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FROM DISCIPLINE TO DEVELOPMENT: ADAPTING CORE MARCHING BAND STRUCTURES FOR DEVELOPMENTALLY APPROPRIATE PRACTICE IN INDONESIAN EARLY CHILDHOOD EDUCATION

DARI DISIPLIN KE PERKEMBANGAN: MENGADAPTASI STRUKTUR INTI MARCHING BAND UNTUK PRAKTIK YANG SESUAI DENGAN PERKEMBANGAN DALAM PENDIDIKAN ANAK USIA DINI INDONESIA

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Abstract

This study examines how core marching band structures can be adapted for Indonesian early childhood education through developmentally appropriate practice and performance theory. The study responds to concerns that preschool marching band activities may reproduce discipline-oriented rehearsal models designed for older learners. A one-group pre-test and post-test mixed-methods design was used with twenty Indonesian preschool children aged four to five years. Over six weeks, children participated in twelve adapted marching band sessions that combined simplified rhythmic patterns, child-scaled instruments, neat but developmentally adjusted formations, cooperative music-making, visual-motor activities, and responsive teacher facilitation. Quantitative data were collected using a four-point developmental observation rubric covering rhythmic competence, motor coordination, and socio-emotional engagement. Qualitative data were obtained from teacher reflective journals and post-intervention interviews. Paired-sample analysis showed higher post-test scores across the three developmental domains. The largest observed improvement appeared in socio-emotional engagement, followed by rhythmic competence and motor coordination. However, because the study did not include a control group, the findings should be interpreted as developmental changes observed after participation rather than definitive causal effects of the intervention. Qualitative findings indicated that children participated more confidently when teachers simplified rhythmic tasks, used clear and neat formations with reduced technical pressure, provided child-scaled instruments, supported safe movement, and acted as co-players and emotional co-regulators. The study reconceptualizes marching band routines not as rigid disciplinary scripts, but as adaptable performative frames that may support social participation, emotional regulation, rhythmic learning, motor coordination, cooperation, and creative agency when aligned with children's developmental readiness.

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Keywords : Marching Band, Early Childhood Music Education, Developmentally Appropriate Practice, Socio-Emotional Engagement, Indonesian Preschool, Performance Theory.

Abstrak

Studi ini meneliti bagaimana struktur inti marching band dapat diadaptasi untuk pendidikan anak usia dini di Indonesia melalui praktik yang sesuai dengan perkembangan dan teori kinerja. Studi ini menanggapi kekhawatiran bahwa aktivitas marching band prasekolah mungkin mereproduksi model latihan berorientasi disiplin yang dirancang untuk anak-anak yang lebih tua. Desain metode campuran pra-uji dan pasca-uji satu kelompok digunakan dengan dua puluh anak prasekolah Indonesia berusia empat hingga lima tahun. Selama enam minggu, anak-anak berpartisipasi dalam dua belas sesi marching band yang diadaptasi yang menggabungkan pola ritmis yang disederhanakan, instrumen berskala anak, formasi yang rapi tetapi disesuaikan dengan perkembangan, pembuatan musik kooperatif, aktivitas visual-motorik, dan fasilitasi guru yang responsif. Data kuantitatif dikumpulkan menggunakan rubrik observasi perkembangan empat poin yang mencakup kompetensi ritmis, koordinasi motorik, dan keterlibatan sosial-emosional. Data kualitatif diperoleh dari jurnal reflektif guru dan wawancara pasca-intervensi. Analisis sampel berpasangan menunjukkan skor pasca-uji yang lebih tinggi di ketiga domain perkembangan tersebut. Peningkatan terbesar yang diamati muncul pada keterlibatan sosial-emosional, diikuti oleh kompetensi ritmis dan koordinasi motorik. Namun, karena penelitian ini tidak menyertakan kelompok kontrol, temuan tersebut harus diinterpretasikan sebagai perubahan perkembangan yang diamati setelah partisipasi, bukan sebagai efek kausal pasti dari intervensi. Temuan kualitatif menunjukkan bahwa anak-anak berpartisipasi lebih percaya diri ketika guru menyederhanakan tugas-tugas ritmis, menggunakan formasi yang jelas dan rapi dengan tekanan teknis yang berkurang, menyediakan instrumen yang sesuai dengan ukuran anak, mendukung gerakan yang aman, dan bertindak sebagai rekan pemain dan pengatur emosi. Penelitian ini merekonseptualisasi rutinitas marching band bukan sebagai skrip disiplin yang kaku, tetapi sebagai kerangka performatif yang adaptif yang dapat mendukung partisipasi sosial, pengaturan emosi, pembelajaran ritmis, koordinasi motorik, kerja sama, dan kreativitas ketika diselaraskan dengan kesiapan perkembangan anak.

