

Initial Assessment of Children with Special Needs in Early Childhood Education: A Literature Review and Strategic Recommendations

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Abstract: *Early Childhood Education (PAUD) is a crucial stage, making initial assessments for Children with Special Needs (ABK) the primary foundation for determining tailored educational services and interventions. This study aims to conduct a systematic literature review of indexed studies published between 2020 and 2025 to identify practices, analyze challenges, and formulate strategic recommendations for implementing initial assessments for ABK in PAUD. The method used is a Systematic Literature Review, with data collected from indexed journal databases (Scopus, WoS, SINTA) using specific inclusion criteria. The collected data were analyzed qualitatively using a thematic synthesis approach, grouped into four main focuses: assessment concepts, effective practices, implementation barriers, and intervention needs. The review results indicate that initial assessments serve a crucial role as a starting point (baseline) for the preparation of Individual Education Plans (IEP). The most effective model is play-based assessment (play-based assessment) and functional assessment, which requires strong collaboration between teachers, therapists, and parents. However, implementation faces significant challenges, particularly the limited technical competency of teachers in observation and data analysis, as well as systemic barriers such as the lack of adaptive instruments and professional staff support. Based on these findings, detailed Strategic Recommendations are formulated: (1) For Teachers, Skills-Based Training is needed (Skill-Based Training) which focuses on observation and functional analysis; (2) For Educational Institutions and Services, it is emphasized the need for the Procurement of Adaptive Assessment Instruments and the allocation of time and supporting staff; (3) For Further Research, it is recommended to conduct empirical studies to test the effectiveness of specific assessment models and develop integrated teacher training models.*

Keywords: *Initial Assessment, Children with Special Needs, Early Childhood Education, Literature Review*

Abstrak: Pendidikan Anak Usia Dini (PAUD) merupakan tahap yang krusial, sehingga asesmen awal bagi Anak Berkebutuhan Khusus (ABK) menjadi fondasi utama dalam menentukan layanan pendidikan dan intervensi yang tepat sasaran. Penelitian ini bertujuan melakukan tinjauan pustaka sistematis terhadap studi terindeks yang dipublikasikan pada periode 2020–2025 untuk mengidentifikasi praktik, menganalisis tantangan, serta merumuskan rekomendasi strategis dalam implementasi asesmen awal bagi ABK di PAUD. Metode yang digunakan adalah *Systematic Literature Review*, dengan pengumpulan data dari basis data jurnal terindeks (Scopus, WoS, SINTA) menggunakan kriteria inklusi tertentu. Data yang terkumpul dianalisis secara kualitatif melalui pendekatan sintesis tematik dan dikelompokkan ke dalam empat fokus utama: konsep asesmen, praktik efektif, hambatan implementasi, dan kebutuhan intervensi. Hasil kajian menunjukkan bahwa asesmen awal berperan krusial sebagai titik awal (*baseline*) dalam penyusunan *Individual Education Plan* (IEP). Model yang paling efektif adalah asesmen berbasis bermain (*play-based assessment*) dan asesmen fungsional, yang menuntut kolaborasi kuat antara guru, terapis, dan orang tua. Namun, implementasi menghadapi tantangan signifikan, terutama keterbatasan kompetensi teknis guru dalam observasi dan analisis data, serta hambatan sistemik seperti kurangnya instrumen adaptif dan dukungan tenaga profesional. Berdasarkan temuan tersebut, dirumuskan Rekomendasi Strategis sebagai berikut: (1) bagi Guru, diperlukan pelatihan berbasis keterampilan (*skill-based training*) yang berfokus pada observasi dan analisis fungsional; (2) bagi Lembaga dan Layanan Pendidikan, ditekankan perlunya pengadaan instrumen asesmen adaptif serta alokasi waktu dan tenaga pendukung; (3) bagi Penelitian Selanjutnya, direkomendasikan studi empiris untuk menguji efektivitas model asesmen tertentu dan mengembangkan model pelatihan guru yang terintegrasi.

