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Improving the Learning Process of Athletic Events by Emphasizing Inclusivity, Accessibility, and Mass Participation

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Abstract: *Background: Athletics is one of the most suitable and appreciated means of achieving the objectives of physical education in primary education, as it is a discipline that develops physical abilities and coordination. The "school of athletics," with its three main subdivisions—running, jumping, and throwing—is present at all levels of education. Their importance is particularly significant in the early school years when pupils learn the basic mechanisms specific to athletic events. The objective of this study is to apply the postmodern concept of IAAF Kids' Athletics in physical education lessons to determine the extent to which it contributes to improving children's performance in running, jumping, or throwing skills. Results: The research was conducted during physical education classes in the primary cycle between March 2023 and June 2024. The study involved 80 primary school pupils. All participating student groups underwent both an initial and a final assessment using selected IAAF Kids' Athletics tests. The final results of the experimental groups demonstrated the effectiveness of applying the IAAF Kids' Athletics teaching concept. The progress recorded by these groups was significantly higher than that of the control groups. Conclusions: The hypothesis that "the progress achieved by pupils in primary school physical education lessons could be significantly greater through the implementation of the IAAF Kids' Athletics concept in classes" was confirmed. The study was validated both by the pupils' concrete results and by the statistical interpretation of the data.*

Keywords: *concept, IAAF Kids' Athletics, pupils, running, jumping.*

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Background

Postmodernism emerged in the second half of the 20th century as a philosophical and artistic movement that emphasizes relativism, pluralism, and subjectivity. This movement manifested in various fields, including philosophy, literature, architecture, and film. However, postmodernism also had a significant impact on contemporary art, paving the way for aesthetic pluralism and freedom of expression. Building on this idea, this study attempts to associate artistic freedom of expression with children's freedom of expression through play and competition—both of which convey energy and dynamism.

IAAF Kids' Athletics is not a postmodernist concept. However, if postmodernism is understood as an innovative or contemporary approach adapted to modern society, then IAAF Kids' Athletics can be seen as reflecting modern trends in physical education through its emphasis on inclusivity, accessibility, and mass participation. Nonetheless, it cannot be regarded as a theoretical concept linked to postmodernism as a philosophical movement. Studies conducted so far have shown the program's positive effects on young student groups, with benefits observed in both psychological and motor development (Abhaydev et al., 2020), (Demir & Yüksel, 2022).

The World Athletics (formerly IAAF Kids' Athletics) concept is a program promoted by the International Association of Athletics Federations (IAAF), initiated in 2002 by Charles Gozzoli (FRA), Elio Locatelli (IAAF), Dieter Massin (GER), and Bjorn Wangeman (IAAF). This edition was later revised and expanded by Charles Gozzoli (FRA), Jamel Simohamen (IAAF), and Abdel Malek El-Hebil (IAAF). The present study continues the research titled *Study regarding the introduction of the concept" IAAF Kids' Athletics" in the primary school in physical education lessons* (Ababei, 2017) conducted in Romania. That research focused on how primary school children collaborate when grouped into teams, thereby eliminating the emphasis on individual performance. As described by IAAF in its published practical guide, this program is "a team-based event for children" (Gozzoli & l-Hebil, 2002). In the current context, the IAAF has rebranded itself as World Athletics to better reflect its mission of representing athletics on a global scale. This transformation marks an important milestone in the organization's evolution and highlights its commitment to promoting athletics among children. IAAF Kids' Athletics is an athletics program designed for children aged 7 to 12, with the primary goal of introducing them to the world of sports and promoting an active and healthy lifestyle. Abhaydev, Bhukar and Thapa

(2020) mention in their study conducted on 40 students aged 10 to 14 that the Kid's Athletics program can be an effective means of improving psychological and motor skills in children who do not practice a sport in their free time.

