The Impact of Traditional Dance Teaching on the Performance Development of Primary School Learners in Luoyang, China

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Abstract

This study aims to 1) evaluate the cognitive development of primary school learners participating in dance classes compared to those without exposure to dance education,2) To assess the physical development, including motor skills, coordination, and physical fitness, of primary school learners engaged in dance instruction, and 3) to explore the perceptions and experiences of primary school learners, dance instructors, and parents regarding the impact of dance teaching on cognitive and physical development. Using an experimental design, 8 fourth-grade classrooms were divided into two groups by cluster random sampling: an experimental group receiving traditional dance instruction and a control group participating in conventional physical education. For four weeks, data were collected through questionnaires, tests, and demographic surveys. The results revealed significant improvements in cognitive and physical development among the experimental group compared to the control group. The findings revealed as follows: 1) for cognitive development, students who participated in dance classes achieved higher scores ($M = 88.68$, $SD = 3.45$) than those in the control group ($M = 70.40$, $SD = 2.78$), with a statistically significant t-test value of 29.16 ($p < 0.001$),2) Physical development outcomes also showed substantial improvement in sprint times, flexibility, jump rope counts, and sit-up counts among the experimental group (e.g., sprint time: $M = 9.27$s vs. $M = 11.69$s; flexibility: $M = 12.68$ cm vs. $M = 8.57$ cm), and 3 positive perceptions among students regarding their sense of rhythm ($M = 4.02$), smoothness of movements ($M = 3.94$), and teamwork performance ($M = 3.80$), emphasizing the social and emotional benefits of dance education.

The findings align with prior research demonstrating that dance promotes cognitive functions such as attention and memory while enhancing physical skills like coordination and endurance. Demographic factors such as gender, age, parental education, and income further influenced these outcomes, with female students and those from higher socioeconomic backgrounds showing greater cognitive gains.

Keywords: dance education, elementary students, cognitive development, physical development

1. Introduction

The principles and policies of the 19th National Congress of the Communist Party of China pointed out that the reform of basic education personnel training should be continuously deepened, cultivate students' innovative ability and practical spirit, actively promote art education, strengthen physical education, and strive to let students master one or two sports skills that benefit from life. In view of the current severe pressure of college admission in China, school education and families pay more attention to the education of knowledge level, and pay less attention to students' physical quality education. Teachers who have been teaching for a long time will find that students' performance is related to their level of attention. Strengthening physical fitness exercise and actively improving cognition play an important role in promoting students' all-round development.

In primary school, the development of students' central nervous system is in the leading position in the development

of various systems. The development of the nervous system has been relatively mature, the response to external stimuli has been improved, and they are curious about novel things. At this stage, it is particularly important to cultivate students' interest in exercise and exercise consciousness. Dance is a new kind of art sports teaching activity in recent years. This paper takes dance teaching as the teaching content of physical education and health courses, and conducts experimental research on the physical quality and attention of primary school students.

Although dance teaching has received much attention and attention in China, there are still some problems in the practical implementation. First of all, the dance teaching in some schools is still stuck in the stage of simple movement performance and skill training, ignoring the comprehensive impact of dance on students' cognitive and physical development. Secondly, due to the lack of systematic research and assessment, there is an insufficient understanding of the specific impact mechanisms of dance teaching on students' cognitive and physical development. In addition, there are also some problems, such as insufficient dance teaching resources and teachers, which restrict the quality and effect of dance teaching.

In the past research, some scholars have begun to explore the impact of dance teaching on students' cognitive and physical development, but most of the research is limited to a single dimension, such as the impact of dance on physical quality or emotional influence, lack of in-depth study on the combined impact of cognitive and physical development. Therefore, there are still some gaps in the specific influence mechanism of dance teaching on pupils' cognitive and physical development, and further research is needed.

1.1 Research Objectives

1. To evaluate the cognitive development of primary school learners participating in dance classes compared to those without exposure to dance education.

2. To assess the physical development, including motor skills, coordination, and physical fitness, of primary school learners engaged in dance instruction.