Kata kunci: Asesmen Awal; Anak Berkebutuhan Khusus; Pendidikan Anak Usia Dini; Tinjauan Pustaka.

1. INTRODUCTION

Initial assessments for children with special needs (ABK) in early childhood education (PAUD) are crucial because the results serve as the foundation for determining tailored educational services and interventions (McLoughlin & Lewis, 2024; Rochyadi, 2010). Initial assessments serve as baseline data). In academic terms, it is a systematic data collection process to identify each child's developmental status, strengths, weaknesses, and unique learning needs. In the context of early childhood education for children with special needs, initial assessment is not simply data collection, but rather a systematic process aimed at obtaining a comprehensive picture of the child's strengths and needs. According to experts, this assessment helps teachers and other educational staff determine the validity and effectiveness of the learning program to be implemented.

Lerner defines assessment as a systematic process of gathering information from a child to make judgments and decisions (Lerner, 2021). Rochyadi further states that assessment results are used to design and implement educational interventions (Rochyadi, 2010).

Effective assessments enable educators to develop relevant and adaptive Individual Education Plans (IEPs), addressing needs in communication, motor skills, and social support (Puspitasari et al., 2025; Jannah et al., 2021). The importance of this process is further strengthened by the implementation of inclusive education policies and the Independent Curriculum, which require diagnostic assessments tailored to individual children's needs (Dewi et al., 2023). Assessments for children with special needs in early childhood education (PAUD) are generally conducted in a formative, ongoing, and contextual manner, often involving collaboration with parents and other stakeholders (Halipah et al., 2025; Kurniah et al., 2021).

However, there is a gap between the ideal demands of multi-method and collaborative assessment and the reality of its implementation in early childhood education (ECE) settings. While the importance of initial assessment has been recognized, its implementation in the field still faces various challenges. Therefore, a systematic literature review based on recent studies (2020-2025) is needed to analyze these practices and challenges and formulate strategic recommendations to optimize the initial assessment process for children with special needs (ABK) in ECE. Several studies indicate that ECE teachers, especially in inclusive institutions, still have limited competency and minimal knowledge in identifying and conducting appropriate assessments for children with special needs (Rafikayati et al., n.d.; Putra et al., 2024). Furthermore, the lack of supporting facilities and infrastructure, as well as limited time and adequate professional training, are serious obstacles (Musi et al., 2024; Tanggur, 2023). Collaboration with parents, although vital, is often not optimal (Yusuf et al., 2023). These challenges hinder the formulation of learning programs that are truly flexible and responsive to the unique characteristics of each ABK (Jannah et al., 2021).

Based on this background, this study aims to conduct a comprehensive literature review on the practices and challenges of initial assessments for children with special needs (ABK) in early childhood education (PAUD). The review focuses on analyzing the latest findings from indexed journals (2020-2025) regarding the importance, techniques, and challenges in implementing initial assessments. The results of this review will serve as a basis for formulating practical and applicable strategic recommendations for teachers, early childhood education institutions, and stakeholders to optimize the initial assessment process for children with special needs in PAUD.

2. RESEARCH METHODS

This study uses a Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize all relevant evidence regarding the practices and challenges of early assessment of Children with Special Needs (ABK) in Early Childhood Education (PAUD) from 2020 to 2025. The review procedure follows the steps adapted from the PRISMA guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) to ensure transparency and reliability of the process. The goal is to provide a comprehensive overview and formulate strategic recommendations based on current literature findings. The literature review process is conducted through three main stages: (A) Search Strategy and Data Sources, (B) Selection Criteria (Inclusion and Exclusion), and (C) Data Analysis and Synthesis Procedures.

