on the role of game-based technologies in developing communicative competence among primary school students. In their works, these authors aim to illuminate various aspects of using games in educational contexts, highlighting their positive impact on the development of speech skills, social interaction, and emotional intelligence.

In particular, in their research, such practitioners as Lyudmila Halaievska (2019), Svitlana Chos (2021), and Olena Lebediuk (2020) emphasise the significance of interactive games in fostering communicative competence in students. The importance of incorporating games in foreign language instruction is also stressed, as communicative games not only allow students to practice lexical and grammatical constructions but

also create opportunities for authentic interaction in the target language, significantly enhancing their language proficiency. The authors argue that interactive learning promotes deeper knowledge acquisition, the development of speech and thinking abilities, active student participation in the learning process, and the creation of a positive emotional climate. According to their findings, such games improve not only speech performance but also contribute positively to children's emotional development.

Overall, the analysis indicates that game-based learning serves not merely as an instructional method, but as a holistic developmental tool that integrates language acquisition with cognitive, emotional, social, and cultural growth. This comprehensive influence makes it a particularly effective strategy in the context of primary education, where communicative competence must be nurtured through engaging, meaningful, and developmentally appropriate experiences. The variety of conceptual approaches further suggests that a pluralistic, flexible pedagogical model – one that incorporates elements of sensory, cognitive, digital, and intercultural play – holds the greatest potential for fostering communicative competence in today's students.

Thus, existing research demonstrates the considerable potential of game-based technologies in fostering communicative competence (see Table A2 in Appendix A). However, certain aspects of this issue remain insufficiently explored. A particularly pressing concern involves the effectiveness of integrating game-based methods in classrooms with diverse levels of student development, especially among children with varying needs, abilities, and individual characteristics. Previous studies have largely focused on general approaches and formats of educational games, yet relatively little attention has been paid to how these methods can be adapted to specific classroom contexts and individual student profiles.

The Impact of Different Types of Games (Role-Playing, Dramatised, Didactic) on the Development of Communicative Skills in Primary School Student And their Adaptation to Individual Student Characteristics

The assessment of how various types of games influence the development of communicative skills in early Students represents a crucial dimension of contemporary pedagogical research. It is during the primary school years (ages 6–10) that the foundations of effective verbal interaction and social adaptation are most intensively laid. This developmental stage is characterised by heightened sensitivity to linguistic input, emotional vulnerability, and active formation of interpersonal relationships, which makes the integration of game-based learning strategies both pedagogically justified and scientifically grounded.

Among the wide variety of game formats used in primary education, particular attention is given to *role-playing, dramatised, and didactic games*, each possessing distinct potential in fostering communicative competence.

Role-playing games create conditions for speech improvisation and for modeling real or imaginary communication scenarios. They support the development of dialogic speech, the ability to adopt social roles, and to adapt one's language accordingly. Such games contribute to the formation of *strategic and sociolinguistic competence*, fostering language flexibility, the ability to negotiate, ask and answer questions, and justify actions or positions within a given role (Matvienko & Yevdokymov, 2024). Furthermore, role-playing games promote *sociocultural competence* by introducing students to diverse cultural contexts through simulated social interactions, broadening their worldview and encouraging communicative tolerance. This approach enhances students' ability to engage in effective *intercultural communication* (Duzha-Zadorozhna, 2001).

Dramatised games deepen expressive speech skills and stimulate the development of *emotional intelligence and nonverbal communication abilities* (e.g., facial expressions, gestures, intonation). Children learn not only to articulate lines but also to emotionally engage with scenarios, which is essential for the development of the *emotional-value component* of communicative competence. Theatrical activities also help to overcome speech-related barriers, particularly among children with high levels of anxiety or challenges in verbal self-expression (Dzhendzhero & Horieieva, 2023).

Didactic games are designed to consolidate lexical and grammatical knowledge, develop phonological awareness, and enhance syntactic precision and self-monitoring in speech production. These games enable Students to repeatedly practice language constructions in an engaging, non-threatening format, expand their active vocabulary, and promote spontaneous verbal interaction. Through didactic play, the *cognitive and grammatical components* of communicative competence are reinforced, providing a strong foundation for both oral and written expression (Skoromna & Holubenko, 2021; Kosenko, 2011).

