INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT

OPEN ACCESS JOURNAL

Vol 14, Issue 01, (2025) E-ISSN: 2226-6348

Assessment of Preschool Children's Physical Readiness: Advancing Early Madani Education in Selangor

Maaruf Rabu[1], Mohamed Ayob Sukani[2] , Muhammad Khairul Annuar Abd Ajis[3]

Department of Early Childhood, Faculty of Education and Social Science, University Selangor, Malaysia[1], School of Education & Social Sciences (SESS), Management & Science University (MSU)[2], Selangor State Education Department, Ministry Of Education Malaysia[3]

Corresponding Author Email: maaruf@unisel.edu.my

To Link this Article: http://dx.doi.org/10.6007/IJARPED/v14-i1/24532 DOI:10.6007/IJARPED/v14-i1/24532

Published Online: 03 February 2025

Abstract

This study aims to develop and sustain the Preschool Physical Readiness Assessment Instrument for Selangor (IPKFPs) to evaluate the physical readiness level of preschool students in Selangor, supporting the sustainability of early MADANI education. The study design adopts a quantitative approach, with data collection conducted using the IPKFPs and statistical analysis performed through descriptive and inferential methods using SPSS software. The findings indicate that the physical readiness level of students is at a very high level across most categories, with excellent motor skills (hands and fingers), with the highest mean values observed in activities such as kneading (4.91) and pinching (4.87). In the gross motor category (legs), activities such as running (4.75) and walking (4.73) recorded very high levels, while weaknesses were identified in skipping activities, with a mean value of 2.38. Overall, the level of physical development achieved an overall mean value of 4.44, reflecting a very high level of achievement. The IPKFPs have proven to be a holistic and effective assessment instrument, providing teachers with guidance to identify students' strengths and weaknesses and to plan more specific interventions. This study emphasizes the need for widespread implementation of the IPKFPs to enhance the quality of preschool education, which is in line with the aspirations of early MADANI education.

Keywords: Instrument, Assessment, Readiness, Preschool, Evaluation

Introduction

The process of teaching and educating students at the preschool or early childhood education level is a task that requires a unique and authentic approach. This uniqueness stems from the diverse nature of children's developmental stages, where each child has their own abilities, interests, and needs (Grace, 1992). Therefore, the assessment methods and techniques used by teachers must not only align with the uniqueness of children's development but also reflect authenticity in their daily learning situations.

Authentic assessment, as an alternative approach, has been recognized as a suitable method for evaluating children's development. Grace (1992) states that authentic assessment involves children in realistic and contextual activities, allowing teachers to evaluate their achievements holistically. Pert (1990) emphasizes that authentic assessment is based on the actual achievements of children in everyday classroom situations, making it more meaningful compared to formal assessments, which tend to be static.

These methods not only help teachers understand children's development holistically but also support their efforts in planning more effective and relevant teaching activities. Moreover, authentic assessment provides opportunities for children to demonstrate their abilities in a non-threatening environment, thereby enhancing their motivation and self-confidence (McAfee & Leong, 2011).

In the context of early childhood education, it is crucial for teachers to integrate this authentic approach into assessments to ensure more meaningful learning. Studies by Grace (1992) and Pert (1990) indicate that authentic assessment not only enhances the effectiveness of teaching but also strengthens the relationship between teachers and children, as teachers gain a deeper understanding of children's developmental needs.

Background Study

Assessment, evaluation, and measurement are critical components of ensuring the developmental progress of children. These processes have become increasingly significant, requiring continuous and scholarly exploration. The importance of such assessments lies in their profound impact, particularly in determining the actual level of "school readiness" for each child. School readiness encompasses a child’s physical, cognitive, social, and emotional capabilities, serving as the foundation for their ability to adapt to and succeed in a formal educational environment (Snow, 2006; Pianta et al., 2022). Beyond this, assessments are invaluable to both teachers and parents, the primary stakeholders in a child’s development.

Through systematic evaluation, teachers gain accurate and essential insights into each child’s learning progress and developmental needs. This information allows them to identify individual strengths and challenges, enabling the design of more targeted and effective teaching strategies. For instance, Brassard and Boehm (2008) highlight how holistic assessments provide critical feedback on the appropriateness, effectiveness, and meaningfulness of teaching approaches, methods, techniques, and strategies. Moreover, Epstein (2014) underscores that quality assessments enable teachers to adapt learning activities to the specific needs of children, ensuring a more personalized and impactful educational experience.

For parents, transparent and systematic assessments serve as a vital tool for understanding their children’s development more deeply. These insights empower parents to provide better support at home, aligned with their children’s educational needs. Sheridan et al. (2009) emphasize that a strong connection between assessments, teachers, and parents is essential for fostering holistic child development. Thus, assessments not only measure children’s progress but also guide the evaluation and refinement of educational practices implemented at the preschool level.

