

PSYCHOLOGICAL AND PEDAGOGICAL FACTORS IN DEVELOPING LITERACY READINESS AMONG SENIOR PRESCHOOL CHILDREN

Guzal Qurbonova

PhD, Associate Professor, Bukhara State Pedagogical Institute, Bukhara, Uzbekistan

Abstract

The preparation of senior preschool children for literacy acquisition is a multidimensional developmental process that extends beyond the early recognition of letters, sounds, and written symbols. Successful literacy readiness emerges through the interaction of cognitive, linguistic, emotional, motivational, social, and motor development with purposeful pedagogical support. This article examines the major psychological and pedagogical factors that contribute to the development of literacy readiness among senior preschool children and explores their interrelationships within contemporary early childhood education. Particular attention is given to phonological awareness, oral language and vocabulary, attention and memory, executive functions, learning motivation, emotional readiness, fine-motor and graphomotor development, play-based learning, teacher–child interaction, the literacy-rich environment, and family involvement. The study employs theoretical analysis, comparative synthesis, content analysis, and pedagogical modelling to systematize recent research findings and identify the conditions under which emergent literacy skills can develop effectively. The findings indicate that literacy readiness should not be approached as premature formal instruction in reading and writing. Instead, it should be understood as an integrated developmental construct in which psychological readiness and pedagogically appropriate learning experiences reinforce one another. A conceptual framework is proposed to demonstrate how psychological resources, pedagogical conditions, and literacy-related activities can be coordinated in preschool practice. The study argues that developmentally appropriate, play-based, interactive, and differentiated instruction provides a more sustainable foundation for subsequent literacy learning than academically accelerated approaches.

Keywords: literacy readiness, senior preschool children, emergent literacy, psychological readiness, phonological awareness.

Introduction

The transition from preschool to formal schooling represents one of the most significant developmental changes in early childhood. During this period, children encounter not only a new educational environment but also fundamentally different expectations regarding communication, attention, self-regulation, participation in collective activities, and engagement with symbolic systems. Reading and writing become particularly important because they gradually change from objects of learning into instruments through which children acquire knowledge in almost every other subject area.

For this reason, the question of whether a child is “ready” to learn literacy cannot be reduced to the ability to name letters, copy words, or mechanically reproduce sounds. Contemporary interpretations of school readiness increasingly emphasize a multidimensional combination of linguistic, cognitive, social, emotional, motivational, behavioral, and motor capacities. Recent research on preschool readiness likewise demonstrates that academic preparation constitutes only one dimension of a considerably broader developmental system [1].

Literacy readiness can therefore be described as a child's developing capacity to understand and use the linguistic, cognitive, perceptual, social, and symbolic foundations required for subsequent reading and writing. It includes interest in books and written language, awareness of sounds and words, oral vocabulary, comprehension, narrative ability, recognition that print carries meaning, visual discrimination, fine-motor coordination, and willingness to participate in literacy-related activities.

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This interpretation is closely related to the concept of **emergent literacy**. From an emergent-literacy perspective, reading and writing do not suddenly begin when formal schooling starts. Their foundations develop much earlier through children's everyday interactions with language, books, stories, pictures, signs, drawing, play, conversations with adults, songs, rhymes, and attempts to represent meaning symbolically.

Accordingly, senior preschool age constitutes a particularly sensitive period for literacy preparation. Children at this stage demonstrate growing linguistic awareness, stronger voluntary attention, increasingly complex memory strategies, improved hand–eye coordination, more sophisticated pretend play, and a greater ability to understand rules and cooperate with peers. At the same time, substantial individual differences remain. Two children of the same chronological age may differ considerably in vocabulary, phonological awareness, emotional regulation, motivation, fine-motor development, or previous exposure to books.

This variability makes one-size-fits-all literacy preparation pedagogically questionable. A child who already demonstrates strong oral language but experiences difficulty manipulating speech sounds requires a different form of support from a child who can distinguish sounds but struggles to maintain attention during a shared reading activity. Similarly, a child who recognizes numerous letters but avoids communication or becomes anxious when making mistakes cannot necessarily be described as more ready for literacy than a socially confident child with fewer formal letter-recognition skills.

Recent empirical evidence reinforces the particular importance of phonological and phonemic awareness. Preschool activities that help children notice, distinguish, segment, and manipulate speech sounds can strengthen foundations necessary for later decoding. Becker and Sylvan's study, for example, examined phonemic-awareness instruction combined with articulatory placement strategies in preschool contexts, illustrating the value of intentionally connecting speech production and sound awareness in emergent literacy instruction [2].

However, phonological awareness should not be isolated from oral language development. A child needs words before those words can be meaningfully analyzed into syllables and sounds. Vocabulary, listening comprehension, grammatical development, and narrative competence therefore form another psychological foundation of literacy readiness. Rich conversations, dialogic reading, storytelling, retelling, questioning, role-play, and verbal problem-solving provide children with opportunities to develop these resources in authentic communicative contexts.

Cognitive processes constitute another essential dimension. Learning to read and write eventually requires children to coordinate attention, memory, perception, inhibition, cognitive flexibility, and symbolic thinking. Even a relatively simple classroom instruction—such as listening to a word, identifying its first sound, selecting the corresponding picture, and explaining the choice—requires several psychological processes to operate simultaneously.

This is why literacy readiness needs to be considered in relation to executive functions and self-regulation. Preschool children gradually learn to wait, listen to instructions, resist distraction, shift between tasks, remember simple rules, monitor their own behavior, and complete activities. These capacities have implications not only for general school adjustment but also for participation in structured literacy activities.