The program aims to familiarize children with various athletic disciplines, including running, long jump, ball throwing, and high jump. One of the key aspects of the program is fostering a positive attitude towards sports and competition, encouraging children to develop their potential and build self-confidence. Demir and Yüksel (2022) conducted a study involving the implementation of a 12-week IAAF Kids' training program, held three days per week for 80 minutes per session, on a sample of 41 children aged 10 to 12. The program was applied only to the experimental group, which consisted of 21 volunteer children. The research results showed that the performance of the experimental group was significantly better than that of the control group. These results were recorded during a competition organized following the IAAF Kids' model. Therefore, the authors argue that this type of competition could serve as a model for official competitions in younger age categories. Additionally, Epuran (2005) notes that, through participation in competitions and sporting events, children can improve their stress management skills and learn how to effectively handle challenges.

Additionally, the program encourages parental and community involvement in supporting children's sports activities, promoting effective collaboration among all stakeholders in their physical and athletic development. This is especially important given that "from a social relationships' perspective, primary school children often struggle to collaborate and integrate into a group. Tomik, Olex-Zarchta and Wladyslaw (2012), as cited in Başkaya et al., (2023) also argue that the IAAF Kids' basic athletic training system has a significant impact on students' attitudes toward this sport.

At this stage, children tend to fall into extremes—they are either overly sociable or excessively withdrawn. An essential objective at this age is to help them integrate into structured group activities and get accustomed to working within a collective (Rață, 2004). The IAAF Kids' Athletics project was designed to bring joy and enthusiasm to athletic events. Its innovative structure and new events aim to help children rediscover the pleasure of physical activity and the development of essential skills, such as sprint running, endurance running, jumping, and throwing, which can be practiced in various non-traditional spaces.

"Teamwork" is the core principle of IAAF Kids' Athletics (Gozzoli et al., 2006). All team members contribute to the final result, either by

completing a relay-style course or by adding their individual performance to the team's total score in each event. Another study conducted by Bensikaddour et al. (2015) shows that when teamwork is used, all students work together to achieve the goal. Individual participation enhances the team's overall performance and reinforces the idea that every child's contribution is valued and recognized (Burlui, 2023).

The IAAF Kids program proposes that all team members take part in every event during the competition, which prevents early specialization in a particular discipline. Additionally, teams are gender-balanced whenever possible, typically consisting of five boys and five girls.

Age groups:

The program is structured into three age categories:

- Group I – children aged 7 to 8 years;
- Group II – children aged 9 to 10 years;
- Group III – children aged 11 to 12 years;

All events organized for the first two age groups, which are the focus of this study, are conducted in teams.

Table 1 presents all the events proposed by the founding members of the IAAF Kids' Athletics program. These events can be selected and adapted for a sports competition based on: the number of participants, available human and material resources, organizer preferences. For this study, to facilitate comparison and highlight performance differences, we selected two events from each category that could be conducted for both age groups (Gozzoli et al., 2006).

Table 1 Events Proposed by the Founding Members of the IAAF Kids' Athletics Program

Sprinting/Running events	**Age Group (years)**		
	7-8	9-10	11-12
Sprint/Hurdles Shuttle Relay	x	x	
Bends Formula: Sprint/Hurdles Running			x
Bends Formula: Sprint Relay			x
Sprint/Slalom		x	x
Hurdles			x
Formula One (Sprint, Hurdles and Slalom Running)	x	x	
8 Endurance Race	x	x	
Progressive Endurance Race		x	x

1000 Endurance Race			x
Jumping events			
Pole Long Jumping		x	x
Pole Long Jumping over a sand pit			x
Robe Skipping	x		
Short Run -up Triple Jumping			x
Forward Squat Jumping	x	x	
Cross Hopping	x	x	x
Short Run -up Long Jumping			x
Ladder Running	x	x	
Triple Jumping within a limited area	x	x	x
Exacting Long Jumping		x	x
Throwing Events			
Target Throwing	x	x	
Taens Javelin Throwing			x
Kids Javelin Throwing	x	x	x
Knee Throwing	x	x	x
Teens Discus Throwing			x
Overhead Backward Throwing		x	x
Rotational Throwing		x	x

In Romania, the implementation of an IAAF Kids-type training program in physical education lessons or sports training is still in its early stages. Studies in this area are very limited, and teachers are hesitant to change traditional teaching methods.