Kata Kunci : Marching Band, Pendidikan Musik Anak Usia Dini, Praktik yang Sesuai dengan Perkembangan, Keterlibatan Sosial-Emosional, Prasekolah Indonesia, Teori Pertunjukan.

1. INTRODUCTION

The preschool years are an important period for the development of cognitive, motor, emotional, and social capacities that support later learning and school readiness (Shonkoff & Phillips, 2000; Vygotsky, 1978). During this period, children learn through bodily movement, sensory experience, social interaction, imitation, repetition, and play. Learning activities that combine rhythm, movement, attention, and peer participation can support several developmental domains at the same time.

Music-movement activities have strong value in early childhood education because they integrate sound, rhythm, body movement, memory, coordination, emotion, and social interaction. Children do not only listen to music. They move with it, respond to it, repeat it, and share it with others. In preschool classrooms, music-movement activities can help children practice listening, attention, body control, turn-taking, self-regulation, and peer awareness.

Marching band activities offer a distinctive form of music-movement learning. They involve rhythm, instruments, movement, visual expression, group order, and collective performance. In Indonesian early childhood settings, marching band activities often appear in school celebrations, extracurricular programs, graduation events, parades, and public performances. These activities can strengthen children's confidence, group identity, rhythmic awareness, and motor coordination.

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However, they may also create pedagogical risks when teachers transfer older students' marching band routines directly into preschool classrooms.

Traditional marching band training is often associated with discipline, uniformity, repetition, exact formation, precise timing, and teacher-directed correction. These features are not negative in themselves. They are central to the identity of marching band. However, they can become developmentally inappropriate when applied to young children without adaptation. Preschool children have shorter attention spans, developing motor control, limited endurance, emerging emotional regulation, and a strong need for play, exploration, and responsive adult support. Therefore, the problem is not marching band itself. The problem lies in how marching band is designed, taught, and assessed for young children.

Many studies have examined the value of music-movement learning in early childhood education. Previous research shows that rhythm, movement, singing, and group music-making can support attention, self-regulation, motor coordination, social interaction, and creative expression (Bentley et al., 2022; Cirelli et al., 2014; Kirschner & Tomasello, 2010; Williams et al., 2023). These studies provide a strong foundation for understanding why music and movement matter in preschool classrooms.

However, fewer studies examine marching band as a structured cultural and performative practice in preschool settings. Marching band differs from general classroom music because it includes instrumental handling, rhythmic synchronization, spatial formation, visual order, collective identity, and public display. These features give marching band strong educational potential, especially for motor coordination and group participation. At the same time, these features also require careful adaptation so they do not become too rigid, physically demanding, or performance-centered for young children.

A more specific research gap concerns how marching band can be adapted through developmentally appropriate practice and performance theory. Existing studies explain the benefits of music-movement activities, but they do not sufficiently explain how a structured and performance-oriented tradition such as marching band can be transformed into a child-centered, playful, safe, and developmentally responsive learning experience. This gap is important in Indonesia because marching band activities are already present in many early childhood institutions, yet their pedagogical design is not always guided by developmental theory.

Developmentally appropriate practice provides a useful framework for this issue. It emphasizes learning experiences that match children's age, individual characteristics, and sociocultural context (Bredekamp & Copple, 1997; NAEYC, 2020). In early childhood education, developmentally appropriate practice does not reject structure. It rejects inappropriate pressure. It supports learning experiences that are meaningful, achievable, challenging, playful, and responsive to children's developmental readiness.

Applied to marching band, developmentally appropriate practice requires a shift from performance accuracy as the main objective toward developmental growth as the central purpose. Children can still learn rhythm, formation, instrument handling, movement, and group coordination. However, these elements must be scaled to their motor strength, attention span, emotional readiness, and need for exploratory play. The purpose is not to turn preschool children into miniature marching band performers. The purpose is to help them experience rhythm, movement, order, cooperation, and expression in ways that fit their developmental stage.

Performance theory also helps explain the pedagogical value of adaptation. Performance can be understood as repeated and culturally transmitted behavior that can be recontextualized in different settings (Schechner, 2013). Marching band routines are not only technical routines. They are cultural actions that involve roles, symbols, discipline, sound, movement, and public meaning. For preschool children, playing a drum, carrying a flag, standing in formation, or responding to a cue allows them to explore social roles such as drummer, leader, partner, and group member.

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This theoretical frame helps explain why adaptation is necessary. Traditional marching band often emphasizes ritual, order, precision, and public display. Early childhood pedagogy requires these elements to move closer to play, exploration, and guided participation. The goal is not to remove marching band identity. The goal is to preserve its core structure while reducing excessive technical pressure. In this study, adaptation means transforming marching band into a developmentally suitable performative frame where children can experience neat formation, rhythm, instrument control, and collective identity without being judged by older learners' standards.