The motivational dimension is equally significant. A child may possess sufficient cognitive capacity for literacy learning but demonstrate little willingness to engage with books or language activities. Conversely, curiosity about written signs, enjoyment of storytelling, attempts to “write” messages, and voluntary exploration of books may create a strong developmental foundation even before conventional reading emerges. Therefore, the psychological question is not simply *Can the child read?* but also *Does the child want to understand what print can do?*

This distinction has important pedagogical consequences. When literacy preparation becomes dominated by worksheets, repetitive copying, memorization, or pressure to demonstrate conventional reading before school, children's external performance may improve temporarily while their intrinsic interest in literacy declines. Developmentally appropriate literacy education should instead transform written language into something meaningful: a way to discover a story, label one's drawing, send a message, recognize one's name, solve a playful puzzle, or communicate an idea.

Emotional readiness also deserves particular attention. Learning inevitably involves uncertainty and mistakes. Children who perceive mistakes as threatening may avoid unfamiliar tasks even when they have the necessary cognitive capacity to attempt them. Supportive teacher–child relationships, emotionally safe classroom routines, positive feedback, and opportunities to make choices can therefore indirectly influence literacy development by shaping children's willingness to participate.

The pedagogical environment becomes especially important at this point. Literacy readiness is not merely an internal quality that children either possess or lack. It is partly constructed through interactions between children and their educational environments. Research examining preschool instructional practices suggests that neither unrestricted child-directed activity nor exclusively teacher-directed instruction should automatically be treated as universally optimal. Rather, an appropriate combination can be important, depending on children's characteristics and learning needs [3].

This finding challenges a simplistic opposition between “play” and “teaching.” Effective preschool pedagogy does not require educators to choose one and reject the other. Purposefully designed play can itself become a powerful instructional context. For instance, a pretend grocery store may involve recognizing labels, preparing shopping lists, comparing package symbols, negotiating roles, counting objects, and explaining choices. A “post office” can encourage children to create messages, recognize names, sort envelopes, and understand that writing serves communicative purposes.

The pedagogical value lies in intentionality. The teacher does not dominate the activity, but neither does the teacher disappear from it. Instead, the educator observes, asks productive questions, introduces new vocabulary, models language, creates manageable challenges, and provides scaffolding when children need it.

A literacy-rich physical environment performs a similar function. Books displayed at children's eye level, labels accompanied by meaningful images, accessible drawing and writing materials, alphabet resources, puppets, storytelling props, magnetic letters, picture sequences, and children's own written or symbolic products can transform literacy from an occasional scheduled lesson into a visible component of everyday preschool life.

Family interaction constitutes another important factor. Before children enter formal schooling, much of their language experience is generated outside educational institutions. Shared book reading, family storytelling, conversations about everyday events, songs, rhymes, drawing, environmental-print recognition, and adults' responses to children's questions can all contribute to emergent literacy. Importantly, family literacy support should not be equated with turning the home into an additional classroom. Its developmental value often lies precisely in natural, emotionally meaningful interaction.

The assessment of literacy readiness therefore also needs reconsideration. A narrow checklist based only on alphabet knowledge risks overlooking children who have strong narrative, phonological, self-regulatory, and communicative skills. Conversely, knowing the alphabet does not necessarily mean that a child has developed the broader psychological resources required for sustained literacy learning.

Recent developments in assessment illustrate movement toward multidimensional approaches. A large 2025 study involving 5,966 children examined a Pre-Literacy Test designed to assess literacy-readiness skills and identified dimensions related to reading and different forms of early writing performance [4]. Such developments highlight the importance of assessing readiness systematically while avoiding the reduction of a complex developmental construct to a single observable skill.

The issue is particularly relevant to contemporary preschool education because academic expectations are gradually moving downward into earlier age groups. In some contexts, activities previously associated with the first years of primary school are increasingly introduced during preschool. This trend can provide valuable exposure when learning remains playful and developmentally appropriate, but it can become problematic when preparation is interpreted as accelerated formal schooling.

Consequently, a distinction must be made between **preparing children for literacy** and **prematurely teaching formal literacy**. The first develops psychological prerequisites and creates meaningful experiences with oral and written language. The second risks transferring primary-school instructional routines to children who may not yet possess the attentional, emotional, motor, or motivational resources necessary to benefit from them.

Within this perspective, psychological and pedagogical factors should not be investigated independently. Phonological awareness can be strengthened through carefully designed language games; motivation can be supported through meaningful literacy activities; self-regulation can develop through rule-based play; vocabulary can expand through dialogic interaction; and graphomotor readiness can be promoted through drawing, construction, modelling, tracing, and manipulation of materials. Psychological development and pedagogical design therefore operate reciprocally.

The scientific problem addressed in this study emerges from precisely this relationship. Although individual components of literacy readiness have been extensively investigated, preschool practice still requires an integrated framework explaining how psychological prerequisites and pedagogical conditions can be coordinated without transforming early childhood education into premature formal schooling.

Accordingly, **the purpose of this study** is to identify and systematize the major psychological and pedagogical factors involved in developing literacy readiness among senior preschool children and to establish a conceptual framework for their integrated implementation in early childhood education.

The study addresses four interrelated objectives: to clarify the contemporary meaning and structure of literacy readiness; to identify its principal psychological determinants; to analyze pedagogical conditions and instructional approaches that support these determinants; and to develop an integrated framework connecting psychological resources, educational experiences, and expected literacy-readiness outcomes.

From this perspective, the central proposition of the study is that sustainable literacy readiness develops most effectively when phonological and oral-language competence, cognitive and executive functioning, emotional-motivational readiness, and perceptual-motor development are supported through play-based, interactive, differentiated, and literacy-rich pedagogical environments rather than through isolated academic drills.

Materials and Methods

The present study was designed as a theoretical and analytical investigation of the psychological and pedagogical factors that contribute to literacy readiness among senior preschool children. Rather than treating readiness for reading and writing as a narrowly academic outcome, the

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study adopted a multidimensional perspective in which emergent literacy develops through the interaction of children's psychological resources and the educational conditions surrounding them.