Athletics is still perceived by specialized educators as an inherently individual sport that must be taught using traditional methods, which focus solely on individual performance. However, the specialized literature that forms the basis of this study provides clear evidence that teamwork significantly enhances the motor development of young children while also having positive psychological effects (Abhaydev et al., 2020; Epuran, 2005; Bensikaddour et al., 2015).

Methods

The experimental method was the primary approach used in this study. It is well known that this method involves modifying certain parameters or conditions compared to the original or existing description and observing the effects of these changes. As a result, two key variables are defined: the independent variable – the factor presumed to be responsible for changes in the studied phenomena, which is controlled and manipulated., and the dependent variable – the reactions, responses, and performances obtained (Ababei, 2006).

In our case, the independent variable was motor-related, specifically the training routines and exercises from the World Athletics (IAAF) Kids' Athletics concept.

The research methods used were: the documentation method, the observation method, the testing, the statistical-mathematical method of analyzing and interpreting the data.

Research Aim and Objectives

The purpose of this research is to analyze effective ways of achieving the objectives of physical education lessons in primary school through the implementation of specific methods and the IAAF Kids' Athletics concept (a program of World Athletics). These methods include: interactive learning techniques, age-appropriate athletic games and exercises, developing teamwork within an individual sport. The objective is to demonstrate that group participation and team-based training, as promoted by IAAF Kids' Athletics, significantly enhance children's motor performance in both traditional athletic events and those specifically designed within the program. This study aims to contribute to the development of educational programs and the training of teachers, improving the overall teaching-learning-evaluation process in physical education. The athletic training program was applied to the experimental group twice a week for 20 minutes during physical education lessons in the school curriculum. This aspect represents the novelty of our study, as we incorporated two events from the IAAF Kids program, which is originally designed for athletic training sessions rather than physical education lessons. The 20-minute duration aligns with the recommended time for developing basic motor skills within a lesson. We did not alter the structure of the physical education lesson but rather replaced an individual performance-based approach with one focused on team performance.

The study is based on the working hypothesis that *pupils' progress in primary school physical education lessons would be significantly greater through the implementation of the IAAF Kids' Athletics concept in these lessons.*

Subjects

The study was conducted during primary school physical education lessons between March 2023 and June 2024, over the course of 10 weeks. In the first week, initial testing was conducted, and in the tenth week, final testing took place.

The research involved 80 primary school pupils whom I taught during the 2023-2024 school year, divided into the following groups:

- Control group – Age category 7-8 years old;
- Experimental group – Age category 7-8 years old;
- Experimental group – Age category 9-10 years old;
- Control group – Age category 9-10 years old;

Participation in the study was voluntary, with children having signed parental consent to participate. Both the parents and children attended an informational meeting where it was communicated that they could withdraw from the study at any time without any consequences. Additionally, we would like to mention that for conducting the research, we obtained approval from the ethics committee of the institution.

Organization of the research

In accordance with World Athletics (IAAF Kids' Athletics) requirements, the participants were divided into teams of 10 members each. To ensure balanced teams in terms of gender distribution, the following method was used: two separate lists were created for each class—one for girls and one for boys; the first girl on the list was assigned to the Red Team, the second girl to the Blue Team, and so on, until all pupils were placed. The same process was followed for the boys, ensuring equal distribution in each team. As a result, each class formed two teams: Red and Blue. For this study, the following World Athletics (IAAF Kids' Athletics) events were selected:

- 1 running event – Sprint/Hurdles Shuttle Relay;
- 1 jumping event – Cross hop;

Both experimental and control groups performed the same tests both at the initial and final evaluation stages. However, the control groups followed the traditional physical education curriculum, while the experimental groups trained using the World Athletics (IAAF Kids' Athletics) approach.