2.1. Search Strategy and Data Sources

Primary literature was collected from leading internationally and nationally indexed academic journal databases, including: International Databases: Scopus, Web of Science, ScienceDirect, ProQuest. National Databases: Google Scholar, Garuda Portal, and SINTA (especially SINTA 1-3) to ensure relevance to the Indonesian context. Publication Time Range: Included journals are those published in the period January 2020 to May 2025 to ensure the topicality and relevance of the findings. Keywords: The search strategy was carried out by combining the main keywords using Boolean operators ("AND" and "OR"). The keywords used include:

Table 1. Databases and Keyword Strategy

| | Indonesian | English |
|------------|--|--|
| Draft | Initial Assessment, Disgnostic Assessment, Initial Examination | Initial Assessment, Diagnostic Assessment, Early Screening |
| Population | Children with Special Needs (ABK), Disabilities | Children with Special Needs (CSN), Disability |
| Context | PAUD, Early Childhood Education, Inclusive Schools | Early Childhood Education (ECE), Inclusive School |

2.2. Selection Criteria (Inclusion and Exclusion)

After the search results were collected, a two-stage screening process (based on Title/Abstract and Full Text) was conducted using the following criteria: Inclusion Criteria (Accepted) Exclusion (Rejected) Article Type, Primary Research Journal (Empirical Study), Literature/Systematic Review/Scoping Review. Opinion Article, Book Review, Conference Paper that has not been published as a journal, Thesis/Dissertation. Focus Topic specifically discusses the process, model, technique, or challenge of initial/diagnostic assessment in ABK. Studies that focus only on intervention/therapy without assessment details, or studies that focus on school-aged children (> 8 years). Time Range Published between 2020–2025. Published before 2020. Language Indonesian or English (Full text available). Languages other than Indonesian or English.

2.3. Data Analysis and Synthesis Procedures

Data from journals that passed the inclusion criteria were extracted and analyzed through the following steps: Data Extraction: Key information from each journal was recorded, including: Author(s), Year of Publication, Country/Research Context, Objectives, Methodology, Key Findings (related to practices, challenges, or assessment recommendations).

Quality Appraisal: Although the primary focus was synthesis, each article was qualitatively assessed to ensure the relevance and reliability of the findings presented. Thematic Synthesis: The extracted data were qualitatively analyzed using a thematic analysis approach. The findings were grouped and categorized into coherent themes to address the research objectives. Three main themes emerged: Recommended Assessment Models and Techniques. Challenges and Barriers to Assessment Implementation (Competencies, Resources, Collaboration). Need for Assessment-Based Educational Interventions. Formulation of Recommendations: Based on the synthesis of findings from the three themes, specific and targeted Strategic Recommendations were formulated to improve the practice of early assessment of children with special needs in early childhood education.

Table 2. Strategic Recommendation Sources

| Writer | Year | Journal/Book Title | Country of Origin (Assumption/Context) | Research Method/Type of Work | Main Focus |
|---|------|---|--|------------------------------|---|
| Chairunnisa, C., Istaryatiningtias, & Rismita | 2024 | Assessment of Children with Special Needs: The Foundation of Inclusive and Equitable Education | Indonesia | Journal Articles | ABK assessment as the foundation of inclusive education. |
| Dewi, T. K., Jasmani, J., Latifa, B., & Suryana, D. | 2023 | Assessment of learning difficulties due to addictiongadgetin elementary school age children... | Indonesia | Journal Articles | Assessment of learning difficulties (although focused on elementary school children andgadget). |
| Halipah, S., Or, S. M., Anak, P., Dini, U., ... | 2025 | Implementation of assessment in early childhood: Case study in groups A (4-5 years) and B (5-6 years) | Indonesia | Case Study (Journal Article) | Implementation of assessment in early childhood. |
| Idhartono , A.R. , Badiah , L.I. , & Khairunnisa , K.K. | 2023 | Assessment and early detection of children with special needs in PAUD, KB, and TK | Indonesia | Journal Articles | Assessment and early detection of children with special needs in PAUD, KB, and TK. |
| Irdamurni | 2019 | Inclusive education: A solution for educating children with special needs | Indonesia | Book | Inclusive Education Concept for Children with Special Needs. |
| Jannah, N., Rosdianah, R., & Handayani, H. | 2021 | Equal access to inclusive early childhood education in Indonesia: Ascoping review | Indonesia | Scoping Review | Access and equality of inclusive education for AUD. |
| Kurniah, N., Agustriana, N., & Zulkarnain, R. | 2021 | Development of early childhood assessment in the PAUD teacher environment | Indonesia | Journal Articles | Development of AUD assessment by PAUD teachers. |

