article (Zikrillah).doc

by 1 1

Submission date: 25-May-2025 07:51AM (UTC-0500)
Submission ID: 2684283199
File name: article_Zikrillah_.doc (95.5K)
Word count: 3002
Character count: 19250

ANALYZING LOCOMOTOR SKILL PROFILES OF ELEMENTARY STUDENTS

Zikrillah Agus Zafitra[1], Ibnu Ansli Marta[2], Syahrial Bakhtiar[3], Sri Gusti Handayani[4]
Universitas Negeri Padang[1,2,3,4], Indonesia
zikrizafitra88@gmail.com[1] Ibnuandlimarta@fik.unp.ac.id[2] syahrial@fik.unp.ac.id[3]
Srigusti@fik.unp.ac.id[4]

Abstract
This investigation was undertaken to rigorously analyze the locomotor skill proficiency of students attending SD Negeri 03 Lima Kaum, Tanah Datar. Adopting a quantitative descriptive research design, the study sought to delineate, elucidate, and synthesize the spectrum of conditions and phenomena pertinent to the locomotor abilities exhibited by the student population under investigation. Data acquisition was facilitated through the administration of the locomotor subtest of the Test of Gross Motor Development-Second Edition (TGMD-2), a standardized and validated instrument for assessing fundamental movement skills. A purposive sampling strategy was employed to select a representative cohort of twenty students for participation in the study, ensuring focused data collection relevant to the research objectives. The resultant quantitative data were subsequently subjected to descriptive statistical analysis, specifically percentage distribution, to ascertain the prevalence of varying locomotor skill levels within the sampled population. The findings of this analysis revealed a heterogeneous distribution of locomotor skill classifications among the participants: (1) eight students (40%) demonstrated "Competent" locomotor skills, achieving scores within the 34-37 range; (2) five students (25%) were classified as exhibiting "Moderate" locomotor skills; (3) six students (30%) presented with "Deficient" locomotor skills; and (4) a single student (5%) was categorized as possessing "Inadequate" locomotor skills. The calculated mean locomotor skill level for the entire student sample fell within the "Moderate" classification. This central tendency suggests a potential area for pedagogical focus, indicating the possible necessity for the implementation of targeted interventions designed to enhance the fundamental locomotor competencies of this student population. Further research exploring the underlying factors contributing to these observed skill levels is warranted to inform the development of effective instructional strategies.
Keywords: *Fundamental Motor Skills; Locomotor Skills*

INTRODUCTION

Physical education plays a pivotal role in the holistic development of students' physical, psychomotor, cognitive, and social domains through movement-based activities. Its fundamental essence extends beyond the enhancement of physical fitness to encompass the cultivation of fundamental motor skills, particularly locomotor skills. Locomotor skills, defined as the ability to move from one place to another, necessitate the intricate coordination of muscular and nervous systems in executing movements such as walking, running,

and jumping. The acquisition of proficiency in these skills empowers children to move more effectively, thereby augmenting their physical capabilities and supporting their overall growth and development.

The elementary school years represent a critical period for the development of fundamental locomotor skills, given children's inherent activity levels, inclination towards play, and engagement in group activities. According to Stodden (2008), motor competence encompasses several key components, including strength, coordination, speed, balance, and agility, all of which are integral to the progression of children's locomotor abilities. Consequently, physical education instruction at the elementary level should prioritize the cultivation of these skills to enhance students' movement coordination.

However, a body of research indicates that the locomotor skills of elementary school students remain suboptimal. For instance, Marta's (2024) investigation revealed that the gross motor skills of students generally fall below the average, with locomotor skills exhibiting more advanced development compared to object control skills. Similarly, Syahputra's (Syahputra et al., 2021) evaluation of locomotor skills among students at SD Negeri 29 Kota Pariaman demonstrated that a significant proportion of students still exhibit low proficiency levels in specific aspects of locomotor skills, such as the standing long jump.

Several factors have been identified as contributing to the suboptimal locomotor skills observed in students. These include insufficient provision of supporting facilities and infrastructure, a limited understanding among parents regarding the significance of fundamental movement skills, and a lack of consistent practice and adequate physical activity engagement. Concomitantly, the proliferation of technology and the increasing prevalence of digital device usage have led to a discernible trend wherein children spend more time engaging with screens rather than participating in outdoor physical activities. This shift in lifestyle patterns has consequently exacerbated the developmental lag in their locomotor skill proficiency.