Results - Analysis and Interpretation of Data for Running Events in IAAF Kids' Athletics by Age Groups 7–8 years old and 9–10 years old

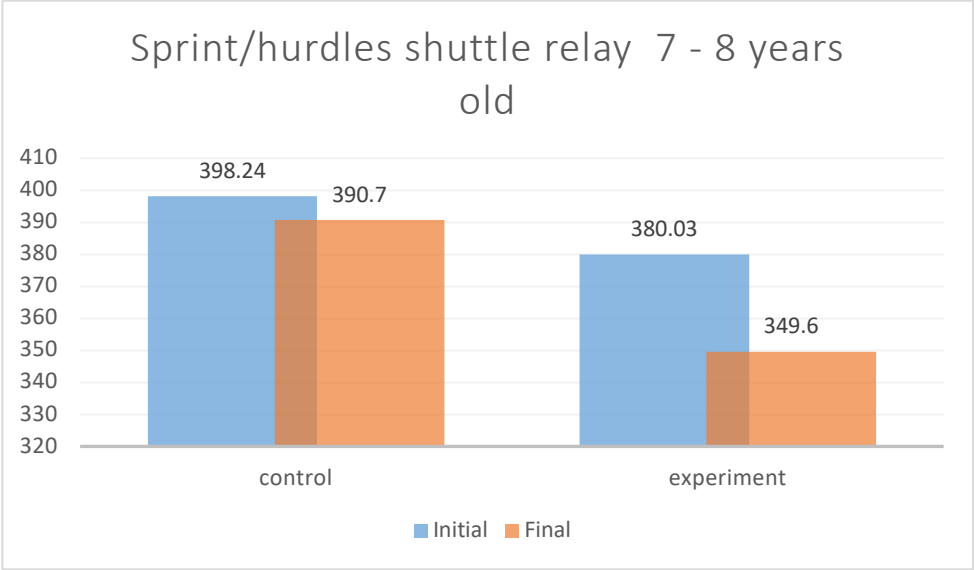
All the initial and final results of the groups participating in the study were recorded and centralized using both tabular and mathematical-statistical methods for data interpretation. A 3x-100m Memory stopwatch was used to record times, which facilitated the recording of both individual performances and those of the entire pupils' group. The running event started from a standing position, triggered by a sound signal. The jumping event involved performing jumps for 15 seconds. The stopwatch was started when the feet first left the ground. The number of jumps performed by each student in the 15-second period was recorded, and then the total number of jumps for each team was calculated. Table 2, Results for the Sprint/Hurdles Shuttle Relay – Age Group 7–8 Years, presents data on the performance of pupils in both a control group and an experimental group. Performance was measured in minutes, seconds, and tenths of a second, recording the time required to complete the event in both the initial and final tests. In the control group, pupils recorded an average time of 6.41.44 (minutes-seconds-tenths) in the initial test and 6.30.70 (minutes-seconds-tenths) in the final test. Meanwhile, in the experimental group, pupils achieved an average time of 6.20.06 (minutes-seconds-tenths) in the initial test and 5.33.60 (minutes-seconds-tenths) in the final test. Both the control and experimental groups showed improved performance in the final test compared to the initial test. However, the experimental group demonstrated a significantly greater improvement in the time required to complete the event. This difference is also highlighted in Figure 1, where the times are expressed in seconds.

Table 2 Results for the *Sprint/Hurdles Shuttle Relay* – Age Group 7–8 years old

Sprint/hurdles shuttle relay	Control group			Experimental group		
	Red	Blue	Total	Red	Blue	Total
Initial testing (minutes-seconds-tenths)	3.17.72	3.23.52	6.41.44	3.07.88	3.12.15	6.20.06
Final testing (minutes-seconds-tenths)	3.12.77	3.17.93	6.30.70	2.37.53	2.56.07	5.33.60
Difference/ Progress	**4.95 (sec)**	**5.59(sec)**	**10.74(sec)**	**30.35(sec)**	**16.08(sec)**	**46.46(sec)**

The average time difference recorded in the control group between the initial and final tests was 10.74 seconds, while in the experimental group, it was 46.46 seconds. These results suggest that the intervention or changes applied to the experimental group had a significant impact on the athletes' performance compared to the control group.

