

Effects of the Orff Approach on Dance Learning Outcomes among Eight-Year-Old Children: A Controlled Teaching Experiment

CaiWen Long¹, Han Yuan^{2*}

¹Shiyan Dongfeng No.61 Primary School, Shiyan, Hubei, China, ²Department of Physical Education, Xiangtan University, Xiangtan, Hunan, China
Corresponding Author Email: yuanhan202104@163.com

DOI Link: <http://dx.doi.org/10.6007/IJARPED/v15-i4/29090>

Published Online: 22 October 2026

Abstract

Traditional children's dance teaching often relies on demonstration and repetitive imitation, which may not suit the developmental characteristics of primary school children. This study examined the effects of the Orff approach on dance learning outcomes among eight-year-old children. Thirty children from a primary school dance club in Shiyan, China, were randomly assigned to an Orff group ($n = 15$) or a control group ($n = 15$). Over six months, the Orff group received dance instruction integrating speech rhythm, body percussion, multi-part rhythm, round and rhythmic variation exercises, while the control group received conventional instruction with the same teacher, content and teaching hours. Dance expressiveness, learning interest, learning attitude and rhythm errors during performance were assessed before and after the intervention, and parents of the Orff group completed a satisfaction questionnaire. The groups did not differ at baseline. After the intervention, the Orff group scored higher than the control group on learning interest and learning attitude ($t(28) = 5.15$, $p < .001$, $d = 1.88$). Dance expressiveness showed a medium, non-significant advantage for the Orff group ($t(28) = 1.83$, $p = .079$, $d = 0.67$), and rhythm errors decreased more in the Orff group (38.5% vs. 16.7%). Parent satisfaction reached 92.0%. The Orff approach appears to be an effective way to strengthen children's motivation in dance learning.

Keywords: Orff Approach, Children's Dance, Dance Expressiveness, Learning Interest, Rhythm

Introduction

Dance is an important part of arts education for children. Through the combination of music and movement, dance helps children develop body coordination, rhythmic sensitivity, aesthetic awareness and emotional expression (Gilbert, 2015). Children who dance also report intense experiences of joy and embodied freedom that are rarely found in other school subjects (Bond & Stinson, 2000). Eight-year-old children are in the lower grades of primary school. They are active, curious and good at imitation, but their attention span is short, and their thinking relies mainly on concrete, perceptual experience rather than abstract rules (Piaget & Inhelder, 1969). These characteristics mean that abstract technical explanations and long periods of repetitive drilling are poorly suited to this age group.

In many primary schools and after-school dance clubs, however, children's dance is still taught mainly through a "teacher demonstration – student imitation – repeated practice" model. This model emphasizes standard movements and uniformity, and it places children in a passive role. In practice, teachers frequently report declining interest, inaccurate rhythm and limited expressiveness among young learners. Rhythm is a particular concern because it is the common foundation of music and dance. Children's rhythmic ability develops gradually with age and is influenced by tempo and training (Mastrokalou & Hatziharistos, 2007), and the ability to synchronize movement with a beat is related to children's broader cognitive, linguistic and perceptual skills (Tierney & Kraus, 2013). Structured music and movement programmes have been shown to improve children's locomotor and motor skills (Derri et al., 2001; Zachopoulou et al., 2004), suggesting that the way rhythm and movement are taught matters.

The Orff approach (Orff Schulwerk), developed by the German composer and educator Carl Orff together with Gunild Keetman, is one of the most influential systems of music education in the world. Its central idea is "elemental music": music that is closely connected with speech, movement and dance, and that children can perform and create themselves (Goodkin, 2002; Shamrock, 1997). Instead of beginning with notation or technique, Orff teaching starts from rhythm, speech and the body, and uses rhymes, games, body percussion, simple instruments and improvisation to let children experience music through active participation. Rhythm training is at the core of the approach and is commonly organized as speech rhythm exercises, body percussion, multi-part rhythm exercises, rhythmic rounds and rhythmic variation. Because these activities already involve bodily movement and rhythmic coordination, the Orff approach is naturally related to dance.