The methodological position of the study was based on the assumption that literacy readiness cannot be adequately explained by a single developmental indicator. Knowledge of letters, for example, may provide useful information about a child's familiarity with print, but it does not independently demonstrate readiness to engage successfully in formal reading and writing instruction. Likewise, strong vocabulary without sufficient phonological awareness, or well-developed fine-motor skills without motivation and self-regulation, may leave important components of readiness underdeveloped. Therefore, the analytical framework considered literacy readiness as a dynamic system consisting of interconnected linguistic, cognitive, motivational, emotional, social, perceptual, and motor components.

The research combined **theoretical analysis, comparative analysis, content analysis, synthesis, classification, and pedagogical modelling**. These methods were selected because the primary purpose of the study was not to measure the effect of a single intervention but to identify relationships among psychological prerequisites, pedagogical conditions, and observable indicators of literacy readiness.

A qualitative integrative research design was employed. Recent scientific publications on emergent literacy, preschool education, school readiness, home literacy environments, phonological awareness, early language development, executive functioning, and developmentally appropriate pedagogy were analyzed and synthesized.

Priority was given to research published during the last five years in order to reflect current understandings of early literacy development. Particular attention was paid to studies involving preschool or kindergarten-aged children and investigations examining predictors of later reading and writing achievement.

The analytical process was organized into four consecutive stages.

At the first stage, the conceptual boundaries of **literacy readiness, emergent literacy, and school readiness** were clarified. These concepts overlap substantially but are not identical. School readiness represents a broader construct encompassing children's adjustment to formal educational expectations, whereas literacy readiness refers more specifically to the psychological and pedagogical prerequisites underlying subsequent reading and writing acquisition.

At the second stage, psychological factors associated with literacy readiness were identified and classified.

At the third stage, pedagogical factors capable of supporting or constraining these psychological resources were analyzed.

At the fourth stage, psychological and pedagogical factors were integrated into a conceptual model explaining the development of literacy readiness among senior preschool children.

The object of the research is the process of developing literacy readiness among senior preschool children.

The subject of the research comprises the psychological and pedagogical factors influencing the development of children's readiness for subsequent reading and writing acquisition.

The study aims to theoretically substantiate and systematize the psychological and pedagogical factors that determine literacy readiness among senior preschool children and to develop an integrated pedagogical framework for supporting these factors in preschool education.

To achieve this aim, the following objectives were established:

- to clarify the conceptual structure of literacy readiness in senior preschool age;
- to identify the major psychological components underlying readiness for reading and writing;
- to determine the pedagogical conditions that support the development of these components;

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to analyze the relationship between preschool and home literacy environments;
 to classify pedagogical methods according to the psychological component of readiness they primarily support;
 to construct an integrated model of literacy-readiness development suitable for preschool educational practice.

The theoretical framework developed in the study distinguishes four major groups of psychological prerequisites: **linguistic and phonological readiness; cognitive and executive readiness; emotional-motivational and social readiness; perceptual-motor and graphomotor readiness.**

These dimensions should not be interpreted as independent developmental blocks. They continuously interact during literacy-related activity.

For example, when a child listens to a short story and retells it, oral-language competence is obviously involved. Yet the same activity requires attention to the speaker, working memory to retain the sequence of events, cognitive organization to reconstruct the narrative, motivation to participate, and social confidence to communicate the story to another person.

Consequently, even an apparently “linguistic” task may simultaneously activate several dimensions of psychological readiness.

Table 1. Psychological components of literacy readiness

Component	Principal indicators	Relevance to literacy
Linguistic readiness	Vocabulary, grammar, listening comprehension, narrative speech	Supports comprehension and meaningful language use
Phonological readiness	Rhyme awareness, syllable segmentation, sound discrimination, phonemic sensitivity	Establishes foundations for decoding and sound-symbol relationships
Cognitive readiness	Attention, memory, categorization, symbolic thinking	Supports processing and retention of literacy information
Executive readiness	Inhibitory control, working memory, cognitive flexibility	Enables children to follow instructions and regulate learning behavior
Motivational readiness	Curiosity, persistence, literacy interest	Encourages voluntary participation in reading and writing activities
Emotional-social readiness	Confidence, communication, cooperation, tolerance of mistakes	Supports classroom participation and learning engagement
Perceptual readiness	Visual and auditory discrimination, spatial orientation	Supports recognition of symbols, letters, patterns, and sounds
Graphomotor readiness	Fine-motor coordination, hand-eye coordination, pencil control	Prepares the physical foundations of conventional writing

This classification demonstrates why literacy readiness cannot be accurately determined through letter recognition alone. The transition to formal literacy instruction requires coordinated functioning across several developmental domains.

Among the psychological components identified, oral-language development occupies a foundational position. Vocabulary provides children with semantic material, while grammatical competence enables them to understand and construct increasingly complex statements. Narrative ability, in turn, helps children organize experiences temporally and causally.

Phonological awareness represents a more specific bridge between oral and written language. Before children can consistently associate letters with sounds, they need to become increasingly sensitive to the sound structure of spoken language.

Developmentally appropriate phonological activities may progress from larger linguistic units toward smaller ones: **sentence** → **word** → **syllable** → **rhyme** → **initial/final sound** → **individual phoneme**.

This sequence is pedagogically important. Asking children to manipulate isolated phonemes before they can reliably perceive syllables or rhyme may unnecessarily increase task difficulty.

Phonological instruction in preschool should therefore remain embedded in meaningful and playful contexts. Rhymes, songs, riddles, clapping syllables, sound hunts, alliteration games, and picture sorting can provide repeated practice without turning preschool education into formal phonics instruction.

Literacy acquisition places considerable demands on children's cognitive control. A beginning learner must direct attention toward relevant information while ignoring distractions, remember instructions, compare symbols, retrieve words from memory, monitor responses, and shift between oral and visual information.

Executive functions are therefore relevant to literacy readiness because they regulate the use of other cognitive abilities.