Each of the aforementioned types of games has a significant impact on the development of different components of communicative competence in primary school children. However, the effectiveness of their application largely depends on how well the game format aligns with the individual characteristics of the child. Children vary in temperament type, emotional resilience, cognitive styles, levels of anxiety, degree of language development, motivation for communication, and overall social maturity. Consequently, even the most effective game-based technologies may not yield the expected results if applied without an individualised pedagogical approach.

In current educational practice, the need to adapt games to the psychological and pedagogical profiles of Students is gaining increasing importance. Tailoring game-based technologies to the individual traits of students enables educators to account for diverse developmental paces and personal learning needs, thereby enhancing the efficacy of instruction. This implies that the same game scenario should be

modified depending on whether the Student is an introvert, a highly anxious student, a creative thinker, or a child who is only beginning to develop motivation for verbal self-expression. For instance, children with low self-esteem require scenarios that guarantee success, utilise the principle of «gentle entry « into the game, and provide roles that do not demand immediate responses. Students with a tendency toward leadership may benefit from scenarios that allow them to take initiative within the framework of collaborative tasks.

Special attention should also be paid to students' sensory preferences, i.e., whether they are visual, auditory, or kinesthetic students. Visual students benefit from games incorporating visual cues (e.g., flashcards, diagrams, comics), auditory students from dialogue listening and echo-based games, and kinesthetic students from games that integrate speech with movement. It is equally important to adjust games to the students' existing level of speech development, including their ability to greet, ask questions, respond appropriately, and justify their opinions.

Modern digital resources offer additional possibilities for differentiated adaptation of games to each student's needs. Online platforms such as *Wordwall*, *ClassDojo*, *Seesaw*, and *Toontastic* enable the construction of individualised speech activity trajectories by utilising multimodal tools (images, audio, video, text) in accordance with the Student's unique profile.

The digital platform *Wordwall* offers a wide range of ready-made templates (Matching, Quiz, Anagram, Open the Box), which allow for the rapid creation of exercises aimed at achieving specific language objectives. Thanks to its multimodal features (adding images, audio, and brief instructions), tasks can be adapted to various learning styles of students. Time, attempts, and options parameters enable differentiated instruction, allowing the adjustment of task difficulty according to each child's pace and motivation. The randomisation of elements and immediate feedback after responses help maintain students' attention and identify common errors. Wordwall is effectively used for achieving micro-goals, such as vocabulary automation, reinforcement of grammatical structures, or quick language warm-ups before role-playing dialogues. At the same time, a limitation of the platform is its predominantly closed-response formats, which reduces the potential for developing spontaneous speech. Therefore, it is advisable to combine Wordwall with more creative digital tools.

One such tool is *Toontastic*, which allows students to create animated stories with voice recordings, directly fostering coherent speech and intonational expressiveness. The use of story templates (beginning – development – resolution) supports the development of discourse competence and logical expression. The wide variety of characters and scenes motivates students to engage in role-play improvisation, practice different speech acts (requests, explanations, apologies), and develop empathetic listening. For inclusive needs, Toontastic provides additional features, such as duplicating lines, recording short takes, using visual cues, and organising paired work in a "director–actor" format. Assessment in this platform can be conveniently structured

using rubrics covering story coherence, vocabulary richness, register appropriateness, pronunciation clarity, and effectiveness of group interaction. Student-created videos can be stored in portfolios for reflection and formative assessment.

Another tool is *ClassDojo*, which serves as an integrated ecosystem for organising classroom interaction and monitoring student progress. The platform supports the creation of multimodal portfolios, including photos, audio, video, and text materials. Flexible "Skills" settings allow aligning game-based tasks with clear assessment criteria, such as "active listening" "well-argued response" or "turn-taking in dialogue". Communication with families and the publication of "Stories" provide students with an authentic audience for their educational products (Wordwall quizzes, Toontastic videos), enhancing learning motivation. The integrated timeline and points system support gamification elements; however, it is important to avoid reducing them to mere "external currency" and instead reinforce metalinguistic reflection and awareness of interaction quality.