Fig. 1 Comparative Results for the Sprint/Hurdles Shuttle Relay – Age Group 7–8 years old



The data analysis from *Table 3 – Results for the Sprint/Hurdles Shuttle Relay – Age Group 9–10 Years* shows that under experimental conditions, the overall performance of the participants was better than under control conditions. This is evident in both the initial and final tests, where the total time required to complete the trial was shorter for the experimental group than for the control group.

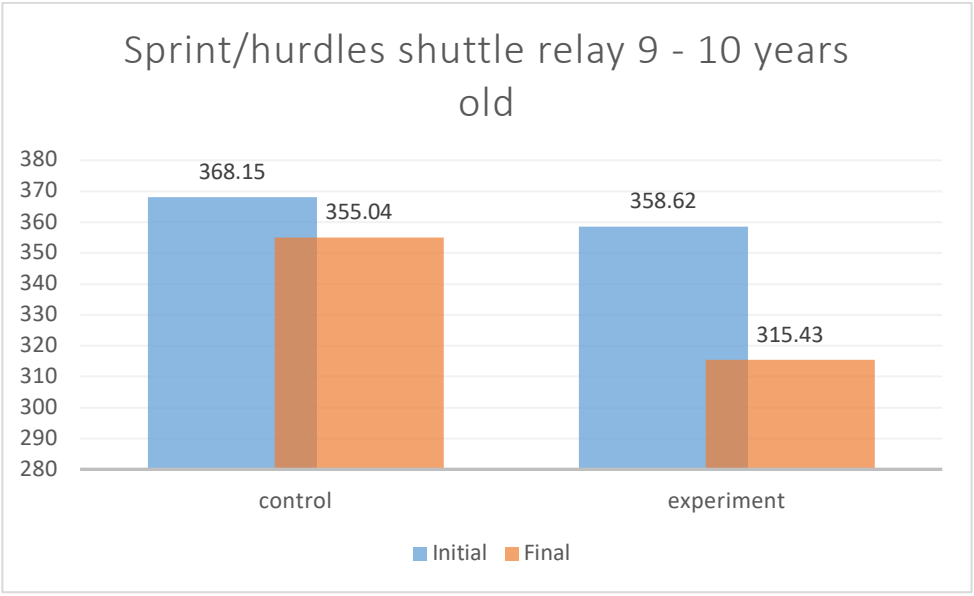
In absolute numbers, the difference (progress) in total time between the control and experimental groups was 9.59 seconds in the initial tests and 38.61 seconds in the final tests. These differences suggest that the methods implemented had a positive effect on the pupils' performance and facilitated the achievement of the physical education lesson's objectives.

Table 3 Results for the *Sprint/Hurdles Shuttle Relay* – Age Group 9–10 years old

Sprint/hurdles shuttle relay	Control group			Experimental group		
	Red	Blue	Total	Red	Blue	Total
Initial testing (minutes-seconds-tenths)	3.01.96	3.06.19	6.08.15	2.56.37	3.01.89	5.58.26
Final testing (minutes-seconds-tenths)	2.56.78	2.56.26	5.54.04	2.36.88	2.38.55	5.15.43
Difference/ Progress	**5.18 (sec)**	**9.93(sec)**	**15.11(sec)**	**19.49(sec)**	**23.34(sec)**	**42.83(sec)**