Empirical studies support the value of the Orff approach for young children. Compared with a standard curriculum, Orff- and Kodály-based instruction improved musical abilities, including rhythm, in preschool children (Wang et al., 2022). An Orff-based movement programme improved both locomotor and object-control skills in children aged 6–7 years (Gencigör & Akin, 2024), and Orff-based rhythm activities with body percussion supported the development of rhythmic literacy in kindergarten and first-grade children (Elkoshi, 2024). From a motivational perspective, self-determination theory holds that intrinsic motivation is fostered when learning satisfies children's needs for autonomy, competence and relatedness (Ryan & Deci, 2000). Game-based and improvisational Orff activities give children choice and opportunities for success, and joint music making has been found to promote cooperation among young children (Kirschner & Tomasello, 2010). Learning through group activities with teacher guidance is also consistent with the socio-cultural view of development (Vygotsky, 1978). More broadly, active engagement with music has been linked to positive intellectual, social and personal outcomes in children (Hallam, 2010).

Despite this evidence, most studies of the Orff approach have been conducted in music classes or in preschool settings, and have focused on musical or motor skills. As a result, several questions about dance-specific outcomes have not been established. First, in previous Orff studies rhythm has been assessed as a musical ability, for example through clapping, tapping or reading rhythmic patterns (Elkoshi, 2024; Wang et al., 2022), or indirectly through general locomotor and object-control skills (Gencigör & Akin, 2024). Keeping time in such tasks is not the same as maintaining rhythm accuracy while performing a choreographed

dance, in which children must remember movement sequences, coordinate the whole body and stay synchronized with the music at the same time. Although beat synchronization is related to broader perceptual and cognitive skills (Tierney & Kraus, 2013), it has not been shown whether rhythmic gains from Orff training transfer to fewer rhythm errors in actual dance performance. Second, to our knowledge, dance expressiveness—the ability to convey emotion and musical character through movement quality, facial expression and body dynamics (Gilbert, 2015)—has not been measured as an outcome in controlled Orff studies, which have mainly evaluated whether skills are performed correctly. It is therefore unknown whether the improvisational and creative elements of the Orff approach improve the artistic and expressive dimension of children's dance, rather than only its technical or rhythmic accuracy. Third, reports of Orff-based dance teaching are largely based on teaching experience and lack a control group taught by the same teacher with the same content and teaching hours, so improvements cannot be separated from the effects of teacher, practice time or maturation. It therefore remains unclear whether integrating Orff rhythm training into dance lessons improves the dance-specific outcomes of expressiveness and rhythm accuracy in performance, and whether it strengthens children's motivation to learn dance, compared with conventional teaching under equivalent conditions.

To address this gap, the present study conducted a six-month controlled teaching experiment with eight-year-old children in a primary school dance club. The study examined whether, compared with conventional dance teaching, Orff-based dance teaching improves (1) dance expressiveness, (2) learning interest and learning attitude toward dance and (3) rhythm accuracy during dance performance, and how parents evaluate the use of the Orff approach in children's dance teaching.

Methods

Study Design

This study used a two-group pre-test–post-test controlled experimental design. The independent variable was the teaching method (Orff-based teaching vs. conventional teaching). The dependent variables were dance expressiveness, learning interest, learning attitude and the number of rhythm errors during dance performance. Parent satisfaction with the Orff-based teaching was assessed after the intervention.

Participants

Participants were 30 eight-year-old children from the dance club of Dongfeng No. 61 Primary School in Shiyan, Hubei Province, China. The children were randomly assigned to an Orff group ($n = 15$) or a control group ($n = 15$). There were no significant differences between the two groups in age, years of dance learning or any of the pre-test measures (all $p > .05$). Before the study, the purpose and procedures were explained to the school and to parents, and written informed consent was obtained from each child's guardian.