Seesaw is another effective tool that provides an interactive learning environment for creating, sharing, and assessing student work. Seesaw supports multimodal formats – photos, videos, audio, drawings, text notes, and interactive tasks – allowing adaptation of activities to diverse learning styles and individual student needs. The platform promotes student autonomy and reflection through personal digital portfolios and progress tracking. Interaction in Seesaw includes opportunities for commenting and providing feedback by both teachers and peers, fostering collaborative learning, critical thinking, and constructive communication skills. For integration with other digital tools, such as Wordwall and Toontastic, Seesaw allows uploading and storing student project materials, creating a unified system for tracking achievements and formative assessment.

From the perspective of developing communicative competence in younger students, the use of digital platforms such as *Wordwall*, *Toontastic*, *ClassDojo*, and *Seesaw* creates conditions for the comprehensive development of linguistic, social, and socio-emotional skills. *Wordwall* facilitates the automation of vocabulary and grammatical structures, ensuring rapid language responses; *Toontastic* develops coherent speech, discourse competence, and intonational expressiveness through role- and story-based improvisation; *ClassDojo* provides systematic monitoring of progress, motivation, and integration of student activities with the family environment; and *Seesaw* offers multimodal opportunities for creating and sharing student work, adapting learning materials to different perceptual styles and individual needs. The combination of these resources enables the implementation of individualised learning trajectories, consideration of learning styles and diverse student needs, and the formation of the ability to communicate effectively, ethically, and adaptively in various sociocultural contexts. Thus, the integration of multimodal digital game-based tools into the educational process ensures holistic development of communicative competence and lays the foundation for the successful social and academic integration of younger students.

In this context, we have developed a model-table for adapting game-based technologies to different Student types in primary school, which enables teachers to clearly match game formats with children's characteristics, including their perceptual style, anxiety level, communicative activity, attitude toward group work, motivational profile, and style of verbal interaction. Table 1 systematises the key psychological and pedagogical features of primary school students, identifies common communication-related risks, proposes effective game formats, and outlines adaptation strategies for educators.

Table 1

A Model for Adapting Game-Based Technologies to Primary School Student Types

Student Type / Characteristic	**Communicative Features**	**Communication Risks**	**Recommended Game Type**	**Game Adaptation Principle**	**Example Game / Platform**
Introvert	Speaks little, expresses emotions in a restrained manner	Withdrawal, passivity in pair/group work	Pair-based games with predictable scenarios	Assign the role of observer/ facilitator; gradual inclusion in dialogue	«Secret Mailbox» / Wordwall, Kahoot (anonymous mode)
Extrovert	Active, seeks leadership, easily initiates conversations	May dominate, take over the interaction	Team competitions, role-playing games	Assign coordination tasks; limit speaking time	«Mission: Save the Team» / Classcraft, Drama in Education
High Anxiety Level	Fear of making mistakes, avoids speaking	Public speaking anxiety, low self-esteem	Supportive games, humorous authentic situations	Allow role «replay», ensure group support	«Miniature Theatre of Emotions» / Feelings Cards, Seesaw (delayed video)
Low Motivation for Communication	Avoids speech, mostly silent	Passivity, imitation of participation	Games with rewards for speaking/participating	Use motivational tokens, gamification	«Say It – Earn a Point» / ClassDojo, Duolingo for Schools
Creative / Imaginative Student	Rich imagination, enjoys creating stories	May stray off topic, inattentive to peers	Storytelling, role-playing adventures	Provide structure (beginning – middle – end), time limits	«Inside-Out Fairy Tale» / Storybird, Toontastic
Visual Student	Responds better to images, gestures, facial expressions	Difficulty processing auditory input	Games with flashcards, comics, visualizations	Incorporate visual aids, emoji, gestures	«Guess the Emotion» / Canva for Education, StoryboardThat

Student Type / Characteristic	Communicative Features	Communication Risks	Recommended Game Type	Game Adaptation Principle	Example Game / Platform
Auditory Student	Retains and processes auditory information well	Difficulty processing visual material	Audio instructions, repetition-based games, dialogues	Reading aloud, «who heard it best?» games	«Echo Phrase» / Listen and Repeat, BBC Bitesize Games
Kinesthetic Student	Enjoys movement, hands-on interaction	Difficulty with static tasks	Games involving movement, physical interaction	Combine speech with movement	«Speak and Move» / LEGO Story Cubes, GoNoodle + EdTech Tools

Source. Own research.