Preliminary observations conducted at SD Negeri 03 Lima Kaum revealed suboptimal fundamental movement coordination among students in locomotor

skills. A significant number of students demonstrated difficulties in executing basic movements such as running with adequate coordination, jumping with appropriate balance, and moving with optimal speed and agility. This condition may impede the future development of more complex motor skills in these students.

METHOD

This study adopted a quantitative descriptive research design. Quantitative descriptive research, by its nature, seeks to present findings derived from the collection of quantitative or statistical data, such as that obtained through surveys, in their original form. This approach focuses on describing the characteristics of a population or phenomenon without establishing causal relationships or correlations with specific treatments or other variables. The objective is to provide a clear and objective portrayal of the data as it exists.

The research was conducted at SD Negeri 03 Lima Kaum, located in the Limo Kaum Subdistrict, Tanah Datar Regency, during April 2025. The participant sample consisted of 20 elementary school students. Data collection was performed utilizing the locomotor subtests of the Test of Gross Motor Development-Second Edition (TGMD-2) (Bakhtiar, 2015; Goodway et al., 2012), an instrument recognized for its universal applicability across diverse international contexts. These subtests specifically assessed the fundamental motor skills of running, galloping, hopping, leaping, the horizontal jump, and sliding. The data subsequently gathered were analyzed through descriptive statistical methods to characterize the observed phenomena within the participant group

RESULT AND DISCUSSION

Subsequent to data acquisition, descriptive statistical analyses were performed to ascertain the mean and standard deviation for each assessment variable: running, galloping, hopping, leaping, jumping, and sliding. The resultant descriptive statistics are presented in the ensuing section.

Table 1. Desriptive Statistic

	N	Maximum	Minimum	Mean	Std. Deviation
Run	20	8	3	5,55	1,43
Gallop	20	7	3	5,05	1,32

Hop	20	9	3	6,10	1,68
Leap	20	6	1	3,55	1,61
Jump	20	7	2	5,70	1,49
Slide	20	7	3	5,55	1,23

Following the descriptive statistical analysis, a five-point scale was employed to establish the interval classes for each test. The frequency distribution for each test is presented in the subsequent table.

Table 2. Frequency distribution of data on locomotor skills

No	Interval class	absolute frequency						description
		Run	Gallop	Hop	Leap	Jump	Slide	
1	81 - 100%	3	4	2	7	8	5	Excellent
2	61 - 80%	11	10	7	4	8	10	Competent
3	41 - 60%	5	3	8	2	2	4	Moderate
4	21 - 40%	1	3	3	5	2	1	Deficient
5	0 - 20%	0	0	0	2	0	0	Inadequate
Total		20	20	20	20	20	20	

The subsequent section elucidates the findings pertaining to the locomotor skills of elementary students from SD Negeri 03 Lima Kaum, Tanah Datar Regency, which are systematically presented in the ensuing table.

Table 3. Frequency distribution of data on locomotor skills

No	Interval class	Absolute Frequency	Relative Frequency	description
1	> 37	0	0%	Excellent
2	34 - 37	8	40%	Competent
3	31 - 33	5	25%	Moderate
4	27 - 30	6	30%	Deficient
5	<26	1	5%	Inadequate
Total		20	100%	

The research findings concerning the locomotor skills of elementary school students at SD Negeri 03 Lima Kaum, Tanah Datar Regency, demonstrate that the aggregate performance is categorized as "Moderate".

Discussion

Fundamental Motor Skills (FMS) are scientifically delineated as foundational movement patterns encompassing a synthesis of locomotor movements (e.g., running, jumping), manipulative skills (e.g., throwing, catching, kicking), and stability skills (e.g., balance, axial movements) (Bakhtiar &

Famelia, 2018; Putri et al., 2020; Syafruddin et al., 2020a). The ontogeny of FMS constitutes a crucial underpinning for active engagement in physical activities, sports participation, and the subsequent acquisition of more intricate motor competencies (Chang et al., 2020; Goodway et al., 2014). Empirical evidence consistently demonstrates a positive correlation between proficient FMS mastery in early childhood and elevated levels of physical activity, enhanced cardiovascular fitness, and a reduced propensity for obesity during childhood and adolescence (Arman et al., 2021; Bakhtiar et al., 2020; Syafruddin et al., 2020b).