Intervention

The intervention lasted six months and was delivered within the regular sessions of the dance club. Both groups were taught by the same teacher, with the same dance content, the same number of teaching hours and the same final performance piece; the only difference was the teaching method.

Orff group

Each lesson integrated five types of Orff rhythm training into dance teaching: (1) speech rhythm exercises, in which children recited rhymes and song lyrics rhythmically while combining words and phrases with movements; (2) body percussion, in which clapping, stamping, patting the thighs and snapping the fingers were used as “body instruments” to form varied rhythmic patterns; (3) multi-part rhythm exercises, in which small groups first practised different body-percussion patterns and then combined them into a rhythmic ensemble; (4) rhythmic rounds, in which two or three groups entered a rhythmic rhyme one after another to strengthen rhythmic memory and concentration; and (5) rhythmic variation, in which the same rhyme was performed with different rhythms so that children could feel the character of each rhythm (Goodkin, 2002; Shamrock, 1997). These exercises were organized as games, movement to music, singing while dancing and improvised creation. Table 1 shows an example lesson based on the Mongolian-style children’s dance *Little Wooden Horse*.

Control group

The control group followed the conventional model of teacher demonstration, step-by-step explanation, student imitation and group practice, without the Orff rhythm activities described above.

Table 1

Example of an Orff-based dance lesson (Little Wooden Horse)

Teaching stage	Main activities	Orff element
Situational introduction	Children watch a dance video and discuss “Where is the little horse going?” and “How does it feel to ride the little horse?”	Speech, situation
Listening and free movement	Children listen to the song repeatedly, move freely to the music and share their feelings	Listening, movement
Body percussion	Children clap, pat their thighs and stamp to the melody, using body percussion to express the “riding” rhythm	Body percussion
Learning the song	Children learn the song with the recording and accompaniment and recite the lyrics rhythmically	Speech rhythm
Learning the movements	The teacher teaches the dance movements with the song as background music, using vivid images	Movement, dance
Group singing and dancing	One group dances while the other sings and dances; the groups then exchange roles	Multi-part, round
Creation and performance	Children improvise new movements based on the learned material and perform them for the class	Improvisation

Source: Designed by the author.

Measures*Dance expressiveness*

Dance expressiveness was based on the scores awarded by the judges of a children’s dance competition, who rated each child’s performance of the final dance piece according to the competition’s scoring criteria, covering movement accuracy, rhythmic accuracy, emotional expression and overall coordination.

Learning interest and learning attitude

Learning interest and learning attitude toward dance were each assessed on a 100-point scale, with higher scores indicating greater interest and a more positive attitude.

Rhythm errors

Following the scoring standard of professional dance teachers, the number of times children's movements did not match the musical rhythm during the performance of the final dance piece was recorded for each group.

Parent satisfaction

A self-developed questionnaire asked parents of children in the Orff group to rate their overall satisfaction with the use of the Orff approach in dance teaching on a four-point scale (very satisfied, satisfied, neutral, dissatisfied). Thirty questionnaires were distributed and 27 were returned (90.0%), of which 25 were valid (92.6%).

Procedure

Before designing the intervention, the dance club teachers were interviewed about lesson content, training methods and the main difficulties in teaching dance to children of this age. All pre-test measures were taken in the week before the intervention began, and all post-test measures were taken in the week after it ended, under the same conditions for both groups. During the intervention, the researcher observed lessons and recorded children's facial expressions, movements, attention and participation as supplementary information.