| Writer | Year | Journal/Book Title | Country of Origin (Assumption/Context) | Research Method/Type of Work | Main Focus |
|--|------|--|--|------------------------------|---|
| Lerner, J. | 2021 | Learning disabilities: Theories, diagnosis, and teaching strategies | United States/International | Book | Definition and strategies of learning disabilities. |
| McLoughlin, J. A., & Lewis, R. B. | 2024 | Assessing students with special needs | United States/International | Book | Assessment of students with special needs. |
| Musi, A. H., Roesminingsih, E. M., & Setiawan, I. | 2024 | Analysis of teacher training needs in the use of technology for assessment in PAUD | Indonesia | Journal Articles | The need for early childhood education teacher training on technology for assessment. |
| Nisa, U., & Wati, V. | 2022 | The Dilemma of Inclusive Early Childhood Education Teachers Regarding the Complexity of Children with Special Needs: Between Challenge and Inevitability | Indonesia | Journal Articles | Challenges for inclusive PAUD teachers in dealing with children with special needs. |
| Puspitasari, W., Hasanah, I. M., Husnah, F. M., Rahmiati, R., & Meilana, S. F. | 2025 | Initial assessment based on children with special needs (ABK) | Indonesia | Journal Articles | The importance of initial assessment based on ABK. |
| Putra, A., Sari, R. P., & Dewi, P. | 2024 | Teacher training in the implementation of authentic assessment techniques for children with special needs | Indonesia | Journal Articles | Authentic assessment implementation training for ABK. |
| Rafikayati, A., Badiyah, L. I., & Mudhar | 2019 | Improving the skills of PAUD teachers in handling children | Indonesia | Journal Articles | Improving the skills of PAUD teachers in handling |

| Writer | Year | Journal/Book Title | Country of Origin (Assumption/Context) | Research Method/Type of Work | Main Focus |
|--------------------------------------|------|--|---|--|--|
| | | with special needs (ABK) in PAUD | | | children with special needs. |
| Rochyadi, A. | 2010 | Assessment of children with special needs | Indonesia | Book | Assessment concept for ABK. |
| Steed, E. A., & Stein, R. | 2021 | Initial evaluation practices: A survey of early childhood personnel. <i>Journal of Early Intervention</i> , 43(1), 3–20 | United States (the research context was conducted on early childhood education personnel in the US) | Quantitative survey (questionnaire for PAUD workers/early childhood personnel) | Early childhood evaluation practices, particularly how educational staff conduct initial identification and assessment of children with special needs. |
| Susilawati, E. H., & Anggraini, F. | 2018 | Toddler growth and development screening model based on empowering PAUD teachers | Indonesia | Journal Articles | Toddler growth and development screening model by PAUD teachers. |
| Tanggur, I. | 2023 | Readiness of inclusive PAUD teachers in conducting early childhood development assessments | Indonesia | Journal Articles | Readiness of inclusive PAUD teachers in assessment. |
| Yusuf, M., Hidayati, N., & Lubis, S. | 2023 | Parental involvement in the assessment of children with special needs in inclusive early childhood education: Challenges and solutions | Indonesia | Journal Articles | Parental involvement in ABK assessment. |
| Yuwono, I. | 2025 | Development assessment instruments for children with special needs | Indonesia | Book/Repository | Developmental assessment instruments for children with special needs. |

3. RESULTS AND DISCUSSION

3.1. *Concept and Objectives of Initial Assessment for Children with Special Needs in PAUD*

