CURRICULAR INTEGRATIONS AND INNOVATIVE PRACTICES FOR INCLUSIVE MOTOR EDUCATION: BODY PERCUSSION A QUALITATIVE STUDY

INTEGRAZIONI CURRICULARI E PRATICHE INNOVATIVE PER UN'EDUCAZIONE MOTORIA INCLUSIVA: BODY PERCUSSION UNO STUDIO QUALITATIVO

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ABSTRACT

This study examines the effectiveness of inclusive physical education, focusing on Body Percussion as a tool to promote social cohesion and mutual respect among children. 75 primary and lower secondary school students took part in a program integrating physical education, rhythm, and music in a non-competitive environment. Results showed a significant increase in social cohesion (+43%), involvement (+25%), and inclusion (+25%) in the experimental group compared to the control group.

Lo studio analizza l'efficacia dell'educazione fisica inclusiva, con focus sulla Body Percussion, per promuovere la coesione sociale e il rispetto reciproco tra bambini. 75 studenti delle scuole primarie e secondarie, hanno partecipato a un programma integrato di educazione fisica, ritmo e musica in un ambiente non competitivo. I risultati mostrano un aumento della coesione sociale (+43%), del coinvolgimento (+25%) e dell'inclusione (+25%) nel gruppo sperimentale rispetto al gruppo di controllo.

Introduction

A multidisciplinary approach that combines various pedagogical, psychological, and social competencies could be key to developing new capacities for cohesion and cultivating mutual understanding from an early age as an enriching educational value. In an increasingly complex and fragmented world (Gemelli, 2011), teaching collaboration and respect may be decisive, and to achieve this, it could be beneficial to merge knowledge and skills derived from these different fields in the concrete practice of movement (Booth & Ainscow, 2011). Physical education, in this sense, might represent a privileged context for fostering these processes in a modern perspective because, unlike other school subjects, it is inherently less abstract, thereby contrasting modern tendencies toward disembodiment (Gallese & Sinigaglia, 2011). As supported by various studies and scholars, movement generally helps children develop a range of transversal competencies, such as cooperation, emotional regulation, and respect for rules (Diamond & Ling, 2016). Numerous initiatives have aimed to educate children toward greater acceptance and recognition of others, but these have often been linked to more theoretical, content-heavy subjects. Despite these efforts, the global map of intolerance still shows extremely high rates of discrimination affecting various vulnerable groups, indicating the persistence of stereotypes and prejudices. Despite progress made in defending rights, these attitudes continue to surface, particularly in digital environments, where direct interaction is reduced and the ability to truly listen to one another may also be diminished (Benhabib, 2002).

As noted in the studies of distinguished scholars such as Gardner (1993), Freire (1970), and Vygotsky (1978), education can be a powerful instrument of cultural transformation. From this perspective, it may be essential to explore new forms of school-based interventions capable of supporting the development of new shared ethical and social models. These interventions influence the individual's growth within the group in the short term, but they may also have long-term repercussions. Neuroscience research has emphasized the long-term potential of music as a social binder (Levitin, 2025). Body Percussion, which integrates physical activity with music and rhythm, is therefore proposed as a preventive approach because it promotes bodily awareness, encouraging individuals to get in touch with their bodies and to develop better self-perception as well as an enhanced understanding of others, thereby releasing emotions in a healthy way. Rhythm and movement, in fact, activate the nervous system in ways that reduce accumulated tension and