Continuous scholarly exploration in the field of assessment is crucial to ensuring that early childhood education evolves to meet contemporary needs. Comprehensive assessments do not only gauge a child's readiness for transitioning into formal education but also function as a reflective mechanism for both teachers and parents. This facilitates the development of more meaningful and impactful educational strategies. Such an approach aligns with the views of Gallahue and Ozmun (2012), who emphasize the need for holistic assessments that address physical, cognitive, and emotional dimensions in early education.

Problem Statement

Assessment is a critical issue that demands serious attention, particularly due to the significant lack of tools or instruments designed to measure non-academic domains. This scarcity of instruments inevitably limits the capacity of teachers, especially those who lack the necessary expertise, skills, or a broad perspective in the field of measurement and evaluation. As a result, educators and experts in preschool education must intensify efforts to either localize or develop comprehensive assessment tools. While the ultimate goals may still seem distant, these efforts are essential for advancing the quality and effectiveness of preschool education. (Rohaty, 2006)

In Malaysia, and specifically in Selangor, research and publications in the field of preschool education have been produced over the years. However, there remains a critical need to further advance and empower this field to support the continuous evolution of the national education system. Additionally, significant gaps persist, particularly in research and publications focusing on assessment, evaluation, and screening within the rapidly growing preschool sector in the country.

At the preschool level, assessment, evaluation, and screening activities have become standard practices. Private preschools, and even public schools, have adopted formal evaluation systems. However, these systems and instruments often lack structured planning, standardization, validity, and alignment with best practices. Instead, they are frequently adapted to suit local cultures or individual preferences (Rohaty, 2006, 2018; Mastura, 2005). This has led to a tendency for assessment outcomes to reflect overly simplistic and incomplete evaluations that fail to capture the true objectives of assessment. This is especially evident in evaluating "physical readiness," encompassing the development of fine and gross motor skills, which are critical for children's successful transition to formal education. It is, therefore, essential to implement assessments of children's "physical readiness" using culturally relevant and psychometrically sound instruments that are universally applicable.

A concerning trend in preschool education is the widespread practice of formal assessments, where students are subjected to tests, graded, marked, and ranked. These results are recorded and used in ways that often undermine the natural rights of children to an equitable early education experience (Rohaty, 2006, 2018). For young children, learning should be a complex, enjoyable, engaging, diverse, stimulating, and unique experience (Mastura, 2005). Formal evaluation practices are fundamentally at odds with the Education Act 1996 (Preschool), which explicitly states in Clause 5: "Assessment (1) Every kindergarten must conduct continuous assessments of the development of its students in the cognitive, affective, and psychomotor (physical) domains." Furthermore, the lack of high-quality and standardized assessment instruments in preschools exacerbates the issue, leading to

practices that undermine children's developmental rights and the true essence of early education.

In response to these challenges, this study aims to assess the "school readiness" of preschool students in Selangor by developing and implementing the Preschool Physical Readiness Assessment Instrument for Selangor (IPKFPs). The study also seeks to evaluate both the immediate and long-term holistic impacts of this instrument, particularly in the context of the post-pandemic COVID-19 era. This initiative is a critical step toward addressing gaps in preschool assessment practices and ensuring that early education aligns with the developmental needs and rights of every child.

Research Objectives

This study aims to assess the physical readiness of preschool students in Selangor, aligned with early MADANI education goals, by addressing current gaps and developing effective assessment tools. Below are the objectives guiding this study:

1. To identify the patterns of "physical readiness" among preschool students in Selangor in supporting the sustainability of early MADANI education.
2. To evaluate the achievement levels of the physical development domain among preschool students in Selangor as part of sustaining early MADANI education.
3. To develop the Preschool Physical Readiness Assessment Instrument for Selangor (IPKFPs) as a tool for assessing and sustaining early MADANI education for preschool students in Selangor.

Research Questions

To achieve the objectives of this study, the following research questions have been formulated to explore the physical readiness of preschool students in Selangor within the framework of sustaining early MADANI education

1. What are the patterns of "physical readiness" among preschool students in Selangor in relation to sustaining early MADANI education?
2. What is the level of achievement in the physical development domain among preschool students in Selangor in the context of sustaining early MADANI education?
3. Can the Preschool Physical Readiness Assessment Instrument for Selangor (IPKFPs) effectively contribute to sustaining early MADANI education for preschool students in Selangor?

Significance of the Study

Although assessment at the preschool level is a common practice in Malaysia and Selangor, the tools and instruments used remain highly limited. They lack uniformity, cultural relevance, integration, adherence to standards, and sufficient quality. This study aims to address these gaps by enhancing and diversifying existing assessment tools for "preschool physical readiness," particularly in Selangor, through the development and application of the IPKFPs (Preschool Physical Readiness Assessment Instrument for Selangor). The IPKFPs can further support preschools by providing a comprehensive profile of children's "physical readiness" as they transition to formal primary education, thereby assisting stakeholders in placement and selection processes (Rohaty, 2006, 2018).