3.1.1. *The Central Role of Assessment as the Basis for Individual Education Plans (IEP)*

Initial assessment of children with special needs (ABK) in early childhood education (PAUD) is consistently emphasized in the literature as the primary foundation for developing an Individual Education Plan (IEP) or Individual Education Program (IPP) (Puspitasari et al., 2025). The review found that the primary purpose of the initial assessment is not merely identification or labeling, but rather to determine the child's baseline data and specific strengths/needs. Comprehensive assessment results ensure that the IEP is specific, measurable, and relevant to the child's unique developmental circumstances, not simply a general curriculum (Jannah et al., 2021).

3.1.2. Dominant Assessment Models and Types

Recent literature indicates a shift from solely standardized test-based assessment to more ecological and functional assessment models. The dominant and recommended models in the context of inclusive early childhood education include:

- 1) **Play-Based Assessment:** This model is highly emphasized because it allows observation of children's behavior in a natural and low-pressure context, providing a more accurate picture of children's social, cognitive, and motor abilities (Tanggur, 2023).
- 2) **Functional Assessment:** Focuses on identifying the function behind challenging behavior and how the environment influences that behavior. This is essential for designing supportive behavioral interventions.
- 3) **Curriculum-Based Assessment (CBA):** Measuring children's abilities directly related to the objectives of the PAUD curriculum, helping teachers determine the next learning steps practically (Dewi et al., 2023).

3.2. *Effective Assessment Practices and Techniques*

3.2.1. *Recommended Techniques*

Effective assessment of children with special needs in early childhood education (PAUD) must be multi-method and multidisciplinary. Key techniques synthesized from the literature include:

- 1) **Participatory and Structured Observation:** Involves teachers in recording detailed child behavior during daily activities in the classroom and at home. Observations should be conducted using a structured instrument or checklist to ensure objectivity (Halipah et al., 2025).
- 2) **Structured Interviews:** Conducted with parents, caregivers, and members of a multidisciplinary team to gather developmental history, health conditions, and family dynamics.
- 3) **Use of Standardized Instruments and Modifications:** While formal tests have limitations, their use can provide normative data. However, the literature emphasizes the importance of modifying and adapting instruments to suit the communication and physical abilities of children with special needs, for example by using visual aids or reducing the test duration.

3.2.2. *Analysis of the Role of Collaboration*

Collaboration has been shown to be crucial to assessment success. The review found that optimal assessment involves at least three pillars: Early Childhood Education/Special Education Teachers, Professionals (Therapists/Psychologists), and Parents.

- 1) **Teacher's Role:** As daily data coordinator and direct observation implementer.

- 2) Role of Professional: Provides in-depth and specific assessments (e.g., psychological testing or detailed language/motor assessments).
- 3) Parent Role: Provides valuable contextual information (home behavior, history) and participates in verifying assessment results.

Failure to collaborate, especially with parents, results in less holistic assessment data (Yusuf et al., 2023).

3.2.3. *Challenges and Barriers to Implementation.*

Although the urgency of assessment is recognized, its implementation in the field faces significant obstacles that can be categorized into three main themes:

- 1) Teacher Competency Challenges
Literature reviews consistently identify gaps in knowledge and skills among early childhood education (ECE) teachers as the biggest barrier. Many teachers, especially in newly developing inclusive ECEs, lack in-depth knowledge of disability types and their characteristics and technical skills in using informal, standardized assessment instruments (Rafikayati et al., n.d.; Putra et al., 2024).
- 2) Systemic Challenges
Systemic barriers are often structural and related to institutional support, including limited instruments and resources. Many inclusive early childhood education institutions lack access to valid assessment instruments or the funds to hire professional experts (Musu et al., 2024). Inadequate time allocation, resulting in a high workload for teachers, results in a lack of time specifically allocated for conducting observations and preparing in-depth assessment reports (Tanggur, 2023). Institutional policies, such as the lack of policies mandating structured, multidisciplinary initial assessments, are problematic.
- 3) Collaboration Challenges
Collaboration is often hampered by a lack of parent training, with parents not being trained on how to observe and report relevant data. Ineffective communication creates a communication gap between the academic language of professionals (therapists) and the everyday language of parents, making assessment results poorly understood and acted upon (Yusuf et al., 2023). Initial evaluation practices reported by early childhood education professionals in Colorado demonstrate alignment with legal guidelines, but challenges remain in implementation, adequate cultural and linguistic responsiveness, and improving the initial evaluation process to be more inclusive and timely for all families (Steed & Stein, 2021).