Three components are especially important:

working memory — retaining and manipulating information for short periods;

inhibitory control — suppressing impulsive or irrelevant responses;

cognitive flexibility — changing strategies or perspectives when task demands change.

These capacities can be developed without introducing formal academic drills. Rule-changing games, memory games, sequencing activities, construction tasks, storytelling, puzzles, and dramatic play naturally place demands on executive functioning.

Thus, an activity does not have to look like a “literacy lesson” to contribute substantially to literacy readiness.

One of the most easily underestimated components of readiness is children's attitude toward literacy-related activity.

The distinction between **ability** and **willingness** is particularly important.

A child may be capable of identifying sounds but avoid participating because previous learning experiences have been associated with criticism or fear of error. Another child may possess less developed formal knowledge but demonstrate strong curiosity, persistence, and enjoyment when exploring books and written symbols.

For this reason, the study treated literacy motivation as an independent component of readiness.

The following behavioral indicators were considered relevant:

voluntarily choosing books;

asking adults to read;

showing curiosity about unfamiliar words;

attempting invented writing;

asking what written signs mean;

retelling favorite stories;

persisting when literacy tasks become moderately difficult.

Such behaviors indicate that literacy is beginning to acquire personal meaning for the child.

Writing readiness requires a combination of perceptual and motor development. Nevertheless, graphomotor preparation should not be reduced to repetitive tracing of letters.

Before conventional writing becomes efficient, children need experience with drawing, manipulating small objects, modelling, cutting, threading, construction, pattern creation, hand–eye coordination, spatial orientation, and controlled movement.

A developmentally appropriate progression may therefore be represented as: **gross motor stability** → **fine-motor coordination** → **visual-motor integration** → **controlled graphic movement** → **symbolic representation** → **conventional writing**.

This developmental logic helps prevent a common pedagogical error: expecting accurate letter formation before the underlying motor system is sufficiently prepared.

The second analytical dimension of the research concerned educational conditions capable of activating and supporting the psychological resources described above.

Seven principal pedagogical factors were identified:

developmentally appropriate instruction;

play-based and interactive learning;

systematic language interaction;

a literacy-rich educational environment;

differentiated pedagogical support;

formative observation and assessment;

preschool–family partnership.

These factors were selected because they influence not only children's exposure to literacy but also the **quality of their participation** in literacy-related experiences.

Table 2. Relationship between psychological needs and pedagogical support

Psychological component	Appropriate pedagogical support	Examples of activities
Phonological awareness	Structured language play	Rhymes, syllable games, sound hunts
Vocabulary	Rich adult–child dialogue	Dialogic reading, picture discussion
Narrative competence	Story-based instruction	Retelling, sequencing, storytelling
Working memory	Increasingly complex rule-based activities	Memory games, instruction sequences
Self-regulation	Play requiring rules and turn-taking	Dramatic and cooperative games
Literacy motivation	Meaningful print experiences	Book choice, messages, labels
Visual perception	Classification and pattern tasks	Matching, puzzles, symbol games
Fine-motor development	Manipulative and creative activity	Drawing, modelling, cutting
Social confidence	Collaborative activities	Pair storytelling, role-play
Emotional security	Supportive feedback	Choice, encouragement, non-punitive correction

The table illustrates a central methodological proposition of this research: **pedagogical activity should be selected according to the psychological function it is intended to support**.

This prevents the indiscriminate use of fashionable methods and shifts pedagogical decision-making toward developmental purpose.

The educational environment was analyzed not as a passive physical setting but as an active pedagogical resource.

A literacy-rich preschool environment should allow children to encounter written language naturally throughout the day. Such an environment may include accessible age-appropriate books, children's names displayed meaningfully, labels used for real communicative purposes, storytelling materials, drawing and writing resources, alphabetic materials, puppets, picture sequences, thematic vocabulary displays, and examples of children's own symbolic productions.

The principle of accessibility is important. Materials that children are permitted to look at but cannot independently use contribute less to active literacy development than resources available for exploration.

Likewise, quantity alone is insufficient. Filling a classroom with letters does not automatically make it literacy-rich. The decisive question is whether children **interact meaningfully** with print.

The findings of the theoretical analysis led to the identification of five interconnected roles of the preschool educator in literacy-readiness development:

observer, facilitator, language model, designer of learning environments, and developmental diagnostician.

As an observer, the teacher identifies children's current strengths and difficulties.

As a facilitator, the teacher provides support without taking over children's activity.

As a language model, the educator demonstrates rich, accurate, and contextually meaningful speech.

As an environmental designer, the teacher creates opportunities for children to encounter literacy across play and daily routines.

As a developmental diagnostician, the teacher documents progress and adjusts pedagogical support accordingly.

This conceptualization moves the teacher away from the role of a transmitter of alphabetic knowledge and toward the role of an intentional organizer of children's literacy experiences.

The home literacy environment was incorporated into the methodological model because literacy development does not begin or end at the preschool door.

A 2023 longitudinal study found that preschool emergent-literacy abilities played an important role in the relationship between home literacy experiences and later reading and writing outcomes. More recent research involving 500 preschool children also found that parental reading attitudes were associated with children's emergent literacy through the quality of the home literacy environment.

Importantly, the home literacy environment should not be assessed merely by counting the number of books in a household. Research distinguishes dimensions such as access to print, reading-related activities, and parents' own reading interests and habits, suggesting that home literacy is a multidimensional construct [5].

Therefore, effective preschool–family collaboration may include guidance on shared reading, conversations about stories, rhyming games, drawing and invented writing, library visits, and encouraging children's questions about print.

The purpose is not to transfer formal teaching responsibilities to parents. Rather, it is to create continuity between the child's natural literacy experiences at home and developmentally appropriate educational experiences in preschool.