The role of assessment and evaluation is fundamental in preschool education as it serves multiple purposes:

(i) determining whether children's "readiness" needs are adequately met,
(ii) improving the implementation of curriculum content and teaching practices,
(iii) evaluating the effectiveness of learning, development, and children's "readiness," and
(iv) assessing the overall quality of preschool centers (Rohaty, 2006, 2018).

Literature Review

The practice of assessing preschool children's "physical readiness" is not new, particularly in other countries. It dates back to the first intelligence tests and the first child biographies in the 19th century. What has changed is the meaning or the way this concept is "labeled."

Rohaty's study (2006, 2018) states that assessment is a process of observing, recording, and documenting preschool students' tasks to serve as a basis for educational decisions. Assessment also involves various steps to collect data on children's development during the learning process and determine improvements that need to be provided or implemented for the advancement of a program at a preschool center.

Meanwhile, Gallo, Clements, and Robertson (1984) study highlights that the tools and methods used for assessing or screening and predicting school achievement have changed significantly. Children are assessed in terms of early development, cognitive or mental development, adaptive behavior, gross and fine motor development, and academic readiness. Early assumptions, beliefs, and prejudices about intelligence have shaped early childhood and infant assessments, as well as the nature of children and the methods used in research (Lewis & Sullivan, 1985; Brassard & Boehm, 2008).

Therefore, the potential risks of misuse in the assessment application must be considered before any assessment data is collected. Transparency or the integrity of safeguards must exist to minimize such risks. The National Association for the Education of Young Children (NAEYC, 1988) clearly states that the issue of assessment and preschool education should be addressed as follows: “The purpose of testing must be to improve services for children and ensure that children benefit from their educational experiences” (p.14). Furthermore, Brassard and Boehm (2008) reinforce and emphasize NAEYC's recommendations by stating:

“This purpose can best be served when assessment is an ongoing and dynamic process that:

- Is multifaceted (i.e., it uses a variety of measures and approaches).
- Focuses not only on an individual child but also on their learning environments, including home, school, and community.
- Is used to discover children's learning strengths, emerging areas of development, problem-solving strategies, and personal styles, as well as their weaknesses and needs.
- Informs the development of appropriate instructional and behavioral strategies and interventions.
- Is tied to teaching goals, which in turn need to be evaluated and refined over time.

- Is carried out with the expectation that children change, and that the earlier an intervention occurs, the greater its prospects for producing beneficial outcomes.
- Respects the diversity of children's backgrounds and experiences."

Brassard and Boehm (2008) emphasize NAEYC's recommendations on early childhood education assessments, reiterating that: "This purpose can best be served when assessment is an ongoing and dynamic process that:

"This purpose can best be served when assessment is an ongoing and dynamic process that : Is multifaceted (i.e., it uses a variety of measures and approaches), Focuses not only on an individual child, but also on his or her learning environments of home, school, and community, Is used to discover children's learning strengths, emerging areas of development, problem-solving strategies, and personal styles, as well as their weakness and needs, Informs the development of appropriate instructional and behavioural strategies and interventions, Is tied to teaching goals, which in turn need to be evaluated and refined over time, Is carried out with the expectation that children change, and that the earlier an intervention occurs, the greater its prospects for producing beneficial outcomes, Respects the disaringanty of children's backgrounds and experiences".

Thus, awareness and opinions about the importance of "physical readiness" and preschool education are evident. Accordingly, the importance and development of this aspect should align with the actual skills of the children being assessed, evaluated, or measured as early as the preschool stage.

Therefore, the sustainability of instruments or tools based on assessment, evaluation, or measurement is crucial to ensure and continuously improve the excellence of preschool education in Selangor, in particular, and Malaysia, in general. This is important because there are various phenomena and differences in terms of goals, activities, focus, emphasis, and philosophies among preschools in the country. Some centers even prioritize profit over quality. Rohaty (2006, 2018) emphasizes that assessments and evaluations often focus on reporting children's academic progress to parents, whereas preschool children's assessment should be broader than that.

Meanwhile, Aminah (2005, 2019) and Mastura (2005) state that one of the serious issues in preschool education today is that many preschool teachers lack the skills to assess children and report their development to parents. They often allow parents' expectations to dominate children's education, in addition to the lack of assessment instruments that can assist teachers. Hence, a comprehensive understanding of education from early childhood care to preschool and assessment is necessary for all parties, including parents, caregivers, preschool teachers, schoolteachers, child administrators, child experts, community leaders, and all individuals involved with children. It is crucial to emphasize the significance of children's "physical readiness" and future development.

Research Methodology

The design of this study is to validate the IPKFPs instrument (Preschool Physical Readiness Assessment Instrument). The research design involves a quantitative method, collecting information or data using the IPKFPs. Data analysis is conducted through inferential

statistics, involving descriptive statistical analysis. Descriptive statistical analysis includes mean, median, mode, standard deviation, and percentages. The collected data will be processed and analyzed using SPSS software to ensure efficient and accurate research results in line with the research objectives.