stress. Moreover, this type of activity is useful for creating shared social goals, improving nonverbal communication, and reinforcing relational competencies (Cross, 2009). Its application in the curricular domain could thus amplify the benefits of general physical education. However, to ensure this evolution is effective, it is necessary to adopt these tools and methodologies through the active participation of students and the proactive engagement of teachers, so that the time devoted to this subject is internalized as a core value (Tuts & Martínez, 2007). From this perspective, a cross-disciplinary approach facilitated by professionals could become a powerful tool: through movement and bodily experience, it could develop collaborative skills essential for both personal growth and the growth of the class group. In particular, Body Percussion enables the integration of movement and music without individualistic or performative goals and without competition. This practice fosters coordination and synchronization of gestures with others, cooperation, and overt expressiveness, creating learning opportunities that go beyond mere physical development but can also be integrated with it (Frischen et al., 2022). Furthermore, teachers, by serving as behavioural role models, can support students and become active participants in the group. In doing so, they bring together everyone's differences with ease and encourage participation (Meijer & Forlin, 2019). In this vision, as cited by Bochicchio, the teacher learns to "become a frame," a positive model who provides help and encourages the creation of a network of practical supports that highlights the role of classmates as a resource (Bochicchio, 2017). The "agency" of the teacher, therefore, through this integration, may, according to Sibilio and Aiello, go beyond focusing merely on the here and now and instead consider the potential of individual and collective professional action as part of a broader system of relationships that can shape contexts and promote their gradual transformation. Yet, as crucial as the teacher's competence is in producing transformative learning, their efforts remain limited if supported only by the sensitivity of individuals (Zanazzi, 2020). From this perspective, it is thus necessary to move toward concrete action, and Body Percussion can be one form of such action, promoting active engagement and participation. By involving schools, educational institutions, and local policies in a shared initiative, new instructional integrations could be established with the goal of improving outcomes for everyone, collectively and individually. Schools could create an environment that actively integrates differences, fostering cohesion, equity, and inclusion.

Pedagogical reflection, therefore, could aim to create educational pathways based on children's contemporary needs, addressing the requirements of each student and using the body as a primary tool for learning prosocial values (Caprara et al., 2014). Hence, it becomes interesting to explore new approaches that, through the body and movement, may help to rediscover new forms of social cohesion. Among these methodologies, Body Percussion might offer students a formative and engaging educational experience. Examining the impact of this methodology could offer fresh insights into the integration of different disciplines in modern school-based learning.

1. Diversity as a Resource and Value

Recent studies highlight the benefits of inclusion in school practice. "It is now widely recognized that inclusion represents an unavoidable challenge to promote and achieve social cohesion, active and responsible citizenship, and equity of educational and training opportunities within the framework of lifelong learning." (Chiappetta, 2017)

Preventing the development of inequalities, containing marginalization, and eliminating social exclusion are fundamental tasks for any society that aspires to be democratic tasks that necessarily involve all its institutions. Recognizing increasingly diverse needs, along with both shared and individual requirements, is a challenge for all educational agencies, which must promote values of acceptance and coexistence. Building a collaborative society must begin with a school equipped with specifically structured activities. As an educational community rooted in and immersed within society, the school should act as a promoter of innovative, improvement-oriented change. It must be effective, efficient, and, above all, equitable, providing fundamental inspiration not only in terms of performance (Fabbroni, 2016). Indeed, school is a central point for transformation and change, strongly aligned with the goal of promoting an educational community that fosters the development of a truly aware and welcoming society.

An educational endeavour viewed as an "agent of change" refers to the critical role that education and educational practice can play in catalysing positive societal transformation, influencing people and the surrounding environment (Mazzella, Ambretti, 2023). The formative role of the school—an ideal place for promoting values and competencies—places the individual, or the child, at the centre of the

educational system and aims to encourage dialogue and equality by proposing a model in which diversity is regarded as a resource, not a limitation. This entails the need to reflect on education that respects human dignity and personal differences, as well as to provide appropriate training opportunities for teachers, who are responsible for future generations (Cambi, 2012). However, especially among young people, reflection is often less impactful than concrete action and example (Bandura, 1986). Teachers must therefore commit to an educational renewal that transforms both their way of thinking and their teaching strategies by designing ever more flexible and innovative learning pathways. Inclusion is not limited to the concepts of disability or special educational needs but must be viewed more broadly, encompassing the inclusion of diverse cultures, hardships, or simply differences among all students. Unfortunately, new media often create identities that are not always embodied, making it harder to attune to the real needs of others and different perspectives (Florian, 2014). Today, the scope of inclusion must thus expand to prevent all forms of exclusion and isolation, becoming a guiding principle for promoting equity, equality, and respect, grounded in human, civil, and social rights.