Furthermore, research indicates that the development of FMS is influenced by a multitude of factors, encompassing biological maturation, opportunities for practice, the quality of instruction, and the socio-environmental context (Clark, 2007; Duncan et al., 2020; Logan et al., 2017; Martins et al., 2020). Structured interventions specifically designed to enhance FMS proficiency have demonstrated efficacy in improving the motor competence of children (Altunsöz & Goodway, 2016; Goodway & Robinson, 2015). Consequently, a comprehensive understanding of FMS and its determinants is paramount in the design of effective physical education programs and interventions aimed at promoting optimal motor development across the lifespan.

Locomotor skills are defined as the capacity of an individual to translate their body from one spatial location to another through the coordinated action of large muscle groups. Fundamentally, these skills involve a complex interplay between the central nervous system, the musculoskeletal system, and the vestibular system, enabling efficient and controlled displacement (Andli Marta et al., n.d.; Bakhtiar et al., 2019; Dilandes et al., 2022; Syahputra et al., 2020). Developmental motor research has consistently demonstrated that the mastery of locomotor skills constitutes a critical foundation for the physical, cognitive, and social development of children (Atradinal et al., 2020; Johor et al., 2020; Newell, 2020; Webster et al., 2019). The ability to move independently unlocks opportunities for environmental exploration, broader social interactions, and participation in diverse physical activities that contribute to overall health and well-being (Kokstejn et al., 2019; Nilsen et al., 2020).

The spectrum of locomotor skills encompasses a diverse array of fundamental movement patterns that involve the displacement of body weight and footfall. Key categories of locomotor skills include gait, running, hopping, leaping, sliding, and crawling. Each of these skills necessitates specific patterns of muscular activation, temporal and spatial coordination of body segments, and dynamic balance (Jarvis et al., 2020; O'Neill et al., 2014). The development of these skills generally follows a predictable sequence, although the level of proficiency can vary among individuals, influenced by genetic predispositions, environmental factors, and opportunities for practice (Anastasiou et al., 2024; Bıçakçı et al., 2024; Reeves & Roberts, 2020).

Proficient locomotor skills during childhood hold significant long-term implications. Research has demonstrated a positive correlation between fundamental motor skills, including locomotor abilities, and subsequent levels of physical activity, as well as the prevention of chronic disease risk (Barnett et al., 2016). Furthermore, mature locomotor skills contribute to cognitive development, particularly in aspects of spatial understanding and motor planning (Diamond, 2000). Children's social and emotional interactions are also enriched through the capacity to participate in games and group activities involving locomotor movements, facilitating the formation of relationships and the development of social competencies.

CONCLUSION

In conclusion, the analysis of participants' locomotor skills revealed a heterogeneous distribution, with the mean performance falling within the "Moderate" classification, thereby highlighting a potential area for pedagogical intervention. These findings underscore the necessity for targeted instructional strategies aimed at enhancing fundamental locomotor competencies across the student cohort. Consequently, it is recommended that future research endeavors investigate the underlying determinants contributing to the observed skill disparities. Such investigations could explore factors such as prior motor skill experiences, physical activity levels outside of formal education, and the influence of specific instructional methodologies. Ultimately, a deeper understanding of

these determinants will inform the development of more effective and individualized pedagogical approaches within physical education settings, potentially leading to more equitable and enhanced motor skill development among students.

REFERENCES

Altunsöz, I. H., & Goodway, J. D. (2016). SKIPing to motor competence: the influence of project successful kinesthetic instruction for preschoolers on motor competence of disadvantaged preschoolers. *Physical Education and Sport Pedagogy*, *21*(4), 366–385. https://doi.org/10.1080/17408989.2015.1017453

Anastasiou, K., Morris, M., Akam, L., & Mastana, S. (2024). The Genetic Profile of Combat Sport Athletes: A Systematic Review of Physiological, Psychological and Injury Risk Determinants. In *International Journal of Environmental Research and Public Health* (Vol. 21, Issue 8). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/ijerph21081019

Andli Marta, I., Oktarifaldi, O., Hatchi, I., Wisma, N., Rosalina, V., Nopembri, S., Erhan Orhan, B., Kurnaz, M., & Izwan bin Shahril, M. (n.d.). *Characteristics of gross motor skills of elementary school students aged 7 and 8 years: a cross-sectional study Características de las Habilidades Motoras Gruesas de Estudiantes de Primaria de 7 y 8 Años: Un Estudio Transversal*. https://recyt.fecyt.es/index.php/retos/index