Research Sample

The research sample consists of students currently enrolled in preschool education across preschools in the state of Selangor. A total of 100 samples were randomly selected to represent several districts in Selangor, encompassing urban and rural areas. After data is collected from the research samples, significance tests will be conducted. The findings from the sample will be generalized to the study population.

Instrument

The instrument used in this study is the Preschool Physical Readiness Assessment Instrument (IPKFPs), which was developed and validated earlier. This instrument comprises a set of constructs related to "Physical Readiness." The construct is supported by four sub-constructs, which include:

- The "Physical Readiness" of fine motor skills (hands),
- The "Physical Readiness" of fine motor skills (feet),
- The "Physical Readiness" of gross motor skills (feet-coordination of feet), and
- The "Physical Readiness" of gross motor skills (body movements).

These sub-constructs align with the National Preschool Curriculum Standards (Revised KSPK, 2017).

Research Finding

Respondents' Demographics

The demographic data indicates that the majority of respondents are male (56%) compared to female (44%). In terms of age, nearly all respondents are 6 years old (97%), while only 3% are 5 years old. All respondents (100%) are from preschool, indicating that this dataset represents the preschool student population as a whole, as shown in Table 1.

Table 1
Respondents Demographics

Demographics		Number (n)	Percentage (%)
Gender	Male	56	56%
	Female	44	44%
Age	6 Years	97	97%
	5 Years	3	3%
School	Prasekolah	100	100%

Identifying The Pattern Of "Physical Readiness" Among Preschool Students In The State Of Selangor In Sustaining MADANI Early Education.

The findings for the first research question will elaborate on the results related to identifying the pattern of "physical readiness" among preschool students in the state of Selangor in sustaining MADANI early education. These findings are categorized into five (5)

levels: very low, low, moderate, high, and very high, based on the interpretation of the mean scores presented in Table 2.

Table 2
The interpretation of mean scores

Range of Mean Scores	Evaluation Level	Interpretation
1.00–1.80	Very Low	Respondents strongly disagree, or the level of achievement is very low.
1.81–2.60	Low	Respondents disagree, or the level of achievement is low.
2.61–3.40	Moderate	Respondents are neutral, or the level of achievement is moderate.
3.41–4.20	High	Respondents agree, or the level of achievement is high.
4.21–5.00	Very High	Respondents strongly agree, or the level of achievement is very high.

Pallant, (2020)

Table 3
The pattern of "physical readiness" among preschool students in the state of Selangor in sustaining MADANI early education.

No	Item	Mean	S.D	Level
Fine Motor Skills (Hands)				
1.	Throwing or tossing objects	4.3800	.69311	Very High
2.	Pouring objects	4.6000	.60302	Very High
3.	Tossing and catching objects	4.4000	.68165	Very High
4.	Hitting objects accurately	4.6300	.59722	Very High
5.	Fanning, writing, and coloring	4.5300	.79715	Very High
Fine Motor Skills (Fingers)				
1.	Pinching or rolling objects	4.8700	.36667	Very High
2.	Kneading	4.9100	.32083	Very High
3.	Twisting	4.5700	.59041	Very High
4.	Cutting	4.7700	.48938	Very High
5.	Flicking	4.8100	.46482	Very High
Gross Motor Skills (Legs - Foot Coordination)				
1.	Walking	4.7300	.60059	Very High

2.	Running	4.7500	.43519	Very High
3.	Jumping	4.6800	.66485	Very High
4.	Moving backward	4.5400	.67300	Very High
5.	Kicking, balancing, and stepping	4.5500	.62563	Very High
Gross Motor Skills (Body Parts)				
1.	Hanging	3.8800	1.17448	High
2.	Crawling	4.5700	.63968	Very High
3.	Rolling	4.5300	.59382	Very High
4.	Climbing	3.6900	.83720	High
5.	Skipping	2.3800	1.20420	Low

The data presented in Table 2 indicates that the performance in the fine motor skills (hands) category is at a very high level for all assessed items. The mean scores, ranging from 4.38 to 4.63, reflect excellent skills, particularly in activities such as hitting objects accurately (4.63) and pouring objects (4.60). The low standard deviation (S.D.), ranging from 0.59722 to 0.79715, indicates minimal performance variation, highlighting high consistency among respondents.

For fine motor skills (fingers), all items also recorded a very high level, with the highest mean score (4.91) noted for the kneading activity. Other activities, such as pinching or rolling objects (4.87) and flicking (4.81), also demonstrated excellent performance. The standard deviation, ranging from 0.32083 to 0.59041, reflects consistent and homogeneous mastery levels among respondents in this category.

In the gross motor skills (leg coordination) category, all items also recorded a very high level, with the highest mean scores observed in running (4.75) and walking (4.73) activities. Activities such as jumping (4.68) and kicking, balancing, and stepping (4.55) also showed strong mastery levels. The low standard deviation (0.43519 to 0.67300) indicates minimal variation, suggesting that respondents generally demonstrated good performance in these gross motor skills.