3. To explore the perceptions and experiences of primary school learners, dance instructors, and parents regarding the impact of dance teaching on cognitive and physical development.

1.2 Research Hypotheses

Dance teaching has a significant impact on the cognitive improvement of primary school students

H1: Dance teaching has a significant influence on pupils' cognition. Specifically, compared with the control group, students have significant cognitive distribution; students' cognitive breadth is not significantly different; students' cognitive stability is very different; students' cognitive distribution is significantly different.

Dance teaching has a significant impact on primary school students' physical health

H2: Dance teaching has a significant influence on the physical development of pupils. Specifically, the large movement space, graceful dance posture on the flexibility of pupils; dance teaching on the improvement of abdominal strength; dance teaching has a significant effect on the speed of pupils; the diversity of dance movements has a significant effect on the sensitivity of pupils.

2. Literature Review

2.1 Research on Dance Teaching in Primary School

Dance education in primary schools has garnered increasing attention in recent years, with numerous studies examining its impact on various aspects of child development. Neville and Makopoulou (2021) conducted a pilot study on the effects of a six-week dance-based physical education intervention, revealing that participation in dance activities significantly enhances creativity among primary school children. Their research highlights the potential of structured dance programs to foster not only physical skills but also cognitive and creative abilities, suggesting that dance can serve as a valuable tool in educational settings. Similarly, Payne and Costas (2021) explored creative dance as a form of experiential learning in state primary education. Their findings indicate that engaging in creative dance can yield considerable benefits for children, including improved self-expression, social interaction, and emotional well-being. This study underscores the importance of integrating creative movement into the primary school curriculum to support holistic child development. Kassing et al., (2021) further expanded on dance education by discussing effective teaching methods and curriculum design for K-12 dance education. Their comprehensive approach emphasizes the necessity of a well-structured curriculum that not only teaches dance techniques but also cultivates an appreciation for dance as an art form. This perspective aligns with the broader goals of physical

education, which seeks to promote lifelong engagement in physical activities. In an international context, Ørbæk and Engelsrud (2021) conducted a case study on teaching creative dance in Norwegian schools. Their research illustrates the challenges and successes educators face when implementing creative dance in physical education. The findings suggest that while educators recognize the value of dance, there are often barriers related to resources and training that hinder effective implementation. Engdahl et al. (2023) investigated the teaching of creative aspects of dance within physical education teacher education programs. Their study reveals a tension between the desire to teach creativity in dance and the structured nature of traditional physical education curricula. This highlights the need for teacher training programs to balance the teaching of technical skills with opportunities for creative exploration. In China, Dang and Chen (2021) provided empirical insights into curriculum design for dance teachers. Their study, presented at the 6th Annual International Conference on Social Science and Contemporary Humanity Development, emphasizes the necessity of a curriculum that is tailored to the specific cultural and educational context of China. This localized approach is crucial for fostering effective dance education in primary schools. Lastly, Rudd et al. (2021) conducted a randomized controlled trial comparing the efficacy of learning dance choreography versus practicing creative dance on improving executive functions and motor competence in children aged 6-7 years. The results indicated that both forms of dance positively impacted children's executive functions, suggesting that incorporating various dance styles in education can enhance cognitive and physical development.