Statistical Analysis

Scores were recorded and summarized in Microsoft Excel. Continuous variables are presented as mean $\pm$ standard deviation ($M \pm SD$). Between-group differences at pre-test and post-test were tested with independent-samples t tests ($df = 28$), computed from the group means and standard deviations ($n = 15$ per group) using the SciPy library (version 1.17) in Python, and within-group changes are described as the difference between post-test and pre-test means. Cohen's d was calculated as the effect size for between-group differences, with 0.2, 0.5 and 0.8 indicating small, medium and large effects (Cohen, 1988), together with the 95% confidence interval (CI) of the mean difference. Parent questionnaire results are presented as frequencies and percentages. The significance level was set at $p < .05$.

Results*Baseline Equivalence*

Before the intervention, the two groups did not differ in dance expressiveness (4.5 ± 1.5 vs. 4.5 ± 1.5 ; $t(28) = 0.00$, $p = 1.000$), learning interest (83.0 ± 5.3 vs. 83.1 ± 6.2 ; $t(28) = -0.05$, $p = .962$) or learning attitude (73.0 ± 5.3 vs. 73.1 ± 6.2 ; $t(28) = -0.05$, $p = .962$), indicating that the groups were comparable (Table 2).

Table 2

Dance expressiveness, learning interest and learning attitude before and after the intervention

Outcome	Time	Orff group (n = 15)	Control group (n = 15)	t(28)	p	d	95% CI
Expressiveness	Pre	4.5 ± 1.5	4.5 ± 1.5	0.00	1.000	0.00	[-1.12, 1.12]
	Post	6.5 ± 1.5	5.5 ± 1.5	1.83	.079	0.67	[-0.12, 2.12]
Learning interest	Pre	83.0 ± 5.3	83.1 ± 6.2	-0.05	.962	-0.02	[-4.41, 4.21]
	Post	91.6 ± 3.3	85.2 ± 3.5	5.15	< .001	1.88	[3.86, 8.94]
Learning attitude	Pre	73.0 ± 5.3	73.1 ± 6.2	-0.05	.962	-0.02	[-4.41, 4.21]
	Post	81.6 ± 3.3	75.2 ± 3.5	5.15	< .001	1.88	[3.86, 8.94]

Note. Values are $M \pm SD$. t , p , d and 95% CI refer to between-group comparisons (Orff – control) with independent-samples t tests.

Dance Expressiveness

After six months, the expressiveness score of the Orff group rose from 4.5 to 6.5 (an increase of 2.0 points), whereas that of the control group rose from 4.5 to 5.5 (an increase of 1.0 point), so the improvement in the Orff group was twice that of the control group. At post-test, the Orff group scored 1.0 point higher than the control group, a medium effect ($d = 0.67$), but the difference did not reach statistical significance ($t(28) = 1.83$, $p = .079$; Table 2).

Learning Interest and Learning Attitude

Learning interest in the Orff group increased from 83.0 to 91.6 (8.6 points), compared with an increase from 83.1 to 85.2 (2.1 points) in the control group. At post-test, the Orff group reported significantly greater learning interest than the control group ($t(28) = 5.15$, $p < .001$, $d = 1.88$, 95% CI [3.86, 8.94]). The same pattern was found for learning attitude: scores rose by 8.6 points in the Orff group and by 2.1 points in the control group, and the post-test difference was significant ($t(28) = 5.15$, $p < .001$, $d = 1.88$; Table 2).

Rhythm Errors

Both groups made fewer rhythm errors in the final performance after the intervention (Table 3). The total number of errors in the Orff group fell from 13 to 8 (a reduction of 38.5%), whereas that in the control group fell from 12 to 10 (a reduction of 16.7%). The reduction in the Orff group was more than twice that in the control group.

Table 3

Rhythm errors during dance performance before and after the intervention

Group	n	Pre-test	Post-test	Change
Orff group	15	13	8	-5 (-38.5%)
Control group	15	12	10	-2 (-16.7%)

Note. Values are total numbers of rhythm errors per group.

Parent Satisfaction

Of the 25 parents who returned valid questionnaires, 12 (48.0%) were very satisfied and 11 (44.0%) were satisfied with the use of the Orff approach in dance teaching, giving a total satisfaction rate of 92.0%. One parent (4.0%) was neutral and one (4.0%) was dissatisfied (Table 4).