However, performance in the gross motor skills (body coordination) category was more varied. Activities such as hanging (3.88) and climbing (3.69) recorded a high level, while the skipping activity recorded a low level, with a mean score of only 2.38. The standard deviation for skipping (1.20420) was the highest among all data, indicating significant variation among respondents. This suggests that this skill requires particular attention due to its lower performance compared to other activities.

Overall, respondents demonstrated excellent mastery in the fine motor skills and gross motor skills (leg coordination) categories. However, the gross motor skills (body coordination) category requires intervention, particularly for activities such as skipping, to

improve skill levels. Additional training and more comprehensive gross motor development programs are recommended to address these weaknesses and ensure more balanced progress across all categories.

Assessing the Achievement Level of the Physical Development Domain of Preschool Students in the State of Selangor in Sustaining MADANI Early Education.

Table 4
The achievement level of the physical development domain of preschool students in the state of Selangor in sustaining MADANI early education.

No	Item	Mean	S.D	Level
Physical Development Domain				
1.	Fine Motor Skills (Hands)	4.5080	.45342	Very High
2.	Fine Motor Skills (Fingers)	4.7860	.29302	Very High
3.	Gross Motor Skills (Leg Coordination)	4.6500	.42200	Very High
4.	Gross Motor Skills (Body Parts)	3.8100	.44980	Very High

Based on the data analysis, the fine motor skills (hands) category recorded a mean value of 4.5080 with a standard deviation (S.D) of 0.45342, indicating a very high level of achievement. The fine motor skills (fingers) category achieved the highest mean value of 4.7860 with an S.D of 0.29302, reflecting the highest consistency and mastery in this category. Meanwhile, the gross motor skills (legs – foot coordination) category recorded a mean value of 4.6500 with an S.D of 0.42200, also at a very high level. Finally, the gross motor skills (body coordination) category recorded a mean value of 3.8100 with an S.D of 0.44980, indicating a very high level of achievement, although slightly lower compared to the other categories. Overall, all categories are at a very high level, with minor differences in mean values and standard deviations.

Table 5
The overall achievement level of physical development of preschool students in the state of Selangor in sustaining MADANI early education.

No	Item	Mean	S.D	Level
1.	The physical development readiness of preschool students in the state of Selangor in sustaining MADANI early education.	4.4385	.23147	Very High

Based on the provided data, the overall physical development readiness of preschool students in the state of Selangor in sustaining MADANI early education recorded a mean value of 4.4385 with a standard deviation of 0.23147, reflecting a very high level of achievement. The low standard deviation also indicates good consistency in the data, signifying that most preschool students in Selangor have uniform levels of physical development and are ready to

engage in MADANI-themed early education. This level demonstrates strong readiness among students to support the implementation of holistic and competitive early education..

Developing the Physical Readiness Assessment Instrument for Selangor Preschoolers (IPKFPs) for Preschool Students in Selangor in Sustaining MADANI Early Education

The findings of this study indicate that the **Physical Readiness Assessment Instrument for Selangor Preschoolers (IPKFPs)** has been successfully developed as a holistic and effective tool for assessing the physical readiness level of preschool students. This instrument provides a comprehensive overview of the mastery of fine and gross motor skills, thereby helping to identify the strengths and weaknesses of individual students. The use of IPKFPs also demonstrates its suitability in supporting the implementation of inclusive and holistic early education in line with the aspirations of MADANI Early Education.

This study emphasizes the capability of IPKFPs to serve as an important guide for teachers and key stakeholders in ensuring effective teaching and supporting the overall development of preschool students. The study utilizes a five-point scale as a guideline for evaluating the physical readiness of preschool students based on their ability to perform specific activities, as outlined in Table 5.

Table 6
Instruments Scale

Scale	Description
5	The student is able to complete the activity accurately without guidance and within the allocated time.
4	The student is able to complete the activity accurately without guidance but not within the allocated time.
3	The student is able to complete the activity accurately with guidance but not within the allocated time.
2	The student is unable to complete the activity even with the teacher's guidance.
1	The student is unable to complete the activity even with the teacher's guidance, showing minimal response and failing to meet the allocated time.

The **Physical Readiness Assessment Instrument for Selangor Preschoolers (IPKFPs)** is designed to holistically evaluate the physical development of preschool students. This instrument is divided into four main categories: Fine Motor Skills (Hands), Fine Motor Skills (Fingers), Gross Motor Skills (Legs - Foot Coordination), and Gross Motor Skills (Body Coordination). Each category consists of five activity items representing specific skills, with the students' achievement levels measured using a five-point scale. The construction of the instrument is presented in Table 6.

Table 7
The Physical Readiness Assessment Instrument for Selangor Preschoolers (IPKFPs) for preschool students in the state of Selangor in sustaining MADANI Early Education.