Building a society and a school that promotes collective well-being, in addition to individual performance, requires cultural renewal based on research and pedagogical studies with clear definitions to guide educational policies. Every person has the inalienable right to realize and affirm his or her identity in relationships, distinguishing himself from others and from himself, in order to avoid conformism and isolation (Ricoeur, 1992). Reciprocity is crucial to the modern conception of human rights (Benhabib, 2002). This last author insists on reciprocity as the foundation of human rights, a principle that is reflected in the dynamics observed during experimentation: through shared rhythmic activity, students have developed listening to behaviours, respect and collaboration, key elements for authentic inclusive education. From the fear and intolerance generated by the negative perception of the other, can instead be born, through an authentic acceptance, a transformative encounter. Only by starting from the face of the other is it possible to build the bases for moving from the humanism of the subject to the identity of the other, from the individual to the culture of difference, from the ethics of self to the principle of otherness. (Nussbaum, 2011; Appiah, 2006)

In addition, according to Bauman, in liquid modernity, identities are fluid and constantly changing. This means that people must continually adapt to new

situations and social contexts. Diversity becomes a valuable resource because it offers a variety of perspectives and solutions to emerging problems, but it can also be a source of conflict and disorientation for those who struggle to find stability in an ever-changing world (Bauman, 2000). Bauman criticizes the idea of homogeneous communities and proposes a vision of community based on solidarity and respect for differences. He argues that communities should be open and flexible spaces where differences are seen as a resource rather than a threat (Bauman, 2001). Finally, the reflection of Bauman (2000, 2001) on "liquid modernity e fluid identities is reflected in the need to propose flexible and adaptable educational methodologies for ever-changing contexts. In this direction, the Body Percussion is proving an effective strategy to create dynamic and welcoming educational spaces, able to respond to the needs of an increasingly diverse school population.

For Paul Ricoeur, it is the "other", in his lived otherness, to recall the subject to its social dimension, subtracting it from the illusion of solipsism. The other enters constitutively in us, making each subjectivity a synthesis between what is own and what is given in the mutual exchange of esteem and respect (Sacchetti, 2012). Philosophical perspectives on the recognition of the other and reciprocity offer an essential theoretical framework for understanding inclusive dynamics in school. This vision is reflected in the results of our research, which show how collaborative educational practices, such as Body Percussion, promote the building of meaningful relationships and the overcoming of individualistic barriers within the class group. The encounter with the other becomes thus a transformative experience, capable of generating cohesion and collective well-being.

Building on these ideas, it is possible to embrace diversity and turn it into a practical resource for easing tensions and fostering a positive atmosphere of reciprocity within the classroom. However, effective strategies must be designed that consider the broad range of diversities increasingly found in the school context, encompassing disabilities and learning difficulties as well as cultural, linguistic, socioeconomic, and gender differences, along with relational complexities and issues of disembodiment and alexithymia (Booth & Ainscow, 2017). By beginning with an ethics of reciprocity, it becomes possible to progress toward an ethics of inclusivity.