Formation is central to this adaptation. In marching band, formation gives visual order, group identity, and collective discipline. Therefore, preschool adaptation should not remove formation or make the activity too loose. Instead, formation should be redesigned. Children can still stand in rows, small lines, circles, and simple group shapes. They can still follow cues, move together, and maintain visible order. However, teachers need to reduce strict alignment, long movement sequences, sharp turns, and exact spacing. This allows children to experience the beauty and structure of marching band while still moving safely, controlling instruments, and participating with confidence.

This study addresses the research gap through a small classroom-based intervention in an Indonesian preschool setting. It examines how children's rhythmic competence, motor coordination, and socio-emotional engagement changed after participating in an adapted marching band program. It also describes how teachers modified marching band structures through simplified rhythms, child-scaled instruments, neat but child-appropriate formations, cooperative performance tasks, and responsive facilitation.

The novelty of this study lies in its attempt to reinterpret marching band through the combined lenses of developmentally appropriate practice and performance theory. Rather than treating marching band as a fixed disciplinary tradition, this study positions it as an adaptable performative frame. In this view, structured rhythm, formation, instrument handling, and collective performance are retained, but they are recalibrated through child-scaled instruments, simplified movement, clear formations, teacher scaffolding, and opportunities for child agency.

This study is guided by three research questions: (1) How do children's rhythmic competence, motor coordination, and socio-emotional engagement change after participation in an adapted marching band program? (2) Which developmental domain shows the largest observed improvement after participation? (3) How do teachers adapt marching band activities and formations in accordance with developmentally appropriate practice?

2. RESEARCH METHOD

Research Design

This study used a quasi-experimental mixed-methods design with a one-group pre-test and post-test structure. Quantitative data were used to examine changes in children's rhythmic competence, motor coordination, and socio-emotional engagement before and after participation in the adapted marching band program. Qualitative data from teacher reflective journals and post-intervention interviews were used to explain how teachers adapted marching band activities and how children responded during the learning process.

The design was appropriate for an exploratory classroom-based intervention because it allowed the researchers to observe developmental changes within a real preschool setting. However, the design does not allow strong causal claims. The absence of a control group means that observed score changes may have been influenced by other factors, such as maturation, repeated exposure to the activity, teacher familiarity, increased comfort with instruments, or normal classroom development. Therefore, the findings are interpreted as changes observed after participation in the adapted marching band program, not as definitive evidence that the intervention alone caused the changes.

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Participants and Sampling

The participants were twenty preschool children aged four to five years enrolled in one Indonesian early childhood education center. Children were included based on school participation, developmental suitability for group music-movement activities, and parental consent.

The small sample supported close pedagogical observation, but it limits generalization. The findings should not be treated as representative of all Indonesian preschool children. Instead, the study offers exploratory evidence and a pedagogical model that can be tested more rigorously in future research.

Intervention Procedure

The intervention lasted six weeks and consisted of two sessions per week. Each session lasted approximately twenty-five to thirty minutes. The program used adapted marching band activities that preserved core marching band elements while adjusting task complexity to children's developmental capacities.

The intervention included rhythmic foundation activities, synchronization activities, cooperative performance activities, and visual-motor formation activities. Child-scaled instruments and props were used to preserve authentic marching band experiences while supporting safety and motor suitability. Instruments and props included snare drums, bass drums, tenor drums, multi-tom drums, glockenspiel, marimba, pianica, cymbals, and color guard props adapted for preschool grip strength, body size, and movement capacity.

The intervention was designed around five principles. First, rhythmic patterns were short, repeated, and predictable. Second, instruments were scaled to children's bodies and motor strength. Third, formations remained neat and recognizable but were simplified. Fourth, teachers facilitated participation through modeling, cues, and co-regulation. Fifth, children were given limited but meaningful opportunities for exploration, choice, and expressive movement.

Adapted Marching Band Formation

Formation adaptation was a central part of the intervention. The program did not remove formation, order, or discipline from marching band. Instead, it redesigned formation to match children's developmental needs.

Teachers preserved the basic visual character of marching band through neat rows, short lines, circles, small-group blocks, and simple directional transitions. These formations allowed children to experience group order, visual clarity, and collective identity. However, teachers reduced the demand for strict alignment, exact spacing, sharp turns, long movement sequences, and extended standing time. Children were encouraged to maintain clear group shapes, but they were not pressured to perform with the technical precision expected from older learners.

This adaptation respected both the formal nature of marching band and the developmental nature of children. Children still learned to stand in formation, follow cues, move with peers, and maintain group order. At the same time, they were given enough space to move safely, control instruments, regulate their bodies, and participate with confidence.