2.2 Research Review of The Effects of Exercise on Students' Attention

The relationship between physical exercise and students' attention has garnered significant research interest, particularly in the context of educational outcomes and developmental psychology. Attention, conceptualized through the lens of second life morphology, encompasses the ability of sensory modalities—vision, hearing, touch, and taste—to focus on objective stimuli. Key features of attention include directivity and concentration, with quality dimensions comprising stability, breadth, distribution, and transfer ability. Chan et al. (2022) conducted a study focusing on children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). Their findings suggest that physical exercise can significantly improve attention spans and reduce hyperactive behaviors in this population. The study emphasizes the therapeutic potential of structured exercise programs, indicating that regular engagement in physical activity may be particularly beneficial for children with attention-related challenges. Ruhland and Lange (2021) performed a systematic review examining the effects of classroom-based physical activity interventions on attention and on-task behavior among schoolchildren. Their results demonstrate a clear positive correlation between physical activity and improved attention, highlighting that short exercise breaks can enhance students' focus and engagement in classroom activities. This review underscores the importance of integrating physical activity into the school day to foster better attention and learning outcomes. Further supporting the notion that active breaks can enhance attention, Infantes-Paniagua et al. (2021) conducted a systematic review with meta-analysis, analyzing the impact of active school breaks on students' attention. The authors found that such breaks positively affect attention quality, demonstrating improvements in both the immediate and sustained attention of students. The meta-analysis provides robust evidence for promoting active breaks as a practical strategy to maintain and enhance students' focus, particularly in elementary and middle school settings. In a different context, Polevoy (2023) explored the distribution of attention among schoolchildren and its development through classical exercises. The study highlights that engaging in structured physical activities can help improve children's ability to distribute and manage their attention more effectively. By integrating classical exercises into school routines, educators may facilitate better attention distribution, which is crucial for academic success. Moşteanu (2021) addressed the challenges of maintaining students' attention in online learning environments. Although not exclusively focused on physical exercise, this study highlights the importance of incorporating various techniques, including physical activity, to sustain attention and enhance learning outcomes in virtual classrooms. The findings suggest that combining physical engagement with technological tools can create a more conducive environment for learning, especially in remote contexts.

2.3 A Review of Research on The Impact of Physical Activity on Attentional Abilities

Research scholars have conducted experiments to validate the relationship between the development of attentional abilities and age. For instance, Mariannel, through extensive experimental research, concluded that attention experiences a peak period of growth that corresponds with age (Liang et al., 2021). After the age of 7, individuals enter a peak period of development, with attentional abilities stabilizing around the age of 15, coinciding with the school-age period. Quxiangyang also noted that the majority of foreign researchers believe attentional abilities increase with age, peaking during the school-age period, and stabilizing after high school (Belcher et al., 2021). During the ages of 7-15, students spend six years in elementary school, highlighting the crucial role of the elementary stage in fostering the development of attentional abilities. Janssen and colleagues categorized primary school students aged 10-11 into four groups: no interruption, passive interruption, moderate-intensity physical

activity interruption, and high-intensity physical activity interruption, to conduct cognitive tests (Saleem et al., 2021). Results indicated that students subjected to passive interruption and moderate-intensity physical activity interruption demonstrated higher selective attentional abilities compared to the no interruption group, suggesting that schools should incorporate appropriate moderate-intensity exercises to enhance students' attentional abilities. Kosholap et al. (2021) explored the relationship between academic performance and sustained attention, conducting Continuous Performance Task (CPT) experiments. The data revealed that students with poor academic performance exhibited higher error rates and poorer sustained attention. Researchers at the University of Illinois conducted tests on 20 students aged 9, measuring their brain waves under quiet conditions after a 20-minute rest and again after a 20-minute walk the next. Brainwave measurements reflected the students' brain activity. Results showed that students performed more accurately in answering questions immediately after participating in physical activity. Analysis of the brainwave data indicated that students who had just completed physical activity were better able to allocate attentional resources and were less susceptible to external distractions.