This goal is achievable if "inclusion" is not just a word but an act of genuine mutual sharing, experienced by teachers and students in their educational practices, such as in Body Percussion. Indeed, effective action requires a mature cultural awareness supported by an ecological and integrated vision of the concept, grounded in solid theoretical frameworks. These factors, when preceding any "doing," protect action from the randomness and improvisation typical of trial-and-error methods (Bochicchio, 2017). Also, according to Booth and Ainscow (2017), inclusion is a practical activity manifested by adopting good, shared practices. It stems from two interrelated processes: increasing student participation and reducing exclusion from common culture and curricula. As Fabio Dovigo notes, "to include" in real practice constitutes a continuous process and a practical expression of an acceptance philosophy (Dovigo, 2008). Considering these considerations, translating the principles of an ethics of reciprocity into concrete educational practices, capable of stimulating active participation and mutual recognition, becomes particularly compelling. In this sense, physical education and experiential methodologies can serve as effective tools for fostering a culture of encounter and collaboration. Among these, Body Percussion stands out as an innovative strategy that transforms the body into an instrument of expression and connection, creating learning opportunities that transcend linguistic, cognitive, and social barriers. Examining its impact on school dynamics can offer new insights into how to make education more inclusive, participatory, and oriented toward collective well-being. These theoretical elements lead us to explore practical methodologies that promote inclusion. Among them, Body Percussion is noteworthy for its ability to integrate movement, music, and cooperation in a stimulating educational context. To understand its impact, we conducted an experimental study on a sample of students.

2. The Italian Landscape

Italy is at the forefront of school inclusion thanks to laws such as No. 517 from 1977 and No. 104 from 1992, which integrated students with disabilities into general education classrooms and guaranteed their right to education. Legislative Decree No. 66 from 2017 introduced provisions to personalize education and train teachers, establishing the Operating Working Groups for Inclusion (Working Groups on Inclusion, GLO) to support Individualized Educational Plans (Piani Educativi Individualizzati, PEI). Italian legislation also covers students with Special Educational

Needs (BES), as indicated by the Ministerial Directive of December 27, 2012, and Ministerial Circular No. 8 of March 6, 2013, which extend support to those with specific learning disorders and socio-economic difficulties.

Decree No. 66/2017, updated by No. 96/2019, calls for an inclusive evaluation model in the Italian school system, yet a gap remains between theory and practice. The rhetoric surrounding inclusion often hinders critical analysis and encourages the medicalization of problems (Ianes & Augello, 2019). To overcome the challenges related to inclusion in the Italian model, various strategies can be adopted to reduce the conceptual, structural, and methodological barriers identified. Adequate training on inclusive practices for school staff is essential, shifting the focus from certifications to a student-centred pedagogical approach (Ianes & Augello, 2019). Furthermore, redistributing resources and revisiting categorization procedures are necessary to promote inclusion (D'Alessio, 2009; European Agency for Special Needs and Inclusive Education, 2018).

Although educational policies have indeed fostered a collaborative school model, achieving a truly participatory and accessible school environment requires not only legislative tools but also the adoption of targeted teaching practices. In this context, physical education emerges as an area of great potential, capable of putting legislation into practice through active, multidisciplinary methods. Strategies based on movement paired with rhythm and sound—such as Body Percussion—create a dynamic learning environment in which students can develop social and cognitive skills through shared physical and musical experiences.

Cooperative teaching, integrated into a co-design perspective, also plays a vital role. Teachers need support from colleagues within the school and external professionals, collaborating with techniques and tools that foster collaborative learning among students. Innovative, workshop-based teaching strategies, like Body Percussion, promote teamwork through active learning experiences in which rhythm, coordination, and mutual listening become instruments of cooperation and collective growth. Peer tutoring is effective from both cognitive and socio-emotional standpoints: students who help each other, particularly within a flexible and well-planned system of student grouping, benefit from shared learning. For teachers needing assistance in integrating students with behavioural challenges, a systematic approach to undesirable behaviours is effective for reducing the number and intensity of disruptions during lessons. Clear class rules, agreed upon by all

students (along with appropriate incentives), have proven effective. Additionally, heterogeneous grouping and a more differentiated instructional approach are necessary and effective when addressing the diversity of students in a class. These measures should be incorporated into a comprehensive approach in which instruction is based on assessment and high expectations.