On the basis of the theoretical and methodological analysis, literacy readiness was conceptualized through the following relationship: **Psychological resources → Pedagogical stimulation → Active literacy experience → Emerging competence → Literacy readiness**

Within this model:

Psychological resources include oral language, phonological awareness, cognition, executive functions, motivation, emotional-social readiness, perception, and motor coordination.

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Pedagogical stimulation includes teacher interaction, play-based methods, literacy-rich environments, differentiation, observation, and family collaboration.

Active literacy experience includes listening, speaking, storytelling, sound play, book exploration, drawing, invented writing, symbolic play, and meaningful interaction with print.

Emerging competence is reflected in growing phonological awareness, vocabulary, narrative competence, print awareness, symbolic understanding, self-regulation, and graphomotor control.

The expected outcome is **integrated literacy readiness**, rather than premature mastery of formal reading and writing.

This model provides the analytical foundation for the next stage of the study.

Results

The analysis revealed that literacy readiness among senior preschool children is shaped by a complex interaction between internal psychological resources and external pedagogical conditions. No single factor was found to be sufficient on its own. Instead, the development of readiness for reading and writing depended on the coordinated functioning of linguistic, cognitive, emotional-motivational, social, and motor components within a developmentally appropriate educational environment.

The findings showed that the most influential psychological factors could be grouped into five interrelated domains:

- linguistic and phonological development;
- cognitive and executive functioning;
- emotional and motivational readiness;
- social-communicative competence;
- perceptual-motor and graphomotor readiness.

At the pedagogical level, five corresponding groups of conditions were identified:

- literacy-rich communication;
- play-based and interactive instruction;
- differentiated pedagogical support;
- systematic formative observation;
- preschool–family collaboration.

The results suggest that literacy readiness develops most effectively when psychological development and pedagogical support are aligned rather than treated as separate processes.

The first major result concerned the central role of oral language and phonological awareness in early literacy development. Children who possess richer vocabularies and stronger listening comprehension are better able to understand verbal instructions, interpret story meaning, and participate in literacy-related conversations.

Phonological awareness was found to function as a particularly important bridge between oral language and later decoding ability. Activities involving rhyme recognition, syllable segmentation, sound matching, and initial-sound identification contribute to children's awareness that spoken language can be analyzed into smaller sound units [2].

However, the analysis indicated that phonological activities are most productive when they are embedded in meaningful language experiences. Purely mechanical sound drills may produce limited engagement, whereas rhymes, songs, riddles, poetry, storytelling, and word games simultaneously support phonological sensitivity and motivation.

This finding suggests that the pedagogical goal should not be to introduce formal phonics instruction prematurely but to create repeated opportunities for children to notice and manipulate sounds within enjoyable communicative contexts.

A second important result concerned vocabulary development and narrative competence. The ability to understand and produce coherent narratives was identified as a key indicator of literacy readiness.

Children who can describe events, explain cause-and-effect relationships, retell stories, and maintain logical sequence are better prepared for later reading comprehension because they already understand how meaning is organized linguistically.

Storytelling activities appeared especially valuable because they support several developmental domains simultaneously. A single storytelling task may involve vocabulary retrieval, grammatical organization, memory, imagination, sequencing, emotional expression, and social communication.

The analysis therefore indicates that narrative activities should occupy a central position in preschool literacy preparation.

The third major result concerned the role of executive functioning. Literacy-related activities require children to coordinate several mental processes at the same time. They must maintain attention, remember instructions, control impulsive responses, and shift between different kinds of information.

Working memory, inhibitory control, and cognitive flexibility were identified as particularly relevant to literacy readiness.

For example, when a child listens to a word, identifies its first sound, searches for a matching picture, and explains the answer, the child must simultaneously remember the verbal stimulus, inhibit irrelevant responses, compare alternatives, and produce a meaningful explanation.

The findings suggest that preschool literacy preparation benefits from activities that support executive functioning indirectly through play. Rule-based games, sorting tasks, sequencing, puzzles, construction, dramatic play, and memory activities can strengthen the cognitive control processes necessary for later academic learning.

This result is important because it demonstrates that literacy readiness can be developed even through activities that do not superficially resemble reading or writing instruction.

The analysis revealed that motivation represents a major yet frequently underestimated factor in literacy development.

Children who show curiosity toward books, written symbols, stories, and meaning-making tend to engage more persistently in literacy-related activities. By contrast, children who associate literacy with pressure or repeated correction may avoid participation even if they possess adequate cognitive skills.

The findings indicate that positive emotional experiences are therefore an important prerequisite for literacy development.

A child's willingness to attempt unfamiliar tasks, tolerate mistakes, ask questions, and persist in solving a problem may be as important as early academic knowledge.

The following indicators were identified as markers of literacy motivation:

- voluntary book selection;
- asking adults to read;
- curiosity about printed words;
- enjoyment of storytelling;
- attempts at invented writing;
- willingness to repeat difficult language tasks;
- interest in letters and environmental print.

These behaviors demonstrate that literacy has begun to acquire personal meaning for the child.

A fourth important result was the relationship between social communication and literacy readiness.

Preschool literacy develops through interaction. Children learn language in dialogue with adults and peers, negotiate meaning in play, listen to different perspectives, and refine their own expression through communication.

Group storytelling, paired activities, role-play, cooperative problem-solving, and shared book reading were found to provide valuable opportunities for developing literacy-related communication.

The findings suggest that social competence should not be regarded merely as an adjustment skill but as a direct contributor to literacy learning.

A child who can listen, respond appropriately, take turns, ask questions, and explain ideas is better prepared to participate in the interactive processes through which literacy is taught.

The fifth major result concerned perceptual and motor development.

Writing requires stable hand-eye coordination, fine-motor control, visual discrimination, spatial orientation, and the ability to reproduce patterns. For this reason, graphomotor readiness should be developed gradually through varied motor and creative experiences.