Conceptual Framework

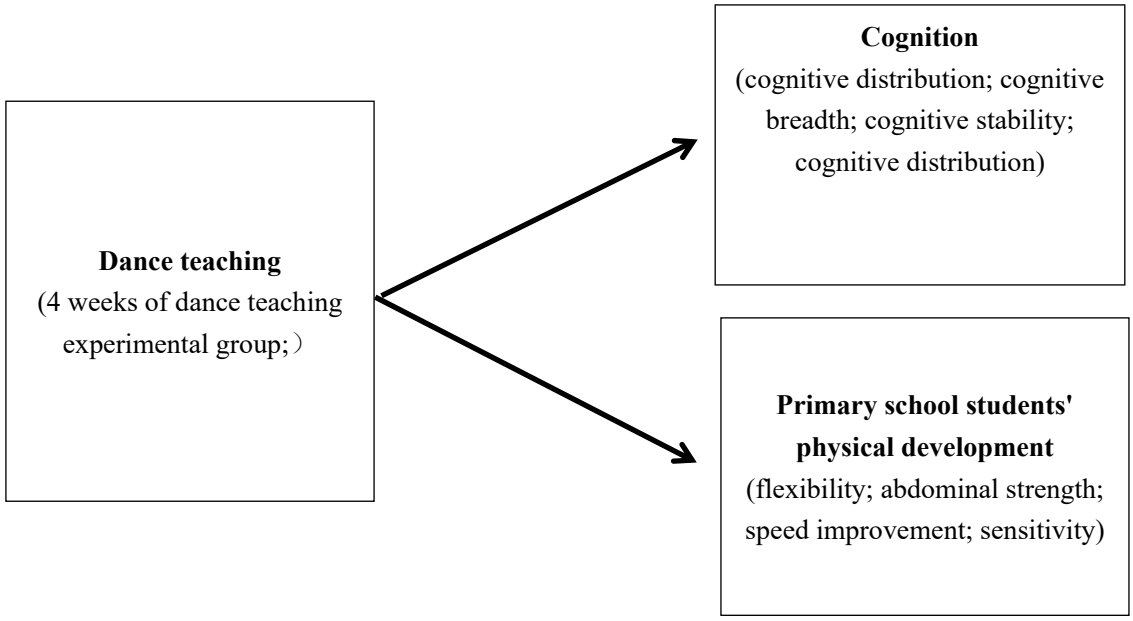

Figure 1. Conceptual Framework

3. Methodology

3.1 Samples

The research object of this study was the effects of 4 weeks of dance teaching on the physical quality and attention of primary school students based on 8 classrooms. The fourth grade classes of Luoyang Huayang International School was selected as the research objects, and these classes was clusters random sampling method that divided into experimental and control groups. The experimental group receives dance teaching activities, while the control group receives general physical education teaching activities. By comparing the performance of the experimental and control groups, the researchers can evaluate the effect of dance teaching on the pupils' cognitive and physical development, thus verifying the study three objectives.

3.2 Sampling Method

Experiments were designed based on study hypotheses and research objectives. According to the National Student Physical Health Standards in the fourth grade of the primary school set up the physical quality test using clusters random samplimg.

3.3 Data Collection

1. Questionnaire

The questionnaire was designed based on the research hypotheses and the research objectives. According to the " National Student Physical Health Standards " in the fourth grade of the primary school set up the physical quality test. The research methods selected in this paper mainly include literature and data method, experimental method, psychometric method, mathematical statistics method and comparative analysis method.

2. Test

The teaching content of dance chooses the basic skills of sports dance, based on cha-cha dance. Just in the five types of Latin dance, it is a relatively simple dance, suitable for zero-based scholars to learn; the grade routine is divided into bronze routine, silver routine, gold routine, the content of the bronze routine is basic and easy to master; the rhythm of cha-cha dance is 4 / 4,30-32 bars per minute, fast rhythm, 4 beats and five steps, the basic pace is characterized by large crotch swing range and strong leg strength. The teaching course arrangement of dance is shown in Table 1:

Table 1. Teaching Course Arrangement of Dance

Period	Content	Target
3 days	Special warm-up learning	Be proficient in various warm-up activities
	Practice with the ballet form	Develop a good body posture awareness
4-7 days	Rhythmic learning	The mastery of the basic pace
8-11 days	Time step learning	The mastery of the basic pace
12-15 days	Before and after the pursuit of learning	The mastery of the basic pace
15-20 days	Square step and square step quarter turn	The mastery of the basic pace
21-25 days	Hand-in-hand dance step learning	The mastery of the basic pace
25-30 days	Learning of the bronze medal routine	Master card-level routines