It is worth emphasising that the proposed model is based on the principle of alignment between the student's individual characteristics (such as introversion, anxiety level, perceptual style, and degree of social engagement) and the type of game-based interaction. This approach ensures optimal conditions for the development of speech and communication skills. It not only facilitates deeper immersion in communicative situations, but also creates a psychologically safe and supportive environment in which communicative competence can evolve harmoniously – free from pressure, fear of error, or social discomfort.

Recommendations for the Implementation of Game-Based Methods to Develop Communicative Competence in Primary School Students

Based on the analysis of contemporary approaches to the use of game-based learning technologies and the developed model for adapting games to the psychological and pedagogical characteristics of primary school students, we propose a set of recommendations for the effective integration of play methods into the educational process to foster communicative competence.

- *Ensuring alignment between game type and Students' individual characteristics*: The choice of game-based method should be informed by the Student's personal traits, including temperament, anxiety level, readiness for verbal expression, and perceptual style (visual, auditory, or kinesthetic). For instance, introverted children benefit from paired games with predictable scenarios that offer a safe space for gradual engagement in verbal interaction. In contrast, extroverted Students require group activities with clearly defined rules and opportunities for initiative and self-expression.

- *Gradual complexity of game scenarios according to Students' communicative development*: The effective development of communicative competence requires a stepwise progression in speech-related skills. At initial stages, it is advisable to focus on didactic games that reinforce lexical and grammatical structures, greetings, question–answer routines, and basic argumentation. Later, role-playing and dramatised games should be introduced to develop discursive, sociolinguistic, and strategic competencies.
- *Integration of multimodal elements into game*: Given the high prevalence of visual and kinesthetic learning styles among children, it is recommended to combine speech activities with visual (e.g., flashcards, diagrams, comics, emojis) and motor components (e.g., mimicry, physical actions). This approach facilitates understanding and retention of language material, reduces anxiety, and increases emotional engagement.
- *Creating a psychologically safe environment for game:* A crucial factor in the development of communicative competence is the elimination of fear of making mistakes. Game-based situations should be built on principles of emotional safety, support, and tolerance. The "soft entry" strategy is particularly suitable for children with low self-esteem or social adaptation difficulties.
- *Utilising digital game-based resources for personalized learning*: Online platforms such as *Wordwall*, *Seesaw*, *Toontastic*, and *Classdojo* provide ample opportunities to customise game content according to individual student needs. Teachers can create differentiated tasks based on students' language development, attention span, and learning styles, enabling personalised learning trajectories.
- *Involving students in the creation of game content*: Strategic and pragmatic competence can be significantly enhanced by engaging Students in planning and modeling communicative situations. Elements of project-based learning – such as collaboratively designing game rules, role-play scenarios, or character dialogues – encourage deeper reflection on speech acts and foster linguistic awareness.

In conclusion, the effective application of game-based methods in primary education requires not only teachers' familiarity with game typologies, but also their sensitivity to the individual profiles of each Student. Adapting play-based activities to Students' age, emotional, cognitive, and communicative characteristics ensures the holistic development of communicative competence. The recommendations proposed herein may serve as a practical guide for educators and provide a foundation for further research in the domain of personalised educational strategies.

Conclusions

This research demonstrates that game-based technologies represent a pedagogically powerful and developmentally appropriate tool for fostering commu-

nicative competence in primary school students. Grounded in a student-centered educational paradigm, the integration of role-playing, dramatised, and didactic games enables educators to scaffold students' linguistic, sociolinguistic, strategic, emotional, and sociocultural skills in an engaging and psychologically safe environment.

A key finding of the research is the importance of aligning game formats with the individual psychological, emotional, and sensory characteristics of students. The proposed adaptation model allows educators to personalise game-based learning scenarios based on variables such as temperament, anxiety level, motivation, and perceptual style. This alignment not only enhances student engagement and participation but also reduces communicative barriers, particularly among students with high levels of anxiety or low verbal motivation.

Moreover, the incorporation of multimodal elements and digital platforms expands the possibilities for differentiated instruction, making communicative learning more inclusive and flexible. Equally significant is the recommendation to involve students in co-creating game content, which fosters deeper metacognitive awareness of language use and strengthens strategic and pragmatic components of communicative competence.