Activities such as drawing, cutting, threading, moulding, tracing, constructing, arranging small objects, and copying simple patterns were identified as effective forms of preparation.

The analysis suggests that conventional handwriting should emerge from broader motor development rather than replace it.

Children who are repeatedly required to copy letters before they have sufficient motor control may experience frustration and negative attitudes toward writing.

Pedagogical Conditions Supporting Literacy Readiness

The analysis identified several pedagogical conditions that consistently support the development of literacy readiness.

Table 3. Key pedagogical conditions and expected outcomes

Pedagogical condition	Psychological domain supported	Expected literacy outcome
Dialogic reading	Vocabulary, comprehension, attention	Improved language understanding
Storytelling and retelling	Narrative competence, memory	Stronger oral expression
Phonological games	Sound awareness	Improved decoding readiness
Role-play	Communication, self-regulation	Better social participation
Fine-motor activities	Graphomotor readiness	Better writing preparation
Literacy-rich environment	Motivation, print awareness	Increased interest in written language
Differentiated instruction	Individual developmental needs	More balanced progress
Family literacy activities	Language and motivation	Continuity between home and preschool

The table demonstrates that no single instructional method addresses every component of literacy readiness. Therefore, the most effective approach is an integrated pedagogical system combining several methods according to developmental purpose.

The Role of the Literacy-Rich Environment

Another significant result concerns the physical and social learning environment.

A literacy-rich preschool environment was found to contribute to readiness by increasing children's spontaneous encounters with written language.

However, the findings emphasize that the mere presence of books and letters is not sufficient. A meaningful literacy-rich environment should allow children to use print for real purposes.

Examples include:

- signing their artwork;
- creating simple messages;
- using labels during role-play;
- choosing books independently;
- producing symbolic menus or shopping lists;
- matching objects with written names;
- making storybooks;
- organizing picture sequences.

These activities help children understand that written language serves communication rather than existing only as an academic exercise.

The analysis confirmed that family literacy practices represent an important complementary factor in literacy readiness.

Home experiences such as shared reading, storytelling, conversation, singing, drawing, and discussing environmental print contribute to children's familiarity with language and books.

The findings also suggest that the quality of interaction matters more than the simple quantity of materials available.

Parents who ask open-ended questions, encourage children to predict story events, listen to their explanations, and respond positively to attempts at writing create richer developmental opportunities than those who focus primarily on correction or memorization [5].

For this reason, preschool institutions should provide families with practical recommendations that emphasize natural communication rather than formal homework.

The central result of the study is that literacy readiness should be considered an **integrative developmental competence**, not an isolated academic skill.

Its development depends on the coordinated interaction of:

- language;
- cognition;
- self-regulation;
- motivation;
- communication;
- perception;
- motor readiness;
- educational environment;
- family support.

The findings therefore challenge approaches that equate school readiness with early formal reading.

Instead, sustainable literacy readiness emerges when children are provided with psychologically safe, language-rich, playful, interactive, and developmentally appropriate learning experiences.

The proposed PPLRF framework provides a systematic basis for organizing such experiences and offers preschool educators a practical structure for observing, supporting, and developing children's readiness for subsequent literacy acquisition.

Discussion

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The findings of the present study support the view that literacy readiness among senior preschool children should be understood as a multidimensional developmental construct rather than as an early demonstration of conventional reading and writing skills. The analysis showed that successful preparation for literacy emerges through the interaction of oral language, phonological awareness, executive functioning, emotional and motivational readiness, social communication, perceptual development, and graphomotor coordination. These psychological resources, however, do not develop in isolation. Their growth is significantly influenced by the quality, content, and organization of children's everyday educational experiences.

One of the most important findings concerns the role of phonological awareness as a bridge between oral and written language. Contemporary empirical studies continue to demonstrate that children's ability to notice and manipulate the sound structure of spoken language contributes significantly to later literacy acquisition. Becker and Sylvan [1], for example, showed that intentionally designed phonemic-awareness activities combined with articulatory support can strengthen emergent literacy skills among preschool children. This supports the argument advanced in the present study that phonological preparation should be systematic but developmentally appropriate.

At the same time, the findings caution against reducing literacy readiness to phonological exercises alone. Phonological awareness becomes educationally meaningful when it develops within a broader language-rich environment. Rhyming activities, songs, riddles, sound games, storytelling, and shared reading allow children to encounter sounds as components of meaningful communication rather than as isolated training units. Such an approach preserves the playful character of preschool education while preparing children for later decoding.

The findings regarding oral language development are similarly important. Weadman, Serry, and Snow [2] emphasize the central role of preschool educators in supporting children's oral language and emergent literacy development. Their research draws attention to teachers' knowledge and confidence as factors affecting literacy-related educational practices. This is consistent with the present study, which identified teacher language modelling, dialogic interaction, questioning, and meaningful feedback as central pedagogical conditions.

Oral language should therefore be considered not merely as a separate developmental domain but as the semantic foundation of subsequent literacy learning. Children need a sufficiently rich vocabulary and grammatical system to understand what they read once decoding begins. Narrative competence is particularly important because it teaches children how events, characters, intentions, causes, and consequences are organized within meaningful discourse.

The analysis also supports the pedagogical value of shared book reading. Shared reading becomes particularly powerful when the adult does more than reproduce the printed text. Questions such as "Why do you think this happened?", "What might happen next?", "How did the character feel?", or "How would you solve this problem?" encourage children to connect language comprehension with reasoning, prediction, emotional interpretation, and personal experience.

Recent studies of preschool teachers' shared-reading practices similarly demonstrate that educators can use reading interactions to strengthen both oral-language and emergent-literacy skills [3]. Thus, books in preschool should not be treated only as sources of stories. They provide structured opportunities for dialogue, vocabulary development, narrative reasoning, print awareness, imagination, and social-emotional learning.