Technology is an important resource for teaching and, although there is still much to be done to strengthen digital learning in Italian schools, the use of interactive whiteboards (IWBs) and the integration of technology and multimedia teaching materials have already yielded excellent results in facilitating instruction. In 2012, as part of its teacher-training project, the European Agency published an "Inclusive Teacher Profile," developed through a broad consultation across various countries and levels within the school and education sector. This profile could also be useful in Italy to identify the characteristics of the inclusive teacher. The Profile (Booth & Ainscow, 2008) defines four fundamental value dimensions for teaching: valuing students' diversity as a resource, supporting their learning with high expectations, promoting group work, and cultivating continuous professional development. While Italy has advanced legislation on inclusion, there remains a gap between theory and practice that calls for streamlined implementation. An effective data collection system would be crucial to monitor and improve the efficacy of the inclusive model (TreElle, Caritas, Fondazione Agnelli, 2011).

An open, critical dialogue about inclusion should be encouraged, rather than treating it as a system beyond critique. More transparent, evidence-based discussion will allow for identifying more effective solutions, rather than hiding behind self-congratulatory rhetoric (Ianes & Augello, 2019). An inclusive pedagogical approach must be promoted to avoid excessive medicalization and labeling of students. Instead, educational interventions should respond to each student's needs without relying on labels or diagnoses but focusing on individual abilities and potential (Ianes & Augello, 2019). Ultimately, the true success of inclusion depends on the ability to translate these principles into concrete actions through inclusive teaching and ongoing teacher training.

3. Physical Education as a Tool for Individual and Collective Growth

Given the need for increasingly active and participatory education, physical education has become a central component in learning processes and in both individual and collective development. As acknowledged in the Sustainable Development Agenda, physical activity and sports are recognized as fundamental tools for building more just and supportive societies, fostering tolerance, cooperation, and individual empowerment (Agenda 2030 for Sustainable Development). It is well established—and easy to understand—that regular, appropriate physical activity offers numerous physiological, functional, and metabolic benefits (Strong et al., 2005).

In schools, recent studies have found that children who participate in one or two brief sessions of physical activity in the morning perform better in attention tests (Altenburg, 2015); children with ADHD who engage in aerobic activity or dance improve their self-discipline (Pontifex et al., 2013); and 13 weeks of aerobic exercise enhance mathematical abilities (Davis et al., 2011). Beyond the cognitive and behavioural benefits, physical education is an effective tool for developing social and collaborative skills. Structured activities based on cooperation and motor synchronization can strengthen the sense of belonging to a group and improve teamwork skills. This is particularly relevant in school settings, where innovative teaching strategies—such as Body Percussion—allow for the combination of movement and rhythm to promote integration and communication among students. In one study, Keita Kamijo and colleagues randomly assigned 20 children aged 7 to 9 to a daily after-school exercise program that included 70 minutes of moderate-to-vigorous physical activity. The participants showed daily improvements in problem-solving and working memory (Kamijo et al., 2011). Another recent randomized study involving over 220 school-age children revealed that those who participated in 60 minutes of daily after-school aerobic exercise demonstrated better concentration and cognitive flexibility, with an increased ability to switch tasks while maintaining speed and accuracy (Hillman et al., 2014).

These scientific findings suggest that integrating motor and rhythmic methodologies into educational pathways can benefit not only the development of cognitive and attentional skills but also enhance relational and social competencies. Among these methodologies, Body Percussion stands out as an innovative educational model that combines movement, rhythm, music, and coordination,

promoting active, inclusive, and collaborative student participation. Considering these considerations, an experimental study was conducted to investigate the effectiveness of Body Percussion in the school context, evaluating its impact on various aspects of student development. Through an empirical approach, the study analysed the effects of this practice on relational dynamics, cognitive abilities, and students' psychophysical well-being.