NO	ITEM	SCALE				
Fine Motor Skills (Hands)						
		1	2	3	4	5
1.	Throwing or tossing objects					
2.	Pouring objects					
3.	Tossing and catching objects					
4.	Hitting objects accurately					
5.	Fanning, writing, and coloring					
Fine Motor Skills (Fingers)						
		1	2	3	4	5
1.	Pinching or rolling objects					
2.	Kneading					
3.	Twisting					
4.	Cutting					
5.	Flicking					
Gross Motor Skills (Legs - Foot Coordination)						
		1	2	3	4	5
1.	Walking					
2.	Running					
3.	Jumping					
4.	Moving backward					
5.	Kicking, balancing, and stepping					
Gross Motor Skills (Body Parts)						
		1	2	3	4	5
1.	Hanging					
2.	Crawling					
3.	Rolling					
4.	Climbing					
5.	Skipping					

Discussion

This study examines the physical readiness of preschool students in Selangor within the context of sustaining early MADANI education. Based on the findings, several important aspects can be discussed to strengthen the understanding of preschool students' physical development and the requirements for assessment implementation.

Patterns of Physical Readiness Among Preschool Students

The study's results show that preschool students in Selangor demonstrate high proficiency levels in the fine motor category, particularly in sub-constructs such as pinching, kneading, and twisting. These skills are essential as they form the foundation for students' ability to perform academic tasks such as writing and drawing (Gallahue & Ozmun, 2012).

Conversely, in the gross motor category, significant weaknesses were recorded in activities such as skipping, with a mean value of 2.38. According to Payne and Isaacs (2020), weaknesses in gross motor skills are often associated with a lack of exposure to activities involving full-body coordination in learning environments.

Previous research by Barnett et al. (2016) also emphasized that mastering gross motor skills requires systematic training, particularly through outdoor activities like structured play and exercise. Therefore, more structured physical development programs should be designed to enhance these skills.

Effectiveness of the IPKFPs Instrument

The IPKFPs instrument designed and used in this study has proven effective in assessing the physical development of preschool students holistically. Using a 5-point scale, it provides a clear and detailed picture of the mastery level of each category of physical development. This approach aligns with previous studies by Grace (1992) and Pert (1990), which highlighted that authentic assessment could provide a comprehensive overview of children's development. As such, the IPKFPs can serve as an essential reference for implementing assessments in preschools in Selangor and Malaysia generally.

According to Brassard and Boehm (2008), assessment tools like the IPKFPs are vital in providing relevant information for instructional planning. By introducing the IPKFPs widely, preschool teachers can identify students' strengths and weaknesses and plan more specific interventions.

Impact and Implications

Overall, the study's findings indicate that preschool students in Selangor have a very high level of physical development. However, variations in achievements in some categories, such as gross motor skills, indicate the need for more targeted approaches to improve these skills. Activities like skipping, which showed low proficiency levels, require additional attention through comprehensive physical development programs. Such interventions can ensure a balanced development between fine and gross motor skills, in line with the aspirations of holistic early education.

According to Robinson et al. (2015), the development of gross motor skills not only contributes to physical readiness but also enhances children's confidence in social activities. Thus, a holistic development strategy that integrates both fine and gross motor skills is crucial to ensure balanced growth.

Alignment with MADANI Early Education

This study strengthens the implementation of MADANI early education, which focuses on a holistic and inclusive approach. With the IPKFPs as an assessment tool, teachers can plan more relevant and effective teaching strategies for each individual student. This approach not only improves learning effectiveness but also supports the formation of students who are physically and mentally prepared for formal education.

MADANI early education emphasizes holistic, inclusive, and value-based approaches. The IPKFPs instrument, with its focus on comprehensive assessment, aligns with these

principles. Teachers can utilize the assessment results to plan more student-centered and relevant teaching strategies. A study by Epstein (2014) shows that well-structured early education, as proposed in the MADANI model, can enhance students' readiness for formal education. With the IPKFPs as a guiding tool, the implementation of MADANI early education can be further strengthened.

Challenges and Recommendations

The main challenge identified in this study is the lack of standardized assessment instruments at the preschool level. This issue can be addressed by widely implementing the IPKFPs in preschools. Additionally, continuous training for preschool teachers is essential to ensure they understand and can properly implement the assessments. These recommendations align with Brassard and Boehm's (2008) suggestions on the importance of training and the use of standardized instruments in early childhood education.

Overall, this study emphasizes that the use of assessment instruments such as the IPKFPs can improve the quality of preschool education by assessing students' development holistically. Although the study's results show high achievements in most categories, improvements are still needed to ensure balanced development in all aspects. With the implementation of the IPKFPs and enhanced teaching approaches, MADANI early education can be executed more effectively and meaningfully for the future generation.