Taken together, these insights underscore the need for a flexible, responsive approach to game-based learning – one that views games not merely as entertainment or supplementary activities, but as a structured, intentional, and individualised pedagogical strategy. Adapting play activities to the age, emotional, cognitive, and communicative characteristics of the child ensures the holistic formation of his or her communicative competence. Implementing such an approach could significantly improve both the quality of teaching and learning and the overall communicative development of primary school students.

Future research should explore the long-term impact of individualised game-based learning, including their influence on academic outcomes, social adaptation, and multilingual competence, particularly in inclusive and multicultural classroom settings.

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Appendix A

Table A1

Comparative Table of Concepts of Communicative Competence and Its Components

#	Author / Theory	Definition of Communicative Competence	Key Components
1	Dell Hymes (1972)	The knowledge of the speaker/listener required for communication in a social context	Sociolinguistic appropriateness, understanding of community norms
2	Canale & Swain (1980)	The set of knowledge and skills necessary for linguistic interaction	Grammatical; Discourse; Sociolinguistic; Strategic
3	Sandra Savignon, (1983)	The ability to function effectively in a communicative environment	Productive and interactive competence, flexibility, adaptation

#	Author / Theory	Definition of Communicative Competence	Key Components
4	Jan Ate van Ek (1986)	The ability to act effectively in society using language	Added a fifth component: Sociocultural competence
5	Bachman & Palmer (1996)	The ability to use language in various contexts	Organizational (grammar, text), Pragmatic (functions, social rules)
6	Michael Halliday (2014)	Language as a social system that creates meaning	Ability to functionally use language in context
7	Claire Kramsch (2006, 2011)	Intercultural sensitivity in communication, symbolic meaning of language	Cognitive, emotional, and behavioral skills for intercultural dialogue
8	Terry Royce, (2002)	The ability to use different types of communication (language, gestures, images)	Multimodal competence – integration of linguistic and visual signs

Source. Own research.

Table A2

Pedagogical Concepts of Game-Based Activities and Their Impact on the Formation of Communicative Competence

Researcher (Year)	Core Ideas	Impact on Communicative Competence Formation
Friedrich Fröbel (1906)	Play as the child's leading activity; *Fröbel's Gifts* – didactic toys for sensory, speech, and social development	Sensory-interactive communication through play; development of speech and social skills
Maria Montessori (1967)	Child's autonomy in a prepared environment; play as a tool for free choice and self-directed activity	Development of internal speech motivation; dialogue with self and environment
Célestin Freinet (1993)	Collective project-based play; communicative co-creation	Development of speech competence through collaborative projects and dialogues
Jean Piaget (1962)	Role of symbolic and role play in cognitive development; considering others' perspectives	Formation of reflection, constructive dialogue, and differentiated instruction
Jerome Bruner (1983)	Playful environments stimulate verbal experimentation, reduce fear of errors	Support for natural acquisition of communicative models through play
Guy Cook (2000)	Higher emotional involvement in playful learning	Effective formation of verbal interaction skills
Roger Caillois (2001)	Classification of games: competition, chance, mimicry, vertigo	Targeted selection of play formats to develop various communicative skills

Researcher (Year)	Core Ideas	Impact on Communicative Competence Formation
Gordon Lewis & Günter Bedson (2018)	Games for vocabulary, listening, and dialogic speech development	Improvement of lexical-grammatical skills, though communicative competence is not the central focus
James Paul Gee (2007)	Digital games foster cognitive and verbal interaction; concept of «affinity spaces»	Promotion of collaborative speech, idea sharing, and problem-solving
Svitlana Lukianchuk & Maryna Komogorova (2023), Ratmir Turchaninov & Olga Beshlei (2022)	Role-playing/sports games activate speech and build confidence	Reduction of fear of error; activation of verbal skills in young Students
Sofia Rusova (1918)	Play as a tool of speech and moral socialization; national identity formation	Ethical reflection and social sensitivity development through communication
Lyudmila Halaievska (2019), Svitlana Chos (2021), Olena Lebediuk (2020)	Interactive games for speech, social skills, and emotional intelligence development	Enhanced verbal interaction and socialization; emotionally supportive learning environment

Source. Own research.