4. Implementation of the Educational Intervention

Building on these premises, the field research examined the role of Body Percussion as an educational methodology capable of integrating motor and relational aspects into a unified experiential learning pathway. The underlying hypothesis is that this practice can have a positive impact on students' psychophysical well-being, improving their capacity for cohesion, interpersonal relationships, and acceptance of others. Here, the concept of space takes on psychological, relational, and symbolic importance. Space is seen as a constant element in any outward-directed action, an all-pervasive quality of our perceptions and actions that involves all cognitive and motor activities, relating to stimuli in the external world (De Renzi, 1982). For example, the first space a child explores is their own body; developing a proper body schema is crucial for spatial orientation, self-awareness, and action execution (Wille et al., 2005). Another key element in action is time, which plays a role analogous to space in how we interact with objects. Movement is made possible by precise temporal organization; motor rhythm is just one among the many internal and external rhythms that support us. We know that learning occurs through complex synchronization of brain rhythms (Buzsáki et al., 2013). These three aspects, space, body schema, and time, are central to a form of bodily expression such as the rhythmic percussion of Body Percussion, which has accompanied human experience for millennia.

Body Percussion simultaneously engages multiple elements without creating individual performance expectations. Neuroscience has also demonstrated that music stimulates both cortical and deeper brain areas (Thaut et al., 2014), and movement in music is increasingly used as a therapeutic tool for children with various disorders, leveraging neuroplasticity without demanding performative outcomes. Much like language and movement, music can shape the nervous system through its intense emotional component (Mado Proverbio, 2019). With Body

Percussion—a fusion of rhythmic-musical gestures and motor action it is possible to create engaging moments of inclusion.

This aligns with the objectives of the present field research, which aimed to determine how a musical-motor activity like Body Percussion, integrated into the curriculum, might influence students by acting as an "agent of change" (Mazzella, Ambretti, 2023). The research involved a sample of 75 students from various classes in primary and lower secondary school, evaluated through observational questionnaires divided into 8 macro-areas, with pre- and post-intervention observations and questionnaires for students and teachers. Inclusion criteria involved obtaining informed parental consent and ensuring regular participation in the integrated physical education and music classes. The student group was divided into an experimental group (45 students) and a control group (30 students) based on randomization criteria while maintaining group homogeneity in terms of age and gender.

5. Qualitative Analysis

Qualitative analysis was conducted following the approach of Thematic Analysis (Braun & Clarke, 2006), organized in six phases: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and writing the report. Two researchers independently coded the questionnaire responses, subsequently grouping the codes into thematic categories. Discrepancies in categorization were discussed until a definitive agreement was reached within the research team. To enhance the robustness of the analysis, methodological triangulation was employed, combining questionnaire data with structured teacher observations and quantitative pre- and post-intervention assessments. Additionally, an inter-rater reliability analysis was performed using Cohen's Kappa ($κ = 0.82$), indicative of high reliability among coders (Landis & Koch, 1977).

The qualitative analysis of the teachers' questionnaire responses (classroom teachers and special education teachers from the observed classes: 4th–5th grade primary school and 1st–2nd grade lower secondary school) revealed that Body Percussion was perceived as an effective tool for:

- Increasing student engagement.
- Stimulating interest in music and the development of rhythmic and coordination skills.
- Facilitating cognitive improvements, especially in concentration, memory, and problem-solving.
- Enhancing social interaction and collaboration among students.

In particular, the teachers who participated in the experiment (7 classroom teachers and 3 special education teachers) noted that Body Percussion helped foster cohesion among students with diverse physical and cognitive abilities, contributing to mutual respect—even among those from different cultural and linguistic backgrounds. In the control classes, which did not implement Body Percussion, observed improvements mainly centred on the macro-area of technical competence (particularly motor coordination), with no significant changes in other relational or social aspects.