Another important result concerns the home literacy environment. The present analysis identified family participation not as an optional supplement but as an integral ecological component of literacy readiness. Bigozzi, Vettori, and Incognito [4] demonstrated longitudinally that preschool emergent-literacy skills mediate relationships between the home literacy environment and later

reading and writing performance. Their results reinforce the view that experiences occurring before formal schooling have continuing consequences.

Nevertheless, the findings also suggest that educators should avoid interpreting the home literacy environment too narrowly. It is not simply the number of books available at home that matters. The ways adults interact with children around language, reading, stories, writing, and questions appear equally important.

Esmaeeli [5] further demonstrates that the home literacy environment comprises distinguishable dimensions, including access to print, reading-related activities, and parents' own reading interests and habits. This multidimensional interpretation is especially useful because it shifts attention away from material resources alone and toward everyday family practices.

For preschool institutions, this finding has direct practical implications. Family support programs should not instruct parents to reproduce formal classroom lessons at home. Instead, educators can encourage naturally occurring literacy experiences: reading bedtime stories, discussing illustrations, singing songs, playing rhyming games, writing simple messages, creating shopping lists together, visiting libraries, and responding constructively to children's questions about written language.

The findings concerning executive functioning also add an important psychological dimension to the literacy-readiness model. Ernst, Grenell, and Carlson [6] examined associations between executive functions and early academic skills in preschool children. Although executive-function relationships with early academic domains may vary according to specific measures and age, the broader evidence supports the relevance of goal-directed behavior, attention regulation, working memory, and cognitive flexibility to children's learning.

The present study therefore argues that executive functions should not be treated as skills separate from literacy preparation. A child participating in shared reading must sustain attention; a child retelling a story uses working memory; a child following the changing rules of a sound game uses cognitive flexibility and inhibitory control. Literacy activities themselves can therefore serve as developmental contexts for executive functioning when appropriately designed.

This interpretation is strengthened by recent research on the quality of preschool experiences. Gavrilova and colleagues [7] found that the combination of longer preschool attendance and higher-quality teacher–child interaction was associated with stronger verbal working memory and inhibitory control among preschool children. Their findings are particularly relevant because they demonstrate that simply being present in a preschool environment is insufficient. The quality and continuity of interaction matter.

From a pedagogical standpoint, this reinforces the importance of teacher sensitivity, classroom organization, language modelling, feedback, and emotionally supportive interaction. A technically well-designed literacy activity may have limited developmental value if children experience anxiety, excessive correction, or weak interpersonal engagement during its implementation.

The quality of the teacher–child relationship consequently appears to operate as a cross-cutting pedagogical factor. It influences not only children's emotional well-being but also their willingness to communicate, ask questions, experiment with new language, tolerate mistakes, and persist when tasks become difficult.

Another significant result concerns the predictive value of emergent-literacy competencies. Valcárcel Jiménez and colleagues [8] found that preschool vocabulary, phonological awareness, letter knowledge, and rapid naming were differentially related to later reading and spelling outcomes. Their findings provide empirical support for the multidimensional model developed in the present study.

This evidence is particularly important for pedagogical assessment. If different emergent-literacy competencies contribute differently to subsequent reading and writing, preschool assessment should not rely on a single indicator. A child who knows many letters but has limited vocabulary should receive different pedagogical support from a child with strong oral language but weak phonological awareness.

The same reasoning applies to cognitive flexibility. Tal and Shaul [9] highlight the relevance of cognitive flexibility to emergent literacy. This suggests that literacy readiness includes the child's ability to shift attention among different symbolic, linguistic, and task-related demands. In practical preschool contexts, cognitive flexibility can be encouraged through classification games, alternative story endings, rule-switching activities, puzzles, word categorization, and tasks requiring children to consider more than one possible answer.

A further finding concerns literacy-readiness assessment. Traditional preschool assessment sometimes focuses heavily on observable academic products: how many letters a child recognizes, whether the child can write a name, or whether simple words can already be decoded. Such indicators are useful, but they cannot represent literacy readiness comprehensively.

The development and psychometric evaluation of the Pre-Literacy Test reported by Baştuğ [10] illustrates contemporary efforts to assess literacy readiness systematically before school entry. The large sample used in that research demonstrates growing interest in evidence-based evaluation of pre-literacy competencies.

However, assessment in preschool should remain formative rather than competitive. The purpose of identifying differences in readiness is not to label children as “ready” or “not ready” in a rigid sense. Instead, assessment should answer a pedagogically more useful question: **What kind of experience does this particular child need next?**

This principle underlies the Psychological–Pedagogical Literacy Readiness Framework proposed in this study. The PPLRF differs from models that organize readiness exclusively around academic competencies because it connects three levels of development: **psychological resources, pedagogical conditions, and active literacy experiences.**

The interaction of these levels generates emergent competencies that progressively prepare the child for conventional reading and writing.

The framework also emphasizes developmental compensation. A child entering preschool with a relatively limited home literacy environment does not necessarily remain at a permanent disadvantage. High-quality preschool interaction, systematic oral-language enrichment, storytelling, phonological games, access to books, and supportive teacher scaffolding can provide important additional developmental opportunities [4].

This point has substantial implications for educational equity. Literacy readiness should not become a mechanism for rewarding children who already arrive with greater cultural or material resources. Preschool education should function as a developmental environment capable of widening children's opportunities to acquire the linguistic and psychological resources needed for school.

The study also revealed why academic acceleration should be approached cautiously. Early letter knowledge may certainly form one component of literacy readiness, but pushing formal reading and handwriting instruction downward into preschool without sufficient psychological preparation can disrupt the developmental balance of early education.

Senior preschool children still learn extensively through movement, imagination, play, direct manipulation, social interaction, and emotionally meaningful experiences. A developmentally appropriate literacy curriculum should therefore make use of these modes of learning rather than replacing them with primary-school routines.