Table 1. Intervention components of the adapted marching band program

Component	Examples of Activities	Developmental Focus	Approximate Format
Rhythmic foundation	Pulse walking, beat clapping, simple drum patterns	Beat recognition, attention, gross motor synchronization	Whole group, 5 to 7 minutes
Synchronization	Call-and-response drumming using snare and tenor drums	Auditory discrimination, temporal coordination, turn-taking	Small groups, 7 to 10 minutes
Cooperative performance	Circle-based use of glockenspiel, marimba, pianica, and percussion	Peer support, reciprocity, shared musical attention	Small or whole group, about 10 minutes
Adapted	Neat rows, short lines,	Motor planning, spatial	Small or whole

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formation and visual-motor movement	circles, small-group blocks, flag and prop movement	awareness, balance, visual-motor coordination, group order	group, 5 to 8 minutes

Teacher Facilitation

Teachers functioned as co-players, scaffolds, and emotional co-regulators. They modeled rhythmic patterns, guided attention, offered contingent feedback, and adjusted activities in real time. Their role was not only to correct performance but also to maintain safety, support emotional readiness, and help children participate successfully.

Teacher adaptations included slowing the tempo, shortening rhythmic patterns, using visual cues, replacing long marching sequences with short directional movements, adjusting formation spacing, giving children opportunities to choose instruments or movement variations, and using rhythmic breathing or synchronized clapping to support emotional regulation.

Instruments and Measures

Children's development was assessed using a four-point developmental observation rubric. The rubric covered three domains: rhythmic competence, motor coordination, and socio-emotional engagement. Rhythmic competence was assessed through beat-matching and short pattern-reproduction tasks. Motor coordination was assessed through instrument handling, bilateral coordination, balance, spatial navigation, and prop manipulation. Socio-emotional engagement was assessed through participation, turn-taking, peer response, affective expression, cooperative behavior, and recovery from minor frustration.

Each domain was scored on a four-point developmental scale. Higher scores indicated stronger, more independent, and more consistent age-appropriate performance. The rubric was not designed to measure formal marching band mastery. It was designed to assess developmentally appropriate participation in preschool music-movement activities.

Table 2. Four-point developmental rubric for adapted marching band activities

Score	General Interpretation	Rhythmic Competence	Motor Coordination	Socio-Emotional Engagement
1	Beginning: rarely demonstrated, even with support	Rarely follows the pulse and does not yet reproduce short rhythmic patterns	Has difficulty holding or using instruments safely; movement often stops or becomes unsafe	Rarely joins group activity and needs substantial adult support for turn-taking and regulation
2	Emerging: demonstrated inconsistently with frequent teacher cues	Follows a simple beat briefly after modeling; reproduces parts of short patterns with repeated prompts	Handles instruments or props with support; shows partial bilateral coordination and limited spatial awareness	Participates briefly; turn-taking and cooperation appear with frequent reminders
3	Developing and consistent: usually demonstrated with occasional cues	Maintains a simple pulse and reproduces two- to four-beat patterns with occasional prompts	Handles child-scaled instruments safely; coordinates basic striking, carrying, walking, or flag movement with occasional help	Participates cooperatively; waits for turns, responds to peers, and recovers from minor frustration with limited support
4	Age-appropriate proficiency: independently	Maintains pulse, anticipates cues, and reproduces short	Coordinates instrument use, body movement, and spatial	Shows sustained engagement, peer awareness,

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	and consistently demonstrated	rhythmic patterns independently in group routines	navigation safely and confidently for the child's age	cooperative initiative, and self-regulation during group activity

Scoring Procedure

Each child was assessed individually before and after the intervention using the four-point developmental rubric. Scores were given for rhythmic competence, motor coordination, and socio-emotional engagement. Each domain was scored from 1 to 4, where 1 indicated beginning performance and 4 indicated age-appropriate independent performance.

Two raters observed the children's performance during structured marching band activities. When the raters gave the same score, that score was used as the final score. When the raters gave different scores, the final score was determined through discussion based on observable behavioral evidence. The final score represented a consensus score grounded in the rubric descriptors.

The domain score was interpreted as a developmental score rather than a formal marching band performance score. For example, a high motor coordination score did not mean that the child had mastered formal marching band technique. It meant that the child could safely coordinate instrument handling, body movement, balance, and spatial navigation in a preschool music-movement setting.

Table 3. Scoring procedure for each developmental domain

Domain	Observed Activity	Main Indicators	Scoring Basis	Final Score
Rhythmic competence	Clapping, pulse walking, short drum patterns, call-and-response rhythm	Ability to follow pulse, reproduce two- to four-beat patterns, and respond to rhythmic cues	Scored from 1 to 4 based on independence and consistency in following simple rhythm patterns	Consensus score from two raters
Motor coordination	Holding instruments, striking drums, moving with flags, walking in simple formation, changing position	Safe instrument handling, hand-body coordination, balance, bilateral movement, spatial awareness	Scored from 1 to 4 based on safe and confident coordination of instrument, body, and space	Consensus score from two raters
Socio-emotional engagement	Group performance, turn-taking, peer response, waiting for cues, rejoining after mistakes	Participation, cooperation, emotional regulation, peer awareness, turn-taking	Scored from 1 to 4 based on active and cooperative group participation	Consensus score from two raters