To reinforce the assessment, teachers' responses were converted into Likert-scale scores (five-point scale). The data showed a predominance of high scores (value 1 = very positive), indicating a highly favorable perception of the effectiveness of Body Percussion. The macro-areas analysed were defined based on previous studies of cooperative learning (Booth & Ainscow, 2017). Each macro-area was operationalized through a combination of closed- and open-ended questions, using a Likert scale adapted from the Social Cohesion and Engagement Scale (Fredricks et al., 2004), thereby ensuring a validated measure of student perceptions. To evaluate the statistical significance of differences between the experimental and control groups, the Mann-Whitney U test was applied for non-parametric data (Table 1).

Category	Improvement (%)	Significance (p-value)
Social Cohesion	43	< 0.05
Engagement	25	< 0.05
Emotional Involvement	11	< 0.05
Inclusion	25	< 0.05
Breathing & Stress	43	< 0.05
General Satisfaction	25	< 0.05
Technical Skills	0	> 0.05
Use of Technology	0	> 0.05

Table 1. Summary of Results

Comparative Analysis: Body Percussion Experimental Group vs. Standard Physical Activities Control Group

The comparative analysis between the experimental group, which participated in the Body Percussion program, and the control group, which only engaged in standard physical activities, revealed significant improvements in specific macro-areas relevant to the study. Below are the key differences between the experimental and control groups:

Social Cohesion (+43%, $p < 0.05$)

The experimental group showed a significant increase in students' collaborative abilities. The rhythmic, synchronized activity facilitated a sense of belonging and the formation of positive relationships within the class. These improvements were not observed in the control group.

Active Engagement (+25%, $p < 0.05$)

Body Percussion enhanced students' active participation and interest in the activities. Students in the experimental group displayed higher levels of involvement compared to their peers in the control group, where participation levels remained unchanged.

Stress Management and Emotional Regulation (+43%, $p < 0.05$)

Students who took part in the Body Percussion program reported better stress management and increased relaxation during instructional activities, highlighting the positive effect of this motor-rhythmic approach on emotional regulation.

Additional Qualitative Findings

Beyond the improvements noted in the key macro-areas, the qualitative analysis revealed other noteworthy aspects. Teacher observations indicated that Body Percussion had a positive influence on group dynamics, promoting greater peer interaction. Specifically, 39% of teachers observed an increase in spontaneous collaboration among students, with a stronger inclination toward teamwork and joint problem-solving. This trend suggests that shared rhythmic practice may have reinforced the sense of belonging and mutual trust within the class group.

Another notable aspect concerns students' levels of self-esteem and personal confidence. In fact, 27% of students reported feeling more confident in their

abilities after participating in Body Percussion. This outcome was also reflected in an increased willingness to express themselves in group settings, suggesting that rhythmic activity provided a supportive environment for the development of self-assurance and bodily awareness.

From an attentional standpoint, the observed 35% increase in concentration ability among the experimental group indicates that rhythmic practice may have facilitated sustained attention during instructional activities. Teachers noted that, compared to the control group, these students showed a greater capacity to focus on instructions and assigned tasks, reducing distractions and improving the continuity of learning.

Finally, although no significant differences emerged in overall technical skills, 30% of students in the experimental group reported heightened body awareness, a sense of rhythm, and motor coordination. This perception implies that Body Percussion contributed to the development of more refined rhythmic movement, enhancing both bodily control and motor synchronization.

Control Group Findings

In the control group, where no significant improvements were noted in social dynamics or active engagement, there was a greater emphasis on progress in motor coordination and execution accuracy. Teachers reported that, compared to the experimental group, students in the control group showed a more pronounced increase in the ability to perform coordinated, controlled movements, likely due to the greater focus on the technical aspects of physical activity.

This suggests that, while Body Percussion had a broader impact on the social and emotional dimensions of learning (such as cohesion, inclusion, and emotional regulation), traditional physical activities fostered a more targeted approach to developing coordination skills. (Table 2).