Table 4

Parent satisfaction with the Orff-based dance teaching (n = 25)

	Very satisfied	Satisfied	Neutral	Dissatisfied
Number	12	11	1	1
Percentage (%)	48.0	44.0	4.0	4.0

Classroom observation was consistent with these results. Children in the Orff group showed high enthusiasm during the situational introduction and body-percussion activities and were able to follow the musical rhythm quickly. During group singing and dancing and the creation stage, cooperation between children and their willingness to perform increased noticeably.

Discussion

This study found that, compared with conventional teaching, Orff-based dance teaching produced large improvements in eight-year-old children's learning interest and learning attitude toward dance, and showed a positive but non-significant effect on dance expressiveness and a greater reduction in rhythm errors. These findings extend previous evidence on the Orff approach from music classes and preschool settings (Elkoshi, 2024; Wang et al., 2022) and from motor skill development (Gencigör & Akin, 2024) to dance learning among primary school children.

The large effect on learning interest and attitude ($d = 1.88$) is the clearest finding. Orff-based lessons embedded dance learning in rhymes, stories, games and body percussion, which matches eight-year-olds' preference for play and concrete experience (Piaget & Inhelder, 1969). Improvisation and group performance gave children choice and chances to succeed, supporting their needs for autonomy and competence, while multi-part and round activities required children to coordinate with each other, supporting relatedness (Kirschner & Tomasello, 2010; Ryan & Deci, 2000). In this way, the teacher's role shifted from a model to be imitated to a guide, and children moved from being told to learn to wanting to learn. Children in the control group, who mainly imitated and repeated movements, showed only a small increase in interest.

The greater reduction in rhythm errors in the Orff group is consistent with the central role of rhythm training in the Orff approach. Speech rhythm, body percussion and multi-part exercises allowed children to perceive rhythm through language, the body and hearing at the same time, helping them build a stable internal beat before combining rhythm with dance movements. This finding agrees with studies showing that music and movement programmes improve children's motor and rhythmic performance (Derri et al., 2001; Zachopoulou et al., 2004). Because only total error counts were available, however, this result should be regarded as descriptive.

Dance expressiveness improved twice as much in the Orff group as in the control group, and the effect size was medium ($d = 0.67$), but the between-group difference was not significant. Expressiveness is a complex ability that depends on movement technique, rhythm, emotional understanding and stage experience, and may require a longer period to develop than motivation. The small sample, which gives limited statistical power to detect medium effects, and the coarse rating scale may also have contributed. Parents' high satisfaction (92.0%) indicates that the changes in the Orff group were visible outside the classroom, although this result should be interpreted with caution because only parents of the Orff group were surveyed.

This study has several limitations. First, the sample was small (15 children per group) and came from a single school, which limits the generalizability of the findings. Second, dance expressiveness and rhythm errors were rated by teachers, and inter-rater reliability was not reported, so subjective bias cannot be fully excluded. Third, rhythm errors were recorded only as group totals, which prevented statistical testing. Fourth, the parent questionnaire was self-developed and was given only to parents of the Orff group. Future studies should use larger and more diverse samples, blinded raters with reliability checks, objective video-based motion analysis and longer follow-up to test the lasting effects of the Orff approach on children's dance learning.

Conclusion

This six-month controlled teaching experiment shows that integrating Orff rhythm training into dance lessons markedly increases eight-year-old children's interest in and attitude toward dance learning compared with conventional demonstration-based teaching. The Orff approach was also associated with a greater improvement in dance expressiveness and a greater reduction in rhythm errors, although the difference in expressiveness did not reach significance, and parents were highly satisfied with the approach. These findings suggest that the Orff approach, with its emphasis on elemental rhythm, play and improvisation, is a suitable method for teaching dance to children in the lower grades of primary school.