Table 4. Calculation of domain scores

Calculation Step	Formula	Example
Total pre-test score	Sum of all children's pre-test scores in one domain	Motor pre-test total = 46
Pre-test mean	Total pre-test score divided by number of children	46 divided by 20 = 2.30
Total post-test score	Sum of all children's post-test scores in one domain	Motor post-test total = 64
Post-test mean	Total post-test score divided by number of children	64 divided by 20 = 3.20
Mean difference	Post-test mean minus pre-test mean	3.20 - 2.30 = 0.90

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Interpretation	The domain with the largest mean difference shows the largest observed improvement	Socio-emotional engagement showed the largest observed improvement

Validity, Reliability, and Ethics

Content validity was strengthened through practitioner review of the observation rubric and intervention structure. The review panel consisted of a marching band coach, a senior field coach, a senior marching band competition juror, and a senior drum-major trainer or coach familiar with children's marching band activities. These reviewers examined whether the indicators were observable, safe, age-appropriate, and relevant to adapted marching band learning.

Their feedback led to three main refinements. Rhythmic indicators were limited to simple pulse maintenance and short two- to four-beat patterns. Motor indicators emphasized safe instrument handling, bilateral coordination, and spatial awareness rather than formal formation accuracy. Socio-emotional indicators were stated as observable behaviors such as turn-taking, peer response, affective recovery, and cooperative participation.

Reliability was addressed through rater calibration and agreement checking. Two trained raters observed the children's performance using the same rubric. Before formal scoring, the raters jointly reviewed each indicator, discussed examples of scores 1 to 4, and practiced scoring sample activity segments. Agreement was checked by comparing item-level ratings across the three domains. When scores differed, raters discussed the behavioral evidence and reached consensus using the rubric descriptors. Because the available manuscript materials do not include an exact statistical coefficient, this study reports procedural inter-rater reliability through calibration, paired scoring, and consensus review. Future studies should strengthen this procedure by reporting an intraclass correlation coefficient, Cohen's kappa, or another appropriate agreement statistic.

Ethical safeguards included school permission, parental consent, developmentally suitable activities, child-scaled instruments, attention to physical safety, and protection of children's identities in reporting. Children were not evaluated as competitive performers. All scoring was used only to understand developmental change during the adapted music-movement intervention.

Data Analysis

Quantitative data were analyzed using paired-sample t-tests to compare children's pre-test and post-test scores in rhythmic competence, motor coordination, and socio-emotional engagement. Because the same children were measured before and after the intervention, paired-sample t-tests were suitable for examining within-group score changes.

For each domain, the analysis reported the pre-test mean and standard deviation, post-test mean and standard deviation, mean difference, standard deviation of the difference scores, degrees of freedom, t-value, p-value, 95% confidence interval, and Cohen's dz. Cohen's dz was calculated by dividing the paired-sample t-value by the square root of the sample size.

Qualitative data from teacher reflective journals and post-intervention interviews were analyzed thematically. The analysis focused on how teachers adapted marching band activities, how children responded to the adapted structure, and which pedagogical strategies appeared to support participation. The qualitative data were used to interpret the quantitative results and explain how developmental changes appeared in classroom practice.

3. RESULT AND DISCCUSSION

Quantitative Findings

The quantitative results showed that children obtained higher post-test scores than pre-test scores across the three developmental domains after participating in the six-week adapted marching band program. The largest observed improvement appeared in socio-emotional engagement, followed by rhythmic competence and motor coordination.

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This pattern indicates that the adapted marching band program was not only a motor-rich music-movement experience, but also a socially meaningful group activity. Turn-taking routines, shared rhythmic cues, cooperative performance tasks, and teacher co-regulation appeared to support children's participation, peer awareness, emotional recovery, and willingness to remain engaged in group performance.

Motor coordination also improved after the intervention. This improvement is pedagogically important because marching band activities require children to coordinate instrument handling, body movement, balance, rhythm, and spatial awareness. However, based on the existing data, motor coordination was not the largest area of change.

Because the study used a one-group pre-test and post-test design without a control group, these improvements should be interpreted as developmental changes observed after participation, not as definitive causal effects of the intervention.

Table 5. Pre-test and post-test outcomes across the three developmental domains

Measured Domain	Pre-test M	Pre-test SD	Post-test M	Post-test SD	Mean Difference	SD Difference	t(df)	p	95% CI for Mean Difference	Cohen's dz
Rhythmic competence	2.20	0.50	3.30	0.40	1.10	1.19	4.12 (19)	.001	0.54 to 1.66	0.92
Motor coordination	2.30	0.60	3.20	0.50	0.90	1.05	3.85 (19)	.001	0.41 to 1.39	0.86
Socio-emotional engagement	2.10	0.40	3.40	0.30	1.30	1.28	4.55 (19)	< .001	0.70 to 1.90	1.02

Note. N = 20. Mean difference was calculated by subtracting the pre-test mean from the post-test mean. Cohen's dz was calculated as t divided by the square root of N. The largest observed improvement appeared in socio-emotional engagement, followed by rhythmic competence and motor coordination. Because this study used a one-group pre-test and post-test design without a control group, these results should be interpreted as within-group developmental changes rather than definitive causal effects.