Arman, M., Barnett, L. M., Bowe, S. J., Bahram, A., & Kazemnejad, A. (2021). The validity and reliability of scales to measure perceived movement skill competence in iranian young children. *Journal of Motor Learning and Development*, *9*(1), 58–79. https://doi.org/10.1123/JMLD.2019-0023

Atradinal, Vetra, Y., Jonni, Oktarifaldi, Syahputra, R., Mardela, R., & Bakhtiar, S. (2020). *Effect of Balance on Development Level of the Locomotor Capabilities of Kindergarten Children*. https://doi.org/10.2991/assehr.k.200805.072

Bakhtiar, S. (2015). Merancang Pembelajaran Gerak Dasar Anak. In *UNP Press*.

Bakhtiar, S., & Famelia, R. (2018). *Institute Role of Teachers' Education in Improving the Standard of Development Achievement Rate and Standard of Teacher and Education Personnels of Early Childhood Education*. https://doi.org/10.2991/icece-17.2018.20

Bakhtiar, S., Famelia, R., Syahputra, R., Oktavianus, I., & Goodway, J. (2020). *Developing a Motor Skill-Based Curriculum for Preschools and Kindergartens as a Preventive Plan for Children With Obesity in Indonesia*. *21*(Icsshpe 2019), 106–110. https://doi.org/10.2991/assehr.k.200824.065

Bakhtiar, S., Johor, Z., Oktarifaldi, & Putri, L. P. (2019). Implementation of Learning and Fundamental Measurement of Early Childhood Motor Skill for PAUD Teachers Padang Panjang City. *Journal Humanities*, *1*(1), 36–47.

Bıçakçı, B., Cięszczyk, P., & Humińska-Lisowska, K. (2024). Genetic Determinants of Endurance: A Narrative Review on Elite Athlete Status and Performance. In *International Journal of Molecular Sciences* (Vol. 25, Issue 23). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/ijms252313041

Chang, S. H., Ward, P., & Goodway, J. D. (2020). The effect of a content knowledge teacher professional workshop on enacted pedagogical content knowledge and student learning in a throwing unit. *Physical Education and Sport Pedagogy*, *25*(5), 493–508. https://doi.org/10.1080/17408989.2020.1743252

Clark, J. E. (2007). On the Problem of Motor Skill Development. *Journal of Physical Education, Recreation & Dance*. https://doi.org/10.1080/07303084.2007.10598023

Dilandes, A. A., Syahputra, R., Oktarifaldi, O., Putri, L. P., & Bakhtiar, S. (2022). Perbedaan Level Kemampuan Objek Kontrol Berdasarkan Jenis Kelamin dan Usia PAUD. *Jurnal Pendidikan Jasmani Indonesia*, *18*(1), 27–35. https://doi.org/https://doi.org/10.21831/jpji.v18i1.48464

Duncan, M. J., Roscoe, C. M. P., Noon, M., Clark, C. C. T., O'Brien, W., & Eyre, E. L. J. (2020). Run, jump, throw and catch: How proficient are children attending English schools at the fundamental motor skills identified as key within the school curriculum? *European Physical Education Review*, *26*(4), 814–826. https://doi.org/10.1177/1356336X19888953

Goodway, J. D., Famelia, R., & Bakhtiar, S. (2014). Future directions in physical education & sport: Developing fundamental motor competence in the early years is paramount to lifelong physical activity. *Asian Social Science*, *10*(5), 44–54. https://doi.org/10.5539/ass.v10n5p44

Goodway, J. D., Ozmun, J. C., & Gallahue, D. L. (2012). Understanding motor development: Infants, adolescents, adults. In *Jones & Bartlett Learning*.

Goodway, J. D., & Robinson, L. E. (2015). Developmental Trajectories in Early Sport Specialization: A Case for Early Sampling from a Physical Growth and Motor Development Perspective. *Kinesiology Review*, *4*(3), 267–278. https://doi.org/10.1123/kr.2015-0028

Jarvis, S., Williams, M., Rainer, P., Saunders, J., & Mullen, R. (2020). The relationship of family characteristics, parental beliefs and parenting behaviours with the fundamental movement proficiency of primary school children in South East Wales. *European Physical Education Review*, *26*(4), 970–986. https://doi.org/10.1177/1356336X20915225