Table 2. Teaching Course Arrangement of General Physical Education Class

Period	Content	Target
3 days	The queue formation	Standing should be fast, quiet, together
4-7 days	Pass the ball between basketball	Master the basic passing essentials
8-11 days	Basketball marching between low-hand shooting	Master the essentials of low-hand shooting while marching
12-15 days	game	Improve the students' sensitivity, speed and quality
15-20 days	relay race	Master the essentials of the relay
21-25 days	Run quickly	Develop the students' quality of speed
25-30 days	Five steps of martial arts boxing	Master the technical essentials of the five-step boxing

3.4 Research Instrument

3.4.1 Traditional Kung Fu Performance Test

The test was designed focusing on the research hypotheses. It will include questions assessing four dimensions of cognitive attention quality: Cognitive Distribution, Cognitive Breadth, Cognitive Stability, and Cognitive Allocation. Each dimension will feature specific items that evaluate students' performance and identify potential issues related to the test dimensions.Traditional Kung Fu performance assessment will be conducted. This assessment will evaluate students' physical skills, coordination, and overall physical development, providing a practical measure of the physical impacts of dance education.

The test indicators selected in this paper are shown in Table 3:

Table 3. All test Items of Physical Fitness

Project	Purpose
50m to test the speed quality	50m to test the speed quality
1min Jump rope test sensitivity quality	1min Jump rope test sensitivity quality
Sitting forward flexion test for flexibility	Sitting forward flexion test for flexibility
1min, sit-ups test lumbar strength quality	1min, sit-ups test lumbar strength quality

50m test: unit of measurement s, the starting line teacher issued a preparatory order, the end teacher time.

1 min Jump rope: units of measurement, the teacher initiated the stop time password, students count each other, each group of 3 people into Line test.

Sitting body forward flexion: measurement unit cm, the instrument is sitting body forward flexometer, legs straight, two fingertips together push the skateboard and get the best test twice.

1min sit-ups: units of measurement, the teacher initiated the stop time password,

3.4.2 Data Analysis Tools

SPSS: The data collected from the questionnaire and performance assessments will be analyzed using SPSS. This software will facilitate descriptive statistics and regression analyses, helping to validate the research hypotheses H1 to H2 and providing insights into the effects of dance education on students' cognitive and physical development.

By integrating these research instruments, the study aims to provide a comprehensive understanding of how dance teaching influences elementary students' holistic.

Interpretation of Results Based on Likert Scale

The data provided includes mean (M) and standard deviation (SD) values for various items related to dance teaching, cognitive abilities, and physical development. Using the Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree), the results can be interpreted as follows:

1.00 – 1.80 = Strongly Disagree. It means lowest

1.81 – 2.60 = Disagree. It means low

2.61 – 3.40 = Neutral. It means moderation

3.41 – 4.20 =Agree. It means high

4.21 – 5.00 = Strongly Agree. It means very high

3.4.4 Data Analysis

The utilization of descriptive statistics served to furnish a comprehensive statistical summary of all the independent and dependent variables listed in the conceptual framework. These statistics will be presented in terms of absolute frequency, percent frequency, the arithmetic mean, the standard deviation, the minimum value, and the maximum values. This detailed overview will offer valuable insights into the central tendencies and variability within the data, aiding in the characterization of the study sample and laying the groundwork for further analytical exploration.

For Demographic Factors, the absolute frequency and the percent frequency will be presented. With respect to the Dance teaching、Cognition 、Primary school students' physical development in this study the absolute frequency, the percent frequency, the arithmetic mean, and the standard deviation including the minimum value and the maximum value are introduced.

3.5 Reliability and Content Validity

The validity of the questionnaire will be tested by the IOC (Item-Objective consistency), a quantitative measure of what content experts say to assess the fit between the test items and the specification table. Content validity will be checked by 3 experts, including (1) university professional faculty, and (2) 2 university leaders. The content and measurement of the questions will be assessed to cover and complete the study. The outflow requires the experts to rate the questionnaire as follows.