Conclusion

This study emphasizes the importance of the physical development of preschool students in Selangor within the context of early MADANI education, as well as the role of the Selangor Preschool Physical Readiness Assessment Instrument (IPKFPs) as a holistic assessment tool. The results of this study reveal that preschoolers demonstrate exceptional proficiency in fine motor skills, including activities such as pinching, kneading, and twisting, which are essential for academic success and early childhood development. These skills are crucial for tasks like writing, drawing, and other classroom-related activities, suggesting that the physical readiness of preschoolers in these specific areas is largely well-prepared for academic demands.

However, the study also identifies significant weaknesses in certain gross motor skills, notably skipping, which is crucial for physical coordination and overall motor development. This discrepancy suggests that while preschoolers are excelling in fine motor skills, their gross motor development needs more attention. Specifically, skills such as skipping, jumping, and balance exercises are less developed, which may hinder their overall physical development and readiness for the next stage of education. This highlights the necessity for targeted interventions designed to improve these critical motor skills, ensuring a balanced physical development for young learners.

The findings further demonstrate that the IPKFPs is a highly effective and holistic assessment tool. It provides a structured and standardized method for assessing both strengths and areas of improvement in preschool children's physical readiness. The tool's ability to pinpoint specific areas of weakness, like gross motor skills, allows educators to develop targeted intervention programs that can be integrated into existing preschool curricula. Additionally, the IPKFPs aligns with the principles of MADANI early education,

providing a framework that emphasizes the development of not only academic skills but also physical and socio-emotional readiness. This makes the IPKFPs a vital tool in promoting a more balanced approach to early childhood education, where physical health and academic success go hand in hand.

Based on these findings, several key recommendations are proposed:

1. **Development of Structured Programs for Gross Motor Skills**: It is crucial to design and implement targeted programs to address the weaknesses in gross motor skills, particularly in skipping and other key activities such as running, jumping, and balance exercises. Such programs should focus on fostering coordination, strength, and physical endurance to promote a more well-rounded physical development.
2. **Wider Implementation of IPKFPs Across Preschools**: To ensure that all preschool students are assessed uniformly, it is recommended that the IPKFPs be adopted in preschools not only across Selangor but nationwide. Standardizing the assessment process would allow for consistent data collection and more accurate identification of areas in need of improvement, which would aid in the planning and implementation of appropriate interventions. This standardized approach would also allow policymakers to better track the progress of early childhood education at a national level.
3. **Continuous Professional Development for Teachers**: To maximize the potential of the IPKFPs, it is essential that preschool teachers undergo continuous professional development training. This training should focus on how to effectively use the IPKFPs for assessment purposes, interpret its results, and apply the insights gained to enhance daily teaching practices. Teachers should also be educated on the importance of gross motor skills and how to integrate activities that develop these skills into the preschool curriculum.

By implementing these recommendations, the overall quality and inclusivity of early education can be greatly enhanced. Ensuring that preschool children are physically and mentally prepared for the transition to formal education will provide them with a solid foundation for their future academic and social success. Furthermore, the widespread adoption of the IPKFPs as a standardized assessment tool marks a significant step forward in advancing holistic, sustainable, and inclusive early childhood education practices in Selangor and throughout Malaysia. This will not only improve the physical and academic readiness of children but also contribute to the broader goals of promoting a more equitable and comprehensive educational system that caters to the needs of all young learners.

Acknowledgment

The author, with utmost gratitude, wishes to express the highest appreciation to the University Selangor (UNISEL) for the financial support provided through the University Selangor Internal Research Grant (BESTARI Grant) 2023, Phase 2, under the Grant Code: GPB/02-UNISEL-23/SS/15. This support has given the research team the opportunity to carry out the study titled “Assessment of Preschool Students' ‘Physical Readiness’: Elevating MADANI Early Education in Selangor.”

The author would also like to extend sincere thanks to the research team. The cooperation and commitment shown by the research team have been pivotal in ensuring the effective execution of this study. Additionally, appreciation is extended to the Center for

Research and Industrial Linkages (CRIL), University Selangor, for the technical and administrative support throughout this grant's application, implementation, and monitoring processes. The assistance provided has been crucial in ensuring the successful completion of every aspect of this study.

Finally, the author hopes that the results of this research, including the targeted publication of indexed journal articles, will contribute to advancing knowledge and empowering early childhood education in Selangor, in line with the aspirations of MADANI Education.

References

Ayob, A. (2005). Trend dan Cabaran Pendidikan Prasekolah di Malaysia. *Seminar prasekolah peringkat kebangsaan,* 28-29 Mac 2005 , Institut Pendidikan Guru Sultan Mizan, Besut Selangor.

Ayob, A. (2020). Pendidikan STEM-TEAM di Taska dan Prasekolah. *Bengkel TOT STEM-STEAM,* 11-12 Februari 2020, NCDRC, UPSI Tanjung Malim, Perak.

Brassard, M. R., & Boehm, A. E. (2008). *Assessment in Early Childhood Education*. Pearson Education.

Burke, K. (20015). *How to assess authentic learning (6th ed)*. California : Corwin Press.

