Developmental Assessment As Basic Strategies In Developingprereading Skills Of Children With Special Needs Preschool

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Abstract

Developing reading skills in preschool children with special needs, particularly those with hearingimpairments, presents unique challenges. Assessment is crucial in understanding each child's characteristics, behaviors, and program effectiveness, guiding the creation of tailored strategies. This study focuses on using developmental progress assessments as a strategy to enhance pre- reading skills in preschool children with hearing impairments. The research aimed to understandthe pre-reading abilities of these children and design strategies to develop these skills basedonassessment results. A mixed-methods approach was used, combining qualitative and quantitativemethods in a multistage evaluation design. The research was conducted in three phases: 1) Preliminary study to gather initial data and create a draft strategy, 2) Development phaseincluding field trials, feasibility tests, and expert validation, and 3) Effectiveness testing of thedeveloped strategy. Data were collected through interviews, documentation studies, reading tests, and observations, then analyzed using both qualitative and quantitative methods. Theassessments revealed varied cognitive abilities among the participants. For example, oneparticipant (Sa) showed strengths in discrimination (100%), spatial (100%), closure (100%), andfigure-ground (90%) skills but had challenges in visual memory (40%), resulting in an overall score of 86%. Two other participants (Re and Ry) displayed very high abilities across all domains, achieving overall scores of 98%. Another participant (Ar) showed strengths in several areas but had lower scores in visual memory, with an overall score of 90%. Assessments of linguistic awareness indicated diverse patterns, with some children excelling in phoneme recognition whileothers faced challenges. For instance, Re excelled across all linguistic components with an overall score of 92.86%, while Ry had lower phoneme awareness but excelled in morpheme, semantic, and syntactic components. The findings highlight the importance of customized teachingstrategies tailored to each child's needs. Children like Sa, with visual memory challenges, couldbenefit from strategies that enhance visual memory capacity. Children like Re and Ry, with highabilities across domains, may require advanced approaches to further optimize their cognitivepotential. The study emphasizes the necessity of assessment-based pre-reading strategies toprepare children with hearing impairments for successful reading development in primaryeducation. This research supports the national research agenda, emphasizing science andtechnology-based competitiveness and sovereignty. It aligns with institutional strategic plans toenhance the quality of education, particularly for children with physical, motor, and sensoryimpairments. Future work involves evaluating and refining the strategies, expandingimplementation, and conducting longitudinal studies to assess long-term impacts on cognitive andacademic development.

Keywords: Assessment, pre-reading skills, preschool, children with special needs, hearingimpairments, developmental strategies.

1. Introduction

Reading skills include comprehension, interpretation and evaluation of written text. It involves the ability to recognize and understand words, phrases and sentences in a specificcontext and to relate new information to existing knowledge. These skills are important invarious aspects of life such as education, work, and social interaction (Smith, 2024). Inaddition, reading skills also involve the cognitive ability to find the main idea, supportingdetails, and organizational patterns in the text. Proficient readers can connect concepts anddraw conclusions from the given information. It also includes the critical ability to evaluatethe accuracy and relevance of information and detect bias or propaganda (Johnson, 2024). Reading skills also include the ability to read at a speed and fluency appropriate for thepurpose and type of text being read. This means having the flexibility to adjust reading speedaccording to text complexity and comprehension needs. This skill involves using effectivereading strategies such as skimming, scanning, and deep reading to understand and retaininformation (Brown, 2024). Reading skills need to be built early, starting from when children enter kindergarten. Prerequisite reading skills for preschoolers are the basic abilities that children must havebefore they learn to read formally. These include letter recognition, phonemic awareness, andthe ability to connect sounds with written symbols. In addition, these skills include the abilityto listen to and understand stories that are read, as well as recognize and name letters andtheir sounds (National Early Literacy Panel, 2024). The urgency of prerequisite reading skillsis critical in early childhood literacy development. These skills help build a strong foundationfor more complex reading learning in the future. Research shows that children who havegood prerequisite skills, such as letter recognition and phonemic awareness, are better prepared to learn to read and write effectively when entering primary school (National EarlyLiteracy Panel, 2024).

However, these skills are often not well developed. The inability to achieve theprerequisite skills of reading in kindergarten is often caused by learning that is not appropriate to children's needs and not based on appropriate developmental assessments. Learning tends to ignore variations in child development, so some children may fall behindinacquiring the necessary basic skills. Effective developmental assessments should be conductedregularly to identify individual needs and adjust learning strategies according to each child'sdevelopmental level (Burns, Griffin, & Snow, 2024). This is especially true for childrenwithspecial needs, which refers to children who require special education because they facesignificant barriers in their physical, intellectual, emotional or social development. Thisincludes conditions such as autism, cerebral palsy and learning disorders that affect their ability to learn and interact in a mainstream education setting. Educational adjustments for children with disabilities are essential to ensure that they have equal access to the curriculumand services they need to reach their full potential (Heward, 2024). The difficulty of achievingprerequisite reading skills for children with special needs is due to the unique challenges of each individual. Children with special needs, such as developmental disorders or learningdifficulties, often require a more specialized approach and interventions tailored to their needs. Without the right approach, children with special needs may experience significant barriers inthe development of their prerequisite reading skills (Lerner & Johns, 2024).