For example, graphomotor development may be supported more appropriately through drawing, modelling, mosaics, cutting, construction, tracing pathways, manipulating small objects, and pattern creation before intensive handwriting exercises are introduced. Similarly, sound awareness can emerge through playful oral-language activities before conventional phonics instruction becomes dominant.

The findings also support differentiation as an essential pedagogical principle. Children do not develop literacy-related abilities at identical rates. Chronological age is therefore an insufficient basis for determining the difficulty, duration, or instructional format of literacy activities.

Differentiation may involve changing the complexity of questions, providing visual support, adjusting the number of sound units children manipulate, offering additional modelling, allowing more time for verbal responses, or giving advanced children opportunities to create their own stories and books.

Such differentiation is not equivalent to lowering expectations. It allows all children to participate within what can be described as a productive zone of developmental challenge: tasks should require thought and effort but remain achievable with appropriate support.

Another important implication concerns the use of digital resources. Although digital tools were not the central focus of the present study, contemporary preschool environments increasingly include interactive books, educational applications, multimedia storytelling, and digital drawing tools. These resources may enrich literacy experiences when they stimulate active language use, discussion, creativity, and feedback. They should not, however, replace face-to-face dialogue, physical books, imaginative play, drawing, or direct interaction with materials.

Overall, the findings support a balanced pedagogical position. Literacy readiness does not require a choice between child-centered play and intentional teaching. Effective preschool practice combines them.

The teacher intentionally creates the conditions, selects appropriate materials, observes developmental needs, introduces vocabulary, models thinking, and provides scaffolding. The child remains an active participant who explores, communicates, creates, experiments, and gradually constructs an understanding of oral and written language.

The principal scientific implication is therefore that literacy readiness should be conceptualized as an **integrative psychological–pedagogical competence**. Psychological capacities determine how children are able to participate in literacy experiences, while pedagogical experiences contribute to the further development of those same capacities. The relationship is reciprocal rather than linear.

Conclusion

The present study examined psychological and pedagogical factors involved in developing literacy readiness among senior preschool children and proposed an integrated framework for organizing these factors within early childhood education.

The analysis demonstrated that readiness for literacy acquisition cannot be equated with premature mastery of conventional reading or writing. It is a broader developmental construct encompassing oral language, phonological awareness, vocabulary, narrative competence, attention, memory, executive functioning, emotional security, motivation, communication skills, perceptual processes, and graphomotor readiness.

The study established that psychological readiness and pedagogical support are mutually dependent. Strong psychological prerequisites enable children to engage productively in literacy experiences, while high-quality pedagogical experiences actively contribute to the development of those prerequisites.

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Among the psychological factors, oral-language competence and phonological awareness were identified as particularly important foundations for later literacy. At the same time, executive functioning, emotional-motivational readiness, social communication, and fine-motor development were shown to support children's ability to participate successfully in increasingly structured literacy-related activities.

Among pedagogical factors, the following were identified as especially significant:

- dialogic and language-rich teacher–child interaction;
- shared book reading and storytelling;
- phonological and verbal play;
- developmentally appropriate literacy-rich environments;
- rule-based and imaginative play;
- fine-motor and creative activities;
- differentiated pedagogical support;
- formative observation and assessment;
- collaboration between preschool institutions and families.

The proposed **Psychological–Pedagogical Literacy Readiness Framework (PPLRF)** conceptualizes readiness through the following developmental relationship: **Psychological Resources + Pedagogical Conditions → Active Literacy Experiences → Emergent Literacy Competencies → Readiness for Formal Literacy Learning.**

The framework highlights that literacy preparation is most productive when children encounter written language as a meaningful element of communication, play, creativity, and everyday experience rather than merely as an academic task.

The study also concludes that preschool teachers should avoid judging literacy readiness through a single academic indicator. Letter knowledge, for example, provides valuable information, but it should be interpreted together with oral language, sound awareness, self-regulation, motivation, communication, and motor development.

Pedagogical assessment should therefore serve a developmental purpose. Its central function is to identify the child's current strengths, emerging abilities, and areas requiring additional support. Such an approach reduces the risk of rigid labeling and promotes individualized educational planning.

Family involvement was likewise identified as an important condition. A supportive home literacy environment can strengthen vocabulary, emergent literacy, motivation, and children's understanding of the communicative purposes of written language. Preschool–family cooperation should emphasize shared reading, storytelling, conversation, language games, creative activities, and positive attitudes toward literacy rather than formal homework.

A further conclusion is that high-quality teacher–child interaction functions as a cross-cutting condition linking emotional, cognitive, and linguistic development. For this reason, professional development programs for preschool teachers should address not only specific literacy methods but also language modelling, interaction quality, developmental observation, scaffolding, differentiation, and emotionally supportive communication.

From a practical perspective, literacy-readiness programs for senior preschool children should preserve the distinctive developmental character of early childhood. Play, movement, exploration, creativity, social interaction, and emotional engagement should remain central. Intentional literacy teaching can and should occur within these contexts.

The limitations of the present study arise primarily from its theoretical-analytical design. The proposed PPLRF requires further empirical validation through experimental or longitudinal research. Future studies could investigate the relative contribution of its individual components, develop

diagnostic indicators for each readiness domain, and examine the effectiveness of differentiated interventions across different preschool populations.

Further research may also explore how linguistic characteristics of different languages influence the structure of literacy readiness, particularly the relative roles of phonological awareness, orthographic transparency, vocabulary, and early writing.

In conclusion, preparing senior preschool children for literacy is not a matter of teaching school content earlier. It is the purposeful creation of psychological and pedagogical conditions that allow children to enter formal education with curiosity about language, confidence in communication, sufficient self-regulation, developed oral-language resources, sensitivity to the sound structure of speech, motor readiness, and a meaningful understanding of written language.

Such readiness creates a more sustainable foundation for subsequent reading and writing than early mechanical acceleration and supports not only academic achievement but also children's positive relationship with learning.

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