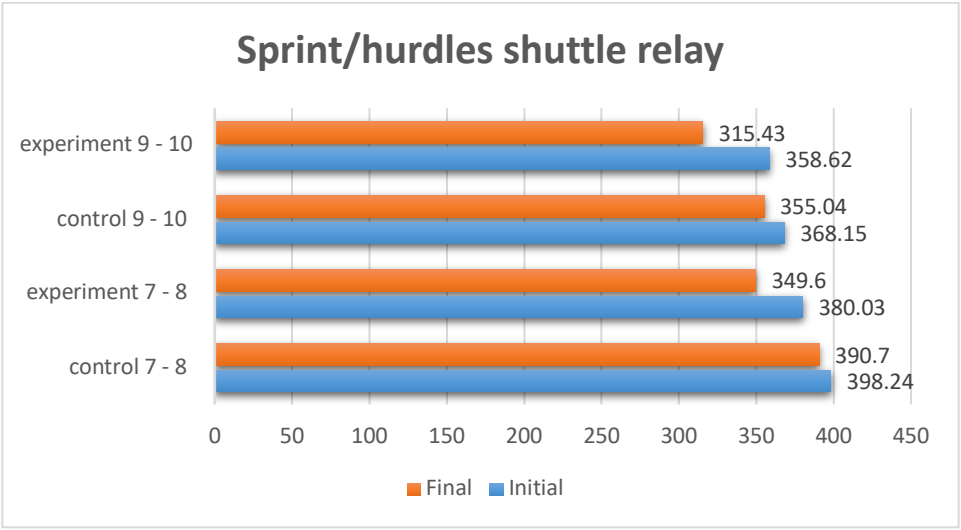
It is important to note that there is an evolution in performance throughout the tests, regardless of the teaching and training methods used. However, the positive impact of the experimental method seems to be greater, considering the final test results, where pupils were able to significantly improve the total time needed to complete the trial. This progress is clearly highlighted in the graph for easy visualization in Fig. 2, where the time is expressed in seconds.

Fig. 2 Comparative Results for the Sprint/hurdles shuttle relay – Age Group 9–10 years old



To provide a visual representation of the progress made by the student groups in the running trials, Fig. 3 highlights the initial and final results for both the control and experimental groups across both age categories for the first *Sprint/Hurdles Shuttle Relay*.

Fig. 3 Comparative analysis of the Sprint/hurdles shuttle relay



Regarding the Cross-hop trial (for the 7-8 age group), the summarized data can be found in Table 4. In the initial test, the total number of successful jumps was 222 for the red team and 239 for the blue team, with a total of 461 successful jumps for the control group. In the experimental group, the red team achieved 238 jumps and the blue team achieved 240 jumps, totaling 478 jumps. In the final test, the number of jumps for the red team was 269 and for the blue team, it was 286, totaling 555 jumps for the control group. On the other hand, the experimental group accumulated a total of 765 jumps, with 384 from the red team and 381 from the blue team.

The difference between the initial and final tests was 94 jumps for the control group and 287 jumps for the experimental group.

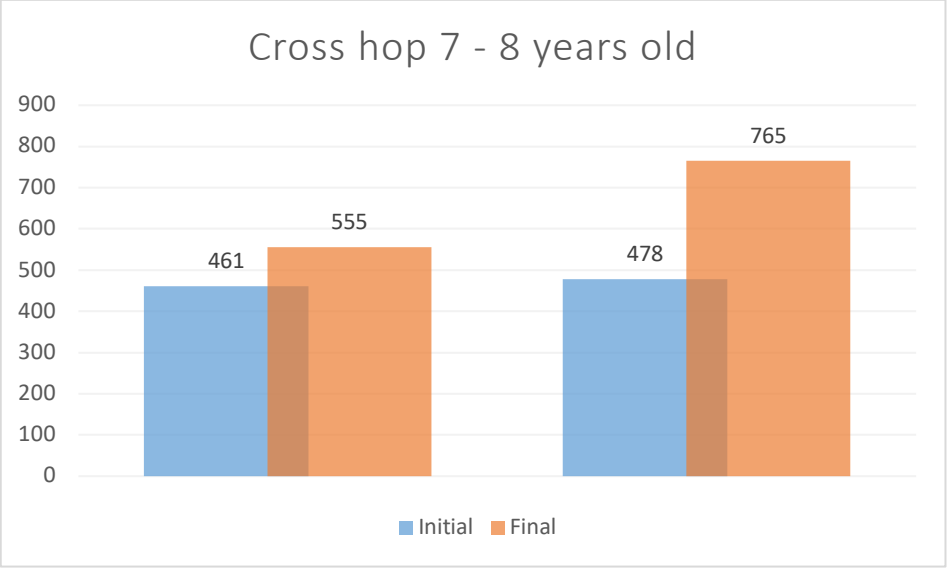
Table 4 Results for the *Cross-hop* trial – 7-8 age group