Category	Experimental Group (Improvement %)	Control Group (Improvement %)	Significance (p-value)
Social Cohesion	43%	No change	$p < 0.05$
Active Engagement	25%	No change	$p < 0.05$
Emotional Regulation	43%	No change	$p < 0.05$

Peer Interaction	39%	No change	$p < 0.05$
Self-confidence	27%	No change	$p < 0.05$
Concentration	35%	Slight improvement	$p < 0.05$
Coordination	30%	42%	$p < 0.05$

Table 2. Comparison between the experimental and control groups

Conclusions

It is important today to ask: "From an educational perspective, is it possible to counteract modern relational fragmentation through specific curricular integrations? How can we 'break through' the mechanisms that build stereotypes and prejudices to deconstruct them, not only logically but also through practical approaches?" and, furthermore, "Could Body Percussion, implemented in supplementary sessions across various school subjects, foster greater cohesion and inclusion to also enhance prosocial skills among students?"

The qualitative study revealed that Body Percussion had a particularly positive impact on the perception of group cohesion (+43%, $p < 0.05$) and engagement (+25%, $p < 0.05$), with direct consequences on inclusion (+25%, $p < 0.05$). These effects showed clear differences between the experimental and control groups. The findings suggest that an education involving active, engaging bodily learning experiences—such as those offered by Body Percussion—may have a greater overall positive impact than programs focusing solely on coordination. Indeed, Body Percussion actively and equally involves all students, allowing them to participate without performance-focused or individualistic goals. Such hands-on activities, which combine movement, music, rhythm, and verbal elements, create a setting in which students can collaborate and interact constructively. By removing barriers through play and creativity, this approach promotes a sense of inclusion and mutual acceptance that can help improve student behaviour, lessen tensions, and transcend differences.

It is plausible that the variations observed between the experimental classes and the control classes are since, through movement and rhythm, a sense of shared experience and belonging emerges—one that fosters mutual consideration and can help reduce tensions in the classroom, as the data suggest. Moreover, Body

Percussion requires a high level of coordination and synchronization among participants, which is reflected in the stable post-intervention data on collaborative dynamics. This is consistent with various studies showing that musical and rhythmic activities such as Body Percussion can improve interpersonal communication and mutual understanding (Berk, 2003; Hanna-Pladdy & Mackay, 2011). Indirectly, this activity likely stimulates empathy and encourages emotional expression through the body, providing a non-verbal channel for social interaction (Koelsch, 2010). In addition, Body Percussion does not require complex instruments and can be adapted for different skill levels and ages. Its enjoyable and engaging nature facilitates interaction among individuals of various ethnicities, ages, and abilities, helping create a more equitable and authentic environment (Gordon, 2013).

Incorporating this activity into educational practices could thus be a promising strategy for helping both teachers and students counter contemporary social-relational fragmentation and promote inclusion. Despite the encouraging results, this study has certain limitations. First, the sample size is relatively small (N = 75), and the intervention lasted only one term, limiting the ability to assess long-term effects. Also, given that the qualitative analysis relies on subjective responses from teachers and students, the possibility of social desirability bias cannot be ruled out. Future studies should include long-term follow-ups to measure the stability of these results, along with more objective assessments of improvements in relational skills. Nonetheless, one can argue that only through research and experimentation with new educational practices is it possible to support the development of cooperative abilities and reduce the phenomenon of "disembodiment" among young people. Additionally, Body Percussion and similar activities can serve as effective tools for creating an inclusive, cohesive school environment in which students feel valued and motivated to collaborate and overcome differences.

Ethics Committee and Conflicts of Interest

This study was conducted in full compliance with ethical standards, with particular attention to research involving minors. Approval was granted by the IRB Ethics Committee in the biomedical area of the Department of Human, Social, and Health Sciences at the University of Cassino and Southern Lazio under protocol no. 8641 dated 4/8/2024. Informed consent was obtained from all participants; for minors, consent was provided by their parents or legal guardians. All procedures carried out

in studies involving minors adhered to the ethical standards of the institutional research committee, as well as the 1964 Helsinki declaration and its subsequent amendments or comparable ethical standards.

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