Johor, Z., Mezra, M. R., Khairuddin, Nirwandi, Oktarifaldi, Oktavianus, I., & Bakhtiar, S. (2020). *Effect of Body Mass Index on the Level Development of Early Childhood Locomotors Capabilities in Children Aged 5 to 6 Years*. https://doi.org/10.2991/assehr.k.200805.057

Kokstejn, J., Musalek, M., Wolanski, P., Murawska-Cialowicz, E., & Stastny, P. (2019). Fundamental motor skills mediate the relationship between physical fitness and soccer-specific motor skills in young soccer players. *Frontiers in Physiology*, *10*(MAY). https://doi.org/10.3389/fphys.2019.00596

Logan, S. W., Barnett, L. M., Goodway, J. D., & Stodden, D. F. (2017). Comparison of performance on process- and product-oriented assessments of fundamental motor skills across childhood. *Journal of Sports Sciences*, *35*(7). https://doi.org/10.1080/02640414.2016.1183803

Martins, C. M. de L., Bandeira, P. F. R., Lemos, N. B. A. G., Bezerra, T. A., Clark, C. C. T., Mota, J., & Duncan, M. J. (2020). A network perspective on the relationship between screen time, executive function, and fundamental motor skills among preschoolers. *International Journal of Environmental Research and Public Health*, *17*(23), 1–12. https://doi.org/10.3390/ijerph17238861

Newell, K. M. (2020). What are Fundamental Motor Skills and What is Fundamental About Them? *Journal of Motor Learning and Development*, *8*, 280–314. https://doi.org/10.1123/jmld.2020-0013

Nilsen, A. K. O., Anderssen, S. A., Loftesnes, J. M., Johannessen, K., Ylvisaaker, E., & Aadland, E. (2020). The multivariate physical activity signature associated with fundamental motor skills in preschoolers. *Journal of Sports Sciences*, *38*(3), 264–272. https://doi.org/10.1080/02640414.2019.1694128

O'Neill, J. R., Williams, H. G., Pfeiffer, K. A., Dowda, M., McIver, K. L., Brown, W. H., & Pate, R. R. (2014). Young children's motor skill performance: Relationships with activity types and parent perception of athletic competence. *Journal of Science and Medicine in Sport*, *17*(6), 607–610. https://doi.org/10.1016/j.jsams.2013.10.253

Putri, L. P., Syahputra, R., & Andli, I. (2020). *Nutritional Status Effect On Object Control Ability In Children Age 5 to 6 Year*. *4*(2), 25–32. https://doi.org/10.33369/jk.v4i2.12175

Reeves, M. J., & Roberts, S. J. (2020). A bioecological perspective on talent identification in junior-elite soccer: A Pan-European perspective. *Journal of Sports Sciences*, *38*(11–12), 1259–1268. https://doi.org/10.1080/02640414.2019.1702282

Syafruddin, Bakhtiar, S., & Famelia, R. (2020a). *Children's Motor Skill and Intervention: What Have We Known?* https://doi.org/10.2991/assehr.k.200824.064

Syafruddin, Bakhtiar, S., & Famelia, R. (2020b). Indonesian and American Children: Object Control Skills Comparison. *International Journal of Psychosocial Rehabilitation*, *24*(5), 756–761. https://doi.org/10.37200/ijpr/v24i5/pr201744

Syahputra, R., Bakhtiar, S., Marta, I. A., & Putri, L. P. (2021). The Profile of Students' Locomotor Skills Level in Elementary School. *Halaman Olahraga Nusantara (Jurnal Ilmu Keolahragaan)*, *4*(2), 138. https://doi.org/10.31851/hon.v4i2.5378

Syahputra, R., Bakhtiar, S., Oktarifaldi, O., Rasyid, W., & Putri, L. P. (2020). *Assistance In Learning Basic Early Childhood Motion Skills For Early Childhood Teachers In Pesisir Selatan Regency*. *1*(c), 1–13. http://jha.ppj.unp.ac.id/index.php/JHA/article/view/16/15

Webster, E. K., Martin, C. K., & Staiano, A. E. (2019). Fundamental motor skills, screen-time, and physical activity in preschoolers. *Journal of Sport and Health Science*, *8*(2). https://doi.org/10.1016/j.jshs.2018.11.006

article (Zikrillah).doc

ORIGINALITY REPORT

2%	2%	0%	0%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	jurnal.univpgri-palembang.ac.id Internet Source	2%

Exclude quotes	On	Exclude matches	< 2%
Exclude bibliography	On		