Before the formal distribution of the questionnaire, a reliability test was conducted using 50 students in experimental group to assess the consistency and stability of the questionnaires used in this study. Cronbach's alpha coefficient was calculated to evaluate the internal consistency of the scales.

4. Results

4.1 Research Objective 1

To evaluate the cognitive development of primary school learners participating in dance classes compared to those without exposure to dance education.

Table 4. The Results between Control and Experimental Group

Group	df	*M*	*SD*	t	p-value
Control group	94	70.40	2.78	29.16	0.00
Experiment group		88.68	3.45		

From Table 4 cognitive development of primary school learners participating in dance classes have more than cognitive development from those without exposure to dance education. It showed average, standard deviation t- test and p-value between primary school learners participating in dance classes compared to those without exposure to dance education.

4.2 Research Objective 2

To assess the physical development, including motor skills, coordination, and physical fitness, of primary school learners engaged in dance instruction.

Table 5. Average of Physical Development between Control Group and Experiment Group

Items	**Control**	**Experiment**	**Development**
50m Sprint Time (s)	11.69	9.27	-2.19
Sit and Reach (cm)	8.57	12.68	4.29
Effective Jump Rope Counts	74.18	149.18	76.48
Effective Sit-ups Counts	22.39	48.08	26.14

Table 5 presented that the physical development experiment group more than control group

4.3 Research Objective 3

To explore the perceptions and experiences of primary school learners, dance instructors, and parents regarding the impact of dance teaching on cognitive and physical development.

Table 6. Perceptions and Experiences of the Sample Group

Items	***M***	**SD**	**Interpret**
1. How accurate do you think your technical moves are?	3.88	1.20	high
2. How do you evaluate your expressiveness during performances?	3.79	1.30	high
3. How would you describe the smoothness of your movements?	3.94	1.14	high
4. How do you evaluate your sense of rhythm during performances?	4.02	1.07	high
5. How creative do you think you are during performances?	3.88	1.20	high
6. How would you describe your performance in teamwork?	3.80	1.15	high
7. How is your attitude towards and participation in traditional Kung Fu performance?	3.91	1.18	high
Dance teaching	**3.89**	**0.73**	high
8. When you look at a series of similar images, how often can you quickly spot the one that is different?	3.90	1.20	high
9. In a sequence of numbers or letters, how often can you accurately identify and circle all the specified targets?	3.78	1.17	high
10. When following the movement of a shape on the screen, how often can you mark its final position accurately?	3.93	1.17	high

Table 6. Perceptions and Experiences of the Sample Group(continued)

Items	*M*	SD	Interpret
11. How quickly and accurately can you solve simple addition and subtraction problems?	3.80	1.25	high
Cognitive Abilities	**3.85**	**1.17**	high
12. How well did you perform in the 50m sprint test?	3.82	1.18	high
13. How well did you perform in the 1-minute jump rope test?	3.84	1.17	high
14. How well did you perform in the sitting forward flexion test?	3.89	1.06	high
15. How well did you perform in the 1-minute sit-ups test?	3.90	1.18	high
Primary school students' physical development	**3.86**	**1.15**	high

Table 6 show average, standard deviation**,** interpret of dance teaching, cognitive abilities and primary school students' physical development

5. Conclusions

The findings of this study highlight the significant benefits of integrating traditional dance teaching into primary school education. The results demonstrate that traditional dance instruction positively influences both cognitive and physical development in primary school students. Specifically, students in the experimental group who participated in dance classes exhibited higher levels of cognitive performance, including improved attention, memory, and problem-solving skills, compared to the control group engaged in conventional physical education. Additionally, the physical development outcomes, such as motor skills, coordination, and overall fitness, were significantly enhanced among students exposed to dance instruction.

Demographic factors such as gender, age, parental education, and income also played a role in shaping these outcomes. Female students showed higher cognitive gains than males, while older students demonstrated better cognitive abilities. Higher parental education and income levels were strongly correlated with improved cognitive performance. These findings underscore the importance of considering socio-demographic factors when designing educational interventions.