To support interpretation of the quantitative results, Figures 1 and 2 visually summarize the pre-test and post-test score patterns and the within-group effect sizes.

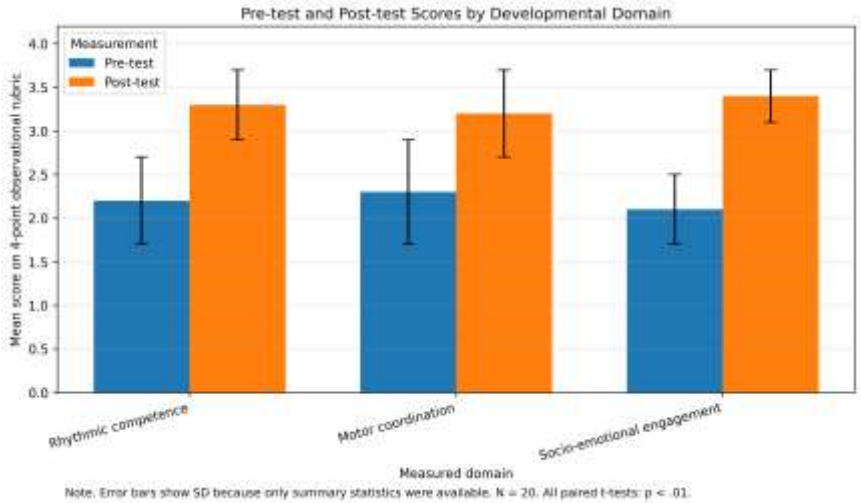

Figure 1. Pre-test and post-test mean scores across the three developmental domains after the adapted marching band intervention. Error bars represent standard deviations. The figure

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shows consistent improvement in rhythmic competence, motor coordination, and socio-emotional engagement, with the strongest post-test mean observed in socio-emotional engagement.

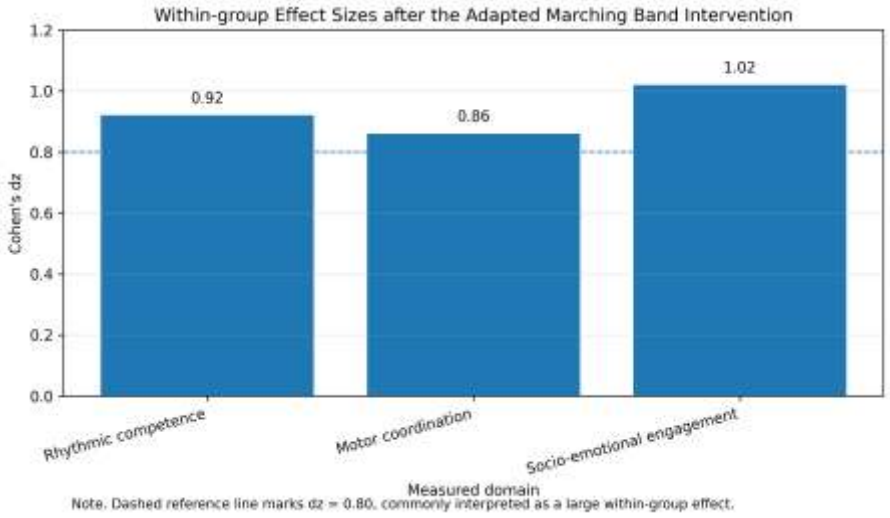

Figure 2. Within-group effect sizes (Cohen's dz) for the adapted marching band intervention. All three domains show large effects, and socio-emotional engagement demonstrates the strongest effect size.

Qualitative Findings

The qualitative data helped explain how children responded to the adapted marching band activities. Teacher reflective journals and post-intervention interviews were coded around four recurring themes: cooperative participation, teacher co-regulation, developmentally adjusted formation, and rhythmic-motor scaffolding. Because the teacher-reflection materials were reconstructed from summaries rather than verified verbatim transcripts, the findings are presented as paraphrased thematic summaries rather than direct quotations.

First, teachers observed that children became more willing to participate when the activities were organized around shared routines. Turn-taking, call-and-response rhythms, peer observation, and group cues helped children understand when to play, when to wait, and how to rejoin the group after small mistakes. These routines appeared to support socio-emotional engagement because children practiced cooperation, patience, peer awareness, and emotional recovery within a structured group setting.