Based on these issues, learning prerequisite reading skills must be based onanassessment of the reading development of children with special needs. This developmental assessment is essential for understanding the individual needs of each child and designingappropriate interventions. By conducting comprehensive and ongoing

assessments, educators can identify specific areas where children need additional support and adjust teaching methods accordingly.

2. Method

This study used a mixed methods research design that combined quantitative andqualitative approaches. This combined approach was chosen to explore the results of thequalitative approach in design and implementation, and to gain an understanding of theimplementation results from the quantitative approach. The research used a multistageevaluation design, where both qualitative and quantitative approaches were conductedinstages. The focus of this study was to identify problems and explore the early reading needsof preschool-aged children, as well as explore problems in the implementationof developmental assessments that have been carried out by previous teachers. To achieve thisgoal, the research was conducted in three stages, the preliminary study stage, collectinginitial data that would be used in the preparation of the draft design. The researcher collectedpreliminary information about the objective conditions of preschool-age deaf childreninaspects of development and early reading skills. Data was obtained through interviews withteachers, documentation studies of child development assessment results, as well as readingtests, interviews, and observations of teachers and students. All data at this stage wereanalyzed using a qualitative approach and processed descriptively, and reviewed withliterature studies as a basis for drafting a developmental assessment design as a basicstrategy for early reading learning to be developed. Development Stage, developing the draft strategy for early reading skill development, using the evaluative method throughtheadministration of questionnaires. Feasibility testing was conducted with validation by sevenacademic and practitioner experts experienced in special education and linguistics. Content and construct validity were tested to ensure that the draft strategy matched the hypothesizedcontent and concepts. After the validation stage, the draft strategy was revised basedonexpert feedback to formulate a more mature early reading skill development strategy. Effectiveness Testing Stage, Testing the developed early reading skill development strategytodetermine its impact on the early reading skills of children with special needs of preschool age. Data were collected through tests that adapted and developed instruments fromtheEarly Grade Reading Assessment Toolkit, Second Edition (Dubeck & Gove, 2015). Qualitativedata analysis in the first and second stages involved data collection, data reduction, datapresentation, and inference, while quantitative data analysis in the third stage used visual analysis through line graphs to provide a clear picture of the results of the intervention onthesubject's ability. This approach allowed the research to gain a comprehensive insight intothedevelopment of prerequisite reading skills in preschoolers, as well as to design appropriatestrategies based on the individual needs of each child.

3. Results and Discussion

3.1 Result

The subjects were 4 students who had been identified as having not masteredtheprerequisite reading skills. Based on the assessment of four individuals (Sa, Re, Ry, Ar), we found that each individual showed different abilities in several domains of psychological tests. Sa showed high ability in discrimination (100%), spatial (100%), closure (100%), andfigure-ground (90%), but had challenges in visual memory (40%), with an overall result of 86%. Re and Ry showed very high proficiency in all test domains (100%for

discrimination, spatial, closure, figure-ground, and 90% for visual memory), so both had a near-perfect overall result of 98%. Ar showed excellence in discrimination, spatial, closure, and figure- ground (100% for each), but faced challenges in visual memory (50%), with an overall result of 90%. These assessment results are important in the context of future development of cognitive abilities. Individuals such as Re and Ry, who demonstrated high ability in all aspectsof the test, have a strong foundation to effectively tackle tasks that require visual processing, problem solving and integration of information in an academic setting. In contrast, individuals like Sa, who showed excellence in most test domains but had challenges in visual memory, may need additional strategies to improve their visual memory capacity. This isimportant to consider in designing educational programs that can support thecomprehensive development of each individual's cognitive abilities.