3.2.4. *The Need for Educational Interventions Based on Assessment Results*

- 1) Translating Assessment Results into Individual Programs
Literature findings confirm that initial assessment results must be directly translated into short-term and long-term RPI objectives. Failure to do this will result in RPIs that are general and irrelevant. This process requires teachers to:
 - a) Analyzing Data Qualitatively: Converting scores or observations into functional need statements (e.g., “The child needs intervention to increase initiation of three-word oral communication”).
 - b) Developing Specific Interventions: Designing learning activities that explicitly target identified needs, for example, if the assessment indicates fine motor needs, then the IEP should include specific activities that practice grasping or squeezing (Puspitasari et al., 2025).
- 2) The Role of Continuous Formative Assessment
The initial assessment is only a starting point. The literature emphasizes the need for ongoing formative assessments to monitor progress and evaluate the effectiveness of the RPI. These formative assessments are dynamic and are used to:
 - a) Make adjustments to the RPI objectives.
 - b) Determining the validity and effectiveness of the teaching strategies being implemented (Kurniah et al., 2021).

4. CONCLUSION

- 4.1.** Literature reviews consistently confirm that initial assessment is an essential foundation for inclusive education systems in early childhood education (PAUD). Its purpose goes beyond identification, focusing on obtaining data on strengths and needs as a baseline for developing a specific and functional Individual Education Plan (IEP). Recommended assessment models tend to be ecological, such as play-based assessment and functional assessment, which require in-depth observation.
- 4.2.** Implementation Challenges: While important, implementation on the ground is hampered by multidimensional factors. Key findings indicate that the greatest barriers stem from:
- 4.2.1. Teacher Competency Factor: Gaps in knowledge and technical skills of PAUD teachers in using non-formal assessment techniques and translating data into RPI objectives.
- 4.2.2. Systemic Factors: Limited facilities, lack of adaptive assessment instruments, and lack of time allocation and professional support (experts/therapists) from relevant institutions and agencies.
- 4.3.** The Need for Data-Driven Interventions: The success of interventions depends heavily on translating assessment results into detailed learning activities. Furthermore, optimal collaboration between teachers, professionals, and parents is essential to ensuring that assessment data is holistic and contextual.
- 4.4.** This research has succeeded in:
- 4.4.1. Identifying and synthesizing effective initial assessment practices (such as participatory observation techniques and multidisciplinary assessment) for children with special needs in PAUD.
- 4.4.2. Analyze and categorize the main challenges faced by teachers and institutions in implementing quality initial assessments.
- 4.4.3. Formulate specific needs for the translation of assessment results into relevant individual educational interventions.
- 4.5.** Theoretical Implications
- The results of this literature review provide three important theoretical implications for the field of Special Education and Early Childhood Education, particularly in the context of inclusion in Indonesia:
- 4.5.1. Emphasis on the Ecological Model: This review strengthens the theoretical argument that assessment of children with special needs in early childhood education (ECE) should shift entirely from a clinical (desk-based) model to an ecological (naturalistic context) model. This emphasizes that the validity of assessment data depends on the child's natural context (school and home).
- 4.5.2. Competency Gaps as a Research Priority: Consistent findings regarding teacher competency gaps imply that future research should focus on skill-transfer-based, rather than solely knowledge-based, professional development (PD) models to close the gap between assessment theory and practice.