Second, teacher co-regulation supported children's emotional readiness. Teachers used soft clapping, rhythmic breathing, slower tempo, affective mirroring, visual cues, and simplified prompts to help children re-enter the activity after distraction, frustration, or missed cues. In these moments, teachers did not only correct musical performance. They helped children regulate their bodies and emotions so they could continue participating with peers.

Third, developmentally adjusted formation helped children experience marching band without excessive pressure. Teachers retained the visual order of marching band through neat rows, short lines, circles, small-group blocks, and simple directional transitions. However, they reduced the demand for strict alignment, exact spacing, sharp turns, long walking sequences, and extended standing time. This allowed children to experience formation, order, and group identity while still moving safely and naturally.

Fourth, rhythmic-motor scaffolding helped children build confidence. Teachers simplified rhythmic patterns, used repeated cues, introduced rhythms through clapping or body movement before instrument use, and provided child-scaled instruments and props. These strategies helped children coordinate listening, movement, instrument handling, and spatial awareness.

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Together, the qualitative findings suggest that the adapted marching band program worked through a balance between order and responsiveness. The program preserved formation, rhythm, and group structure. At the same time, teachers adjusted these elements so children could participate safely, confidently, socially, and developmentally appropriately.

Integration of Quantitative and Qualitative Findings

The quantitative and qualitative findings were integrated to explain both what changed and how those changes appeared in classroom practice. The quantitative results showed higher post-test scores in rhythmic competence, motor coordination, and socio-emotional engagement. Among these domains, socio-emotional engagement showed the largest observed improvement.

The qualitative findings help explain this result. Teachers reported that children became more engaged when marching band activities were structured around shared routines, turn-taking, peer response, group cues, and teacher co-regulation. Children were not only learning to play instruments or move in formation. They were also learning how to wait, listen, respond to peers, recover from mistakes, and remain involved in group activity. This explains why socio-emotional engagement showed the strongest observed change.

The improvement in rhythmic competence was linked to rhythmic simplification. Children appeared more able to maintain pulse and reproduce short patterns when teachers reduced rhythmic complexity, repeated patterns across sessions, and introduced rhythm through clapping or body movement before instrument use.

The improvement in motor coordination was linked to child-scaled instruments, prop movement, and adapted formations. Children practiced striking drums, holding mallets, carrying light instruments, moving with flags, walking in simple formations, and coordinating hand movement with body balance. The adapted formations helped children move in an organized way without the pressure of strict marching precision.

The mixed-methods integration therefore suggests that the adapted marching band program functioned as a structured music-movement activity with broad developmental value. Its strongest observed value appeared in socio-emotional engagement, while rhythmic competence and motor coordination also improved. The findings show that adapted marching band can support children's social participation, emotional regulation, rhythm learning, motor coordination, and age-appropriate group discipline within one integrated activity.

The findings indicate that preschool children showed higher scores in rhythmic competence, motor coordination, and socio-emotional engagement after participating in the adapted marching band program. The largest observed improvement appeared in socio-emotional engagement. This result suggests that adapted marching band activities may be especially meaningful as structured group experiences that support participation, cooperation, emotional regulation, and peer awareness.

The strong improvement in socio-emotional engagement can be explained by the collective nature of marching band. Children were required to wait for cues, listen to peers, take turns, follow group routines, recover from mistakes, and rejoin shared performance after distraction or frustration. These activities created repeated opportunities for children to practice social participation and emotional control in a concrete and embodied way. This finding is consistent with previous research showing that collective music-making can support shared attention, cooperation, and prosocial behavior.

Rhythmic competence also improved after the intervention. Short, repeated, and predictable rhythm activities helped children listen, anticipate, respond, and coordinate their actions with temporal patterns. Beat clapping, pulse walking, and call-and-response drumming gave children manageable entry points into rhythmic participation. These findings align with research showing that rhythm and movement activities can support attention, self-regulation, and school readiness in young children.

Motor coordination improved as well. Although it was not the largest area of change in the existing data, the improvement remains pedagogically important. Marching band activities require children to strike drums, handle mallets, carry light instruments, move with flags, coordinate walking

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patterns, and respond to rhythmic cues. These tasks involve gross motor movement, fine motor control, bilateral coordination, balance, motor planning, and spatial awareness. The activities became more developmentally suitable when teachers adjusted tempo, reduced movement length, used safe instruments, and organized children in clear but manageable formations.

The adaptation of formation is important. Formation is one of the core identities of marching band. It creates visual order, shared discipline, and collective performance. For this reason, the intervention did not remove formation from the activity. Instead, it preserved neat and recognizable formations while changing the criteria of success. Children still learned to stand in rows, move in short lines, follow group cues, and maintain collective shape. However, they were not expected to maintain perfect spacing, sharp turns, or strict alignment for long periods. The focus shifted toward safe movement, spatial awareness, instrument control, social participation, and age-appropriate group discipline.