Author Contributions

Conceptualization, methodology, formal analysis, supervision, and funding acquisition, H.Y.; investigation, data curation, writing—original draft preparation, writing—review and editing, project administration, and funding acquisition, C.W.L. All authors have read and agreed to the published version of the manuscript.

Funding

This work was supported by the 2025 Educational Science Planning Project of Zhangwan District, Shiyuan City (Grant No. 202508), "Practical Research on the Improvement of Primary School Students' Basic Motor Ability with Fun Coordination Exercises"; the 2026 Annual Project of the Hunan Provincial Education Science "15th Five-Year Plan" (Grant No. ND269962).

Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki. Formal review by an ethics committee was not sought, because the study was a routine teaching experiment

conducted within the regular activities of a school dance club. The purpose and procedures were explained to the school and to the children's guardians before the study began.

Informed Consent Statement

Written informed consent was obtained from the guardians of all children involved in the study.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- Bond, K. E., & Stinson, S. W. (2000). "I feel like I'm going to take off!": Young people's experiences of the extraordinary in dance. *Dance Research Journal*, 32(2), 52–87.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Derri, V., Tsapakidou, A., Zachopoulou, E., & Kioumourtzoglou, E. (2001). Effect of a music and movement programme on development of locomotor skills by children 4 to 6 years of age. *European Journal of Physical Education*, 6(1), 16–25. <https://doi.org/10.1080/1740898010060103>
- Elkoshi, R. (2024). A study of rhythmic emergent literacy within an Orff-based program implemented in Israel. *International Journal of Music Education*, 42(1), 105–124. <https://doi.org/10.1177/02557614221144685>
- Gencigör, M. C., & Akin, S. (2024). Developing children's motor skills by having fun with Orff's approach. *Perceptual and Motor Skills*, 131(5), 1517–1530. <https://doi.org/10.1177/00315125241272497>
- Gilbert, A. G. (2015). *Creative dance for all ages* (2nd ed.). Human Kinetics.
- Goodkin, D. (2002). *Play, sing, & dance: An introduction to Orff Schulwerk*. Schott.
- Hallam, S. (2010). The power of music: Its impact on the intellectual, social and personal development of children and young people. *International Journal of Music Education*, 28(3), 269–289. <https://doi.org/10.1177/0255761410370658>
- Kirschner, S., & Tomasello, M. (2010). Joint music making promotes prosocial behavior in 4-year-old children. *Evolution and Human Behavior*, 31(5), 354–364. <https://doi.org/10.1016/j.evolhumbehav.2010.04.004>
- Mastrokalou, N., & Hatziharistos, D. (2007). Rhythmic ability in children and the effects of age, sex, and tempo. *Perceptual and Motor Skills*, 104(3), 901–912. <https://doi.org/10.2466/pms.104.3.901-912>
- Piaget, J., & Inhelder, B. (1969). *The psychology of the child*. Basic Books.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Shamrock, M. (1997). Orff-Schulwerk: An integrated foundation. *Music Educators Journal*, 83(6), 41–44. <https://doi.org/10.2307/3399024>
- Tierney, A., & Kraus, N. (2013). The ability to tap to a beat relates to cognitive, linguistic, and perceptual skills. *Brain and Language*, 124(3), 225–231. <https://doi.org/10.1016/j.bandl.2012.12.014>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

- Wang, Y., Matvieieva, O., & Zheng, Q.-W. (2022). Effectiveness of the Orff and Kodaly methods for the development of musical ability in preschool children compared to a standard curriculum. *Culture and Education*, 34(1), 14–38. <https://doi.org/10.1080/11356405.2021.2006500>
- Zachopoulou, E., Tsapakidou, A., & Derri, V. (2004). The effects of a developmentally appropriate music and movement program on motor performance. *Early Childhood Research Quarterly*, 19(4), 631–642. <https://doi.org/10.1016/j.ecresq.2004.10.005>