- 4.6. Collaborative Framework Development:** These results imply the need for the development of a Collaborative Assessment Framework (CAF) in Indonesia that explicitly defines the roles and responsibilities of each party (teachers, therapists, parents) throughout the assessment cycle, from data collection to IEP evaluation.

5. STRATEGIC RECOMMENDATIONS

5.1. Recommendations for Early Childhood Education and Special Education Teachers

- 5.1.1. This recommendation focuses on increasing the capacity of individual teachers to be able to carry out initial assessments independently and effectively.
- 5.1.2. Competency Enhancement through Skill-Based Training:
- 5.1.3. Shift the focus of training from theoretical knowledge to hands-on practice. Training should focus specifically on observational assessments (participatory and structured observation) and functional assessments that teachers can conduct in the classroom.
- 5.1.4. Includes training in qualitative data analysis to translate raw observational data into operational Individual Education Plan (IEP) objectives.
- 5.1.5. Development of Individual Assessment Portfolio:
- 5.1.6. Teachers are required to compile and maintain a developmental portfolio that includes multi-source data for each child with special needs. This portfolio should include structured checklists, anecdotal notes, samples of the child's work, and parent interviews.
- 5.1.7. Get teachers used to using the simple yet structured Functional Development Checklist Instrument (ICPF) to monitor progress on a daily/weekly basis.
- 5.1.8. Strengthening Daily Inter-Professional Collaboration:
- 5.1.9. Encourage regular PAUD teachers and special assistant teachers (GPK) to regularly discuss (at least weekly) the interpretation of assessment findings and adjustments to the most effective intervention strategies.

5.2. Recommendations for Early Childhood Education Institutions and Education Offices

These recommendations aim to create a supportive systemic environment and facilitate quality assessment practices.

5.2.1. Procurement and Standardization of Adaptive Assessment Instruments

5.2.2. Early Childhood Education (PAUD) institutions, with support from the Department of Education, must ensure the provision of validated and adaptive initial assessment instruments tailored to the local context in Indonesia. These instruments must be flexible, adaptable to various types of disabilities, and easy for teachers to use without relying on expensive professional staff.

5.2.3. Initiate the development of an Assessment Data Bank at the PAUD Cluster/Office level to make it easier for teachers to access and compare available instruments.

- 5.2.4. Allocation of Human Resources and Special Time
- 5.2.5. Allocate special (non-teaching) time in the weekly schedule of inclusive PAUD teachers for assessment activities, recording, and preparing RPI.
- 5.2.6. Require and fund the provision of Support Staff or Visiting Therapists (e.g., speech or occupational therapists) periodically to assist with conducting in-depth assessments and providing coaching to teachers on data interpretation.
- 5.2.7. Implementation of Parental Education and Collaboration Programs
- 5.2.8. Institutions are required to organize training programs or workshops for parents of children with special needs regarding the importance of their role as co-assessors at home, including how to record observations and behavioral histories.

5.3. Recommendations for Further Research

These recommendations focus on the future direction of scientific development and empirical evidence to strengthen initial assessment practices for children with special needs.

Empirical Study of the Effectiveness Test of Assessment Models:

- 5.3.1. Conducting quasi-experimental studies or action research to test the effectiveness of implementing certain assessment models (e.g., Play-Based Assessment or Curriculum-Based Assessment) on the accuracy of needs identification and the quality of RPI in inclusive PAUD in Indonesia.

- 5.3.2. Development and Validation of Integrated Teacher Training Model:

Research should focus on developing an integrated teacher training model between special education (PLB) and regular early childhood education, explicitly incorporating a module on initial assessment. This model needs to be validated and its impact on improving teacher competency in the field tested.

- 5.3.3. An In-Depth Study of the Role of Technology

Further research on the potential use of digital technology (observation applications, digital checklists) to simplify and accelerate the process of collecting, analyzing, and reporting assessment data for children with special needs in PAUD.

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