This approach respects both sides of the learning activity. It respects marching band as a structured performance tradition, and it respects children as active, playful, and still-developing learners. The program did not dilute marching band into free play. It transformed marching band into a structured but child-sensitive activity. This distinction is central to developmentally appropriate practice.

Performance theory helps explain the pedagogical meaning of these findings. Marching band routines can be understood as repeated and culturally transmitted behaviors that can be recontextualized for new educational purposes. In this study, marching band routines were not reproduced as rigid disciplinary scripts. They were transformed into a developmentally suitable music-movement frame in which children could explore rhythm, movement, formation, roles, and collective participation without the pressure of perfect execution.

The teacher's role was central to this transformation. The adapted program did not remove structure. It made structure responsive. Teachers simplified tasks when children showed overload, introduced novelty when attention declined, and returned children to predictable rhythmic frames when they needed support. Teachers also managed formation in a balanced way. They maintained order and visual clarity, but they adjusted spacing, sequence length, and cue complexity according to children's readiness.

This practice reflects scaffolding because teachers mediated learning through guided participation, contingent support, and sensitivity to children's developmental readiness. In the adapted marching band context, scaffolding did not mean reducing challenge completely. It meant giving children a structured challenge that they could realistically achieve with adult support.

The Indonesian PAUD context gives these findings practical relevance. Marching band activities are often used in school celebrations and public performances. This study suggests that such activities should not be assessed only through visual uniformity or performance accuracy. They can also be designed to support social participation, emotional regulation, motor coordination, rhythm learning, cooperation, and creative agency. For teachers and curriculum designers, marching band should be treated as a child-centered music-movement activity rather than as a miniature version of older students' performance training.

This study has several limitations. First, the one-group pre-test and post-test design limits causal interpretation. The observed improvements may be related to the adapted marching band program, but they may also reflect maturation, repeated exposure, teacher familiarity, increased comfort with instruments, or other classroom factors. Future studies should include a comparison group or randomized design to examine intervention effects more rigorously.

Second, the study involved only twenty children from one early childhood education center. This small and context-bound sample limits generalizability. Future research should include larger samples from multiple PAUD institutions with different geographic, cultural, and institutional characteristics.

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Third, the intervention lasted only six weeks. This short duration does not show whether the observed gains would remain after the program ended. Future studies should include follow-up assessment to examine retention of rhythmic, motor, and socio-emotional changes.

Fourth, the study relied on observational rubric scores. Although the rubric was reviewed by practitioners and used by trained raters, future studies should strengthen measurement quality by reporting detailed validity evidence and robust inter-rater reliability coefficients.

Fifth, the qualitative findings were based on teacher reflective journals and post-intervention interviews. Teacher-generated data may contain positive-reporting bias, especially when teachers are involved in implementing the program. Future studies should include independent observers, video-based analysis, child-centered data sources, and verified verbatim interview or journal excerpts.

4. CONCLUSION

This study examined how core marching band structures can be adapted for preschool children aged four to five years through developmentally appropriate practice and performance theory. After participating in the six-week adapted marching band program, children showed higher observed scores in rhythmic competence, motor coordination, and socio-emotional engagement. The largest observed improvement appeared in socio-emotional engagement, followed by rhythmic competence and motor coordination.

This finding is pedagogically meaningful because marching band activities are not only musical and motor activities. They are also collective social routines. Children must wait, listen, respond, follow cues, coordinate with peers, recover from mistakes, and remain engaged in shared performance. When teachers use simplified rhythms, child-scaled instruments, neat but manageable formations, cooperative routines, and responsive support, marching band can become a developmentally suitable activity for preschool classrooms.

The study also shows that adapting marching band for preschool children does not mean abandoning marching band identity. Children can still experience formation, order, rhythm, visual performance, and collective discipline. However, these elements must be redesigned according to children's developmental readiness. The appropriate preschool marching band model is not free movement without structure, nor strict performance without play. It is a balanced model that preserves clear formation and collective performance while respecting children's safety, playfulness, agency, emotional regulation, and developmental process.

Theoretically, the study contributes to early childhood music-movement pedagogy by positioning marching band as an adaptable performative frame rather than a fixed disciplinary practice. Practically, the findings provide direction for PAUD teachers who wish to use marching band activities without imposing excessive pressure, rigid uniformity, or developmentally inappropriate expectations.

However, the findings must be interpreted cautiously. The study used a small sample, one location, a short intervention period, and no control group. Therefore, the results show developmental changes observed after participation, not definitive causal effects. Future research should use stronger experimental designs, include multiple PAUD institutions, report detailed validity and reliability evidence, use independent observation, preserve verified verbatim qualitative data, and examine long-term retention. With these refinements, adaptive marching band pedagogy can become a meaningful contribution to early childhood music education, arts-based curriculum development, and culturally responsive PAUD practice in Indonesia.

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