Brassard, M.R. & Boehm, A.E. (2018). *Preschool assessment : principles and practices*. New York : The Guilford Press.

Piaw, C. (2011). *Asas statistik penyelidikan* . Kuala Lumpur : Mc Graw Hill. Drummond, R. & Jones, K.D. (2018). *Assessment procedures (9th ed.).* New Jersey : Pearson Education, Inc.

Epstein, A. S. (2014). *The Intentional Teacher: Choosing the Best Strategies for Young Children's Learning*. National Association for the Education of Young Children (NAEYC).

Epstein, A. S., Schweinhart, L. J., DeBruin-Parecki, A., & Robin, K. B. (2004). *Preschool assessment: A guide to developing a balanced approach*. High/Scope Press.

Gallahue, D. L., & Ozmun, J. C. (2012). *Understanding Motor Development: Infants, Children, Adolescents, Adults*. McGraw-Hill Education.

Grace, C. (1992). *Authentic assessment: A guide for early childhood educators*. National Association for the Education of Young Children (NAEYC).

Gullo, D. F. (2005). *Understanding assessment and evaluation in early childhood education*. Teachers College Press.

James, A. (2006). *Presechool success – everything you need to khow to help your child learn*. San Francisco : Jossey-Bass.

Lewis, M., & Sullivan, M.(2015). Infant Intelligence and Its Assessment. Dalam Wolman, B.B. (Ed.) , *Handbook of intelligence.* New York : John Wiley & Sons.

Mastura Badzis. (2005). Penilaian Dalam Pendidikan Prasekolah. *Seminar prasekolah peringkat kebangsaa,* 28-29 Mac 2005, Maktab Perguruan Sultan Mizan , Besut Selangor.

McAfee, O., & Leong, D. J. (2011). *Assessing and guiding young children's development and learning*. Pearson.

National Association for the Education of Young Children NAEYC. (1988). Position statement on the standardized testing of young children 3 through 8 years of age. *Young children*, 43 (3), 42-47.

National Association for the Education of Young Children NAEYC. (1990) Readiness in preschool age. *Young children*, 45 (2), 51-56.

National Association for the Education of Young Children (NAEYC). (1995). Positive Statement On School Readiness. *Young children*, 65, (4) 24-32.

O'Malley, J. M., & Valdez Pierce, L. (1996). *Authentic assessment for English language learners: Practical approaches for teachers*. Addison-Wesley.

Pert, M. (1990). *Strategies for authentic learning and assessment in early childhood*. Routledge.

Paciorek, K.M. (Ed.). (2018). *Early childhood education 09/10 (5th ed.)*. New York : Mc Graw Hill Higher Education.

Payne, D.A. (2000). *Prekindergarden screening*. California : Wadsworth.

Payne, V. G., & Isaacs, L. D. (2020). *Human Motor Development: A Lifespan Approach*. Routledge.

Pianta, R. C., Downer, J. T., & Hamre, B. K. (2022). *The Role of Relationships in Early Childhood Education and Development*. Cambridge University Press.

Popham, W. J. (2015). *Classroom assessment : what teachers need to know (6th ed.)*. Needham Heights, MA : Allyn & Bacon.

Robinson, L. E., Stodden, D. F. (2015). Motor competence and physical activity in childhood. *Medicine & Science in Sports & Exercise*, 47(4), 720-726.

Rohaty, M. M., (2013). The development of a web based ecological assessment of school readiness (WEBEASR). *Procedia - Social and Behavioral Sciences*, 1(1): 2568- 2572.

Rohaty, M. (2014). Pembentukan Kurikulum Pragmatik Prasekolah Abad Ke 21. *Proceeding International Seminar On Global Education II*.

Rohaty, M. (2014). Peranan Perisian multimedia Interaktif dalam Pembelajaran Awal Membaca di Kalangan Kanak-Kanak Prasekolah. *Proceeding The 4th International Conference on Learner Diversity, (ICELD)*. pp: 330-341.

Majzub, R. (2018). Global readiness for the young children: Emerging issues. Dalam *PECERA Malaysia*, Hilton Hotel, Kuching Sarawak: 6-8th July 2018.

Marican, S. (2005). *Kaedah penyelidikan sains sosial.* Petaling Jaya Selangor : Santrock,

Snow, K. L. (2006). Measuring school readiness: Conceptual and practical considerations. *Early Education and Development*, 17(1), 7-41.

Nuttall, E. , Romero, I. & Kalesnik, J. (1992). *Assessing and screening preschoolers: psychological and educational dimensions.* Boston: Allyn and Bacon.

Wortham, S. C. (2015). *Assessment in early childhood education (6th ed.)*. New Jersey: Pearson Merrill Prentice Hall.

Wortham, S. C. (2008). *Assessment in early childhood education*. Pearson.

Yelland, N. (2010). *Contemporary perspectives on early childhood education.* England : Open University Press – McGraw Hill Education.