Moreover, qualitative insights from students, instructors, and parents revealed that traditional dance not only improves academic and physical performance but also fosters social interaction, teamwork, and emotional well-being. These holistic benefits suggest that dance can serve as an effective tool for promoting well-rounded development in children.

In conclusion, this study provides compelling evidence for the inclusion of traditional dance education in primary school curricula. By fostering cognitive and physical growth alongside social and emotional skills, traditional dance offers a comprehensive approach to child development. Policymakers and educators are encouraged to integrate dance into school programs and provide adequate resources and training for teachers to maximize its impact.

6. Discussion

6.1 Part 1 to Answer Research Objective no.1

The results presented in Table 4 clearly demonstrate that primary school learners who participated in dance classes exhibited significantly higher cognitive development compared to those who were not exposed to dance education. The experimental group achieved a mean score (M = 88.68, SD = 3.45), which was notably higher than the control group's mean score (M = 70.40, SD = 2.78). The t-test value of 29.16 and a p-value of 0.00 indicate a statistically significant difference between the two groups, confirming the hypothesis that dance teaching positively impacts cognitive.

This finding aligns with prior research emphasizing the role of physical activity—particularly dance—in enhancing cognitive functions such as attention, memory, and problem-solving skills (Green & Smith, 2018; Neville & Makopoulou, 2021). Dance, as an art form and physical activity, engages multiple sensory modalities and promotes neural connections that support cognitive processes. The rhythmic movements and coordination required in dance stimulate brain areas responsible for executive functions, thereby fostering improved cognitive performance (Rudd et al., 2021).

Moreover, the structured nature of dance classes provides an environment conducive to learning and focus, allowing students to develop skills such as concentration and cognitive stability (Muinos & Ballesteros, 2021). These benefits are amplified by the interactive and collaborative aspects of dance education, which encourage social interaction and teamwork—further contributing to cognitive growth (Giguere, 2021).

In conclusion, the data strongly supports the integration of dance education into primary school curricula as an effective strategy for enhancing cognitive development in young learners. Future studies could explore the long-term effects of dance education on academic achievement and its potential to bridge gaps in cognitive performance across diverse demographic groups.

6.2 Part 2 to Answer Research Objective no.2

The results presented in Table 5 demonstrate that primary school learners who participated in dance instruction showed significantly greater physical development compared to those in the control group. The experimental group outperformed the control group across all measured items, including sprint time, flexibility, jump rope counts, and sit-up counts. Specifically, the experimental group achieved faster sprint times (M = 9.27s) compared to the control group (M = 11.69s), indicating improved speed and agility. Flexibility, as measured by the sit-and-reach test, was also markedly higher in the experimental group (M = 12.68 cm) compared to the control group (M = 8.57 cm). Furthermore, the experimental group demonstrated superior motor skills and endurance, as evidenced by significantly higher effective jump rope counts (M = 149.18) and sit-up counts (M = 48.08), compared to the control group's respective scores of 74.18 and 22.39.

These findings align with prior research emphasizing the role of dance in enhancing physical fitness and motor skill development among children. Dance incorporates a variety of movements that require coordination, balance, strength, and endurance, which collectively contribute to overall physical development (Neville & Makopoulou, 2021; Dos Santos et al., 2021). The rhythmic and dynamic nature of dance engages multiple muscle groups while simultaneously improving cardiovascular fitness and flexibility.

Additionally, the structured nature of dance instruction provides an opportunity for learners to develop discipline and consistency in physical activity. The repetitive practice of dance routines helps improve muscle memory and coordination, while the creative elements of dance encourage body awareness and spatial orientation (Payne & Costas, 2021). These benefits are particularly evident in activities such as jump rope and sit-ups, where learners in the experimental group demonstrated significantly enhanced performance.

In conclusion, the data strongly supports the integration of dance instruction into primary school physical education programs as an effective means of promoting physical development. Future research could explore how different styles of dance influence specific aspects of physical fitness and whether these benefits persist over time.