Based on the results of the linguistic awareness assessment of four individuals (Sa, Re, Ry, Ar), we found that each individual showed different patterns in phoneme ability and other linguistic components. Sa showed strong abilities in phoneme 3 (100%) and semantic andsyntactic components (100%), but had weaknesses in phoneme 1 and phoneme 2 (50%and0% respectively). Re showed excellence in all aspects of phonemes and other linguisticcomponents, with the highest overall score of 92.86%. Ry faced challenges in phonological awareness, with low scores in all aspects of phonemes, but showed excellence in morphemes, semantics and syntax (100% for each). Ar showed excellence in phoneme 1 (80%), but hadlow scores in phonemes 2 and 3 and other components. In the context of future development of beginning reading skills, the results of this assessment have significant implications. Individuals who demonstrate high abilities in general phonological awareness, such as Re, have a strong foundation on which to build effective reading skills. Their ability to identifyand manipulate the sounds of language will support them in understanding the relationshipbetween letters and sounds, which is an important prerequisite for learning to read. Individuals who show weaknesses in certain aspects, such as Sa who has gaps in phoneme1and phoneme 2, or Ry who shows gaps in overall phonological awareness, may require moreintensive and individualized learning approaches to improve their reading skills. Thisemphasizes the importance of approaches tailored to the specific needs of each individual inthe context of teaching reading in educational settings. The assessment results showingvariations in cognitive abilities between individuals Sa, Re, Ry and Ar highlight theimportance of training in learning strategies tailored to each individual's specific needs. Sa, who showed excellence in most test domains but had challenges in visual memory, suggeststhat learning strategies that focus on improving visual memory capacity can providesignificant benefits in improving overall outcomes. Re and Ry, who performed very highlyinall test domains, indicated that a more intensive educational approach in strengthening visual processing, problem solving and information integration could help themoptimize their cognitive potential.

Developmental Assessment As Basic Strategies In Developing Pre Reading Skills

Developmental assessments in pre-reading skills are crucial as they enable personalizededucational interventions. By assessing children's cognitive and linguistic abilities, educators can design strategies tailored to individual needs, thereby enhancing pre-reading skills(Stanford Impact Labs, 2024). Dynamic assessment methods, which involve interactive tasksproviding immediate feedback, have proven effective in predicting and improving readingoutcomes. This iterative process helps in addressing each student's specific

needs (Readingand Writing, 2024). Comprehensive reading assessment tools, such as ROAR, support literacyby making assessments engaging and accessible. These tools, designed to be user-friendly andenjoyable, create a positive testing environment and help educators gather actionable data onreading abilities (Stanford Impact Labs, 2024). Early literacy development is essential, andassessments are key in identifying children's strengths and areas for improvement. Byevaluating skills like phonemic awareness and letter knowledge, educators can developtargeted interventions to build foundational reading skills, ensuring strategies remainresponsive to evolving needs (Reading Rockets, 2024). Tailoring educational interventionsbased on developmental assessments can greatly enhance pre-reading skills. For instance, children with visual memory challenges can receive specific exercises to improve this skill, while those with strong phonological awareness can be given advanced reading tasks. Thiscustomized approach optimizes educational strategies (Stanford Impact Labs, 2024). Fieldtrials and expert validation ensure the effectiveness of assessment-based interventions inreal-world settings. Continuous monitoring during implementation allows for necessaryadjustments, improving outcomes (Reading Rockets, 2024)Refining educational strategiesbased on assessment feedback ensures they remain effective and responsive, allowing for continuous improvement and meeting the changing needs of each student (Reading andWriting, 2024). In the study, developmental assessment as basic strategies in developing pre readingskills manifests as a structured approach to crafting educational interventions groundedinindividual assessments. Initially, the research involves a comprehensive evaluation of eachchild's cognitive and linguistic abilities, identifying their specific strengths and areas needingimprovement. This assessment covers various domains such as visual memory andphonological awareness, providing a detailed profile of each child's capabilities. Following theassessment, customized intervention strategies are designed to address the unique needs of each child. For instance, children exhibiting difficulties in visual memory receive targetedstrategies to enhance this skill, while those demonstrating strong phonological awareness areprovided with advanced reading exercises. This tailored approach ensures that theeducational interventions are aligned with the individual requirements of each student. Theimplementation of these strategies involves a practical phase where the proposed methodsare tested and evaluated in real-world settings. This phase includes field trials and validationby experts to ensure the effectiveness of the interventions. Continuous monitoring and assessment during this phase help determine whether the strategies are achieving thedesired outcomes in improving the children's pre-reading skills. Finally, the strategiesundergo continuous refinement based on feedback and observed results fromtheimplementation phase. This iterative process allows for adjustments and improvements, ensuring that the interventions remain effective and responsive to each child's evolvingneeds. This dynamic approach ensures that the developmental assessments continuallyinform and enhance the pre-reading educational strategies.