Cross hop	Control group			Experimental group		
	Red	Blue	Total	Red	Blue	Total
Initial testing (minutes-seconds-tenths)	222	239	461	238	240	478
Final testing (minutes-seconds-tenths)	269	286	555	384	381	765
Difference/ Progress	**47**	**47**	**94**	**146**	**141**	**287**

Comparing the initial test results with the final ones, we can observe a significant increase in the number of jumps for both groups of pupils. However, the most notable increase is seen in the number of jumps for the experimental group in the final test.

In conclusion, the results indicate that the experiment had a positive impact on participants' performance, significantly increasing the number of successful jumps, with a more considerable improvement for the red team of the experimental group. These data are illustrated graphically in Figure 4.

Fig. 4 Comparative results for the Cross Hop trial – age group 7-8 years old



Regarding the Cross Hop test for the 9-10 age group, the summarized data is presented in Table 5 and represented graphically in Figure 5. By analyzing the data from the table, we can observe that in general, the final test results are higher than the initial ones for both groups, indicating an improvement in performance during the experiment. However, it is important to note that in the experimental group, the difference in the total number of jumps between the initial and final tests was 250 jumps, while the control group achieved a cumulative progress of only 195 jumps.

Table 5 Results for the *Cross Hop* trial – age group 9 – 10 years old

Cross hop	Control group			Experimental group		
	Red	Blue	Total	Red	Blue	Total
Initial testing (minutes-seconds-tenths)	253	257	510	233	244	477
Final testing (minutes-seconds-tenths)	350	355	705	376	351	727
Difference/ Progress	**97**	**98**	**195**	**143**	**107**	**250**

Fig. 5 Comparative results for the Cross Hop trial – age group 9-10 years old

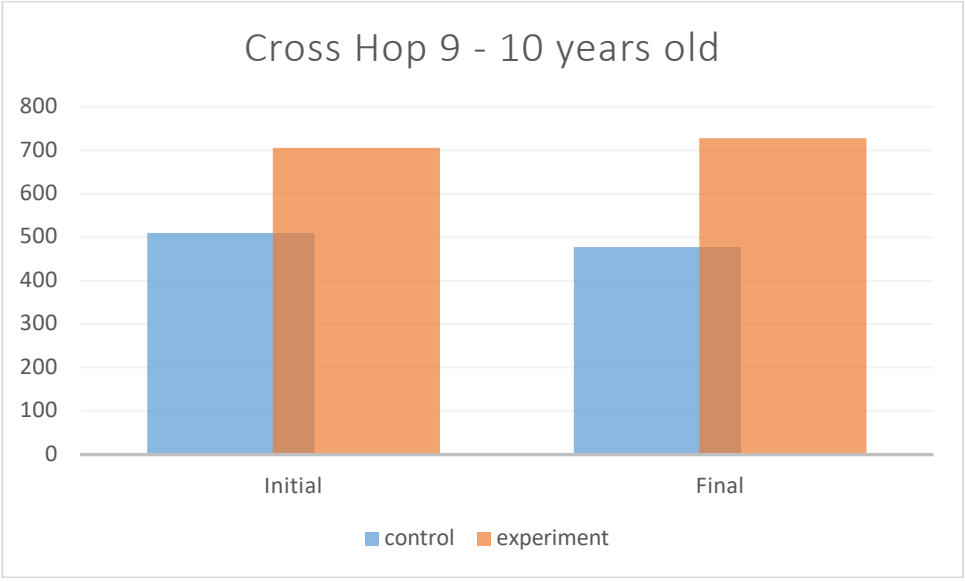