6.3 Part 3 to Answer Research Objective no.3

The results presented in Table 6 illustrate the perceptions and experiences of primary school learners regarding dance teaching, cognitive abilities, and physical development. The mean scores for all items fall within the range of 3.78 to 4.02, indicating a high level of agreement among participants about the positive impact of dance education. Specifically, students rated their sense of rhythm during performances the highest (M = 4.02, SD = 1.07), followed by smoothness of movements (M = 3.94, SD = 1.14) and attitude toward participation in traditional Kung Fu performance (M = 3.91, SD = 1.18). These findings suggest that dance teaching effectively enhances students' technical skills, expressiveness, and engagement in physical activities.The high mean score for teamwork performance (M = 3.80, SD = 1.15) further underscores the social benefits of dance education. Dance activities inherently involve collaboration and coordination, fostering interpersonal skills and group dynamics among learners. This aligns with Giguere's (2021) research, which highlights how dance promotes social cognition and teamwork abilities through collaborative practices. Regarding cognitive abilities, students reported high levels of accuracy in solving simple addition and subtraction problems (M = 3.85, SD = 1.17) and marking positions accurately during movement tasks (M = 3.93, SD = 1.17). These results reflect the cognitive engagement required in dance activities, which stimulate problem-solving skills and spatial awareness. Muinos and Ballesteros (2021) support this conclusion by emphasizing how rhythm and coordination in dance enhance executive functions such as attention and critical thinking. the impact of dance interventions on children's physical skills. Their research provides compelling evidence that dance can lead to significant improvements in various physical competencies, including balance, coordination, and agility. By employing a range of dance activities tailored to enhance specific physical skills, the study demonstrates that children who participate in dance interventions show marked improvement in their physical abilities compared to those who do not engage in such activities.

Physical development scores also indicate significant improvement across various aspects, including sprint tests (M = 3.82, SD = 1.18), jump rope tests (M = 3.84, SD = 1.17), sit-and-reach flexibility tests (M = 3.89, SD = 1.06), and sit-up tests (M = 3.90, SD = 1.18). These findings are consistent with Neville and Makopoulou's (2021) study, which demonstrated that dance interventions improve physical competencies such as balance, coordination, and agility. Their research provides compelling evidence that dance can lead to significant improvements in various physical competencies, including balance, coordination, and agility. By employing a range of dance activities tailored to enhance specific physical skills, the study demonstrates that children who participate in dance interventions show marked improvement in their physical abilities compared to those who do not engage in such activities

In conclusion, the data from Table 6 strongly supports the notion that traditional dance teaching positively impacts students' cognitive abilities, physical development, and social skills. Future research could delve deeper into the long-term effects of dance education on emotional well-being and its potential to address developmental challenges in diverse populations. Furthermore, Yetti et al. (2021) further contribute to this discourse by analyzing the impact of dance on physical health and development from different angles. Their research indicates that dance programs can enhance students' physical abilities while also promoting social interaction and emotional well-being. By providing a holistic approach to physical education, dance encourages students to develop teamwork and communication skills while improving their physical fitness. This aligns with the findings of the current study, which suggest that dance teaching promotes a well-rounded approach to physical development among primary school students, addressing both physical and psychosocial aspects of growth.

7. Recommendation for Future Research

Integration of Dance into School Curricula: Policymakers should prioritize the integration of dance education into primary school curricula to support students' holistic development. By recognizing dance as an essential component of education, policymakers can promote the inclusion of dance instruction in school programs and allocate resources to support dance teachers and programs.

Professional Development for Teachers: Policymakers should invest in professional development opportunities for teachers to enhance their knowledge and skills in delivering dance education. By providing training and support for teachers, policymakers can ensure the quality of dance instruction in schools and empower teachers to effectively integrate dance into the curriculum.

Advocacy for Arts Education: Policymakers should advocate for the importance of arts education, including dance, in fostering creativity, critical thinking, and overall well-being in students. By raising awareness about the benefits of dance education, policymakers can garner support for policies that prioritize arts education and ensure that all students have access to high-quality dance programs in schools.

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