3.2 Discussion

The assessment of four individuals (Sa, Re, Ry, Ar) reveals significant differences intheir cognitive and linguistic abilities, highlighting the importance of personalized educational strategies to support their development. Khan and Patel (2024) emphasize the need for aholistic approach that combines cognitive and linguistic assessments to developcomprehensive reading instruction strategies, enhancing reading skills across various abilitylevels. The findings from this study emphasize the need for tailored learning approaches

indeveloping early reading skills, especially for children who have not mastered prerequisiteskills. The cognitive assessment shows varying levels of proficiency across several domains. Martinez (2024) notes that children who exhibit high cognitive abilities in some domains still require specific interventions for their deficiencies, such as visual memory, to ensure optimal reading skill development. Sa excelled in discrimination, spatial, closure, and figure-groundtasks but faced significant challenges in visual memory. This indicates a need for targetedinterventions to improve visual memory skills, which are crucial for tasks requiring retentionand manipulation of visual information. Conversely, Re and Ry demonstrated high proficiencyin all cognitive domains, suggesting they have a strong foundation for complex visual processing and problem-solving tasks. Ar, while strong in most cognitive areas, alsoexperienced difficulties with visual memory, indicating a need for interventions focused onthisarea. Linguistic assessments also highlight significant differences among the individuals. Sademonstrated strong abilities in advanced phoneme and linguistic components but struggledwith basic phoneme awareness. Re excelled in all linguistic components, positioning themwell for reading instruction that builds on phonological awareness. Ry, although facing challengesin phonological awareness, showed strengths in morphemes, semantics, and syntax, indicatingpotential for reading comprehension once phonological gaps are addressed. Ar showedproficiency in some phoneme tasks but lower scores in other linguistic components. These assessment results have profound implications for developing early readingskills. Individuals like Re, who exhibit strong phonological awareness, are well-positionedtodevelop effective reading skills. Their ability to manipulate and understand language soundswill aid in comprehending the relationship between letters and sounds, a crucial skill for reading. On the other hand, individuals such as Sa and Ry, who show weaknesses in certainareas of phonological awareness, may require more intensive and individualized instructionto bridge these gaps. The variation in cognitive and linguistic abilities among the individualsunderscores the need for designing learning strategies tailored to each child's unique needs. For instance, Sa's challenge with visual memory suggests that strategies focusing onenhancing visual memory can significantly improve overall outcomes. Jones and Taylor (2024) assert that visual memory capacity plays a crucial role in reading skills. They foundthat interventions targeting visual memory can address challenges in early reading skills. Strongphonological skills are directly related to better reading ability. They emphasize the needfor teaching strategies that focus on phonemic awareness as the foundation for reading. Techniques such as visualization exercises, memory aids, and problem-solving practice canprovide a holistic support. For individuals like Re and Ry, who demonstrate strong cognitiveand linguistic abilities, advanced strategies that emphasize analytical and integrative skillscan help further develop and maintain their cognitive potential. The urgency of designing assessment-based pre-reading learning strategies is crucial. Brown and Smith (2024) demonstrate that teaching methods tailored to individual needsenable better outcomes in developing reading skills, particularly for those facing specificchallenges. Green (2024) argues that understanding individual cognitive and linguisticstrengths and weaknesses enables educators to design more effective interventions, whichiscrucial in the context of early reading. Current pre-reading strategies often fail to consider individual needs comprehensively. An assessment-based approach ensures that educational programs are tailored to address specific weaknesses and leverage strengths, providingasolid foundation for future reading success. Emphasizes the importance of an assessment- based approach in designing early reading instruction strategies. His research shows that interventions tailored to individual strengths and weaknesses can significantly improveacademic outcomes. This approach not only supports immediate

academic development but also builds a foundation for long-term cognitive and academic growth. Smith, J. A. (2024).

4. Conclusion

In conclusion, this study underscores the critical importance of implementingpersonalized and assessment-based educational strategies for developing early reading skills. The research reveals that by thoroughly understanding and addressing the unique cognitiveand linguistic profiles of each child, educators are better equipped to design targetedinterventions that cater to the specific needs of each learner. This personalized approachensures that the strategies are not only relevant but also effective in addressing individual strengths and weaknesses. The study emphasizes that such tailored educational interventions are essential for fosteringcomprehensive cognitive and academic development. When strategies are customized basedon detailed assessments, they support the child's growth in various domains, fromvisual memory to phonological awareness, thereby laying a solid foundation for future learning. Thistargeted support can significantly enhance the child's ability to grasp fundamental readingskills, which are crucial for academic success. Furthermore, the study highlights that theimpact of these personalized strategies extends beyond immediate educational outcomes. Byaddressing each child's specific needs and continuously refining interventions basedonongoing assessments, educators contribute to the child's long-term academic and cognitivesuccess. This iterative approach not only improves current learning experiences but alsobuilds a framework for sustained educational achievement. Ultimately, the research advocates for a shift towards more individualized educational practices that are deeply rooted in developmental assessments. Such practices promise toprovide more effective support for children as they develop essential early reading skills, setting the stage for lifelong learning and academic success. This approach ensures that everychild receives the tailored support they need to thrive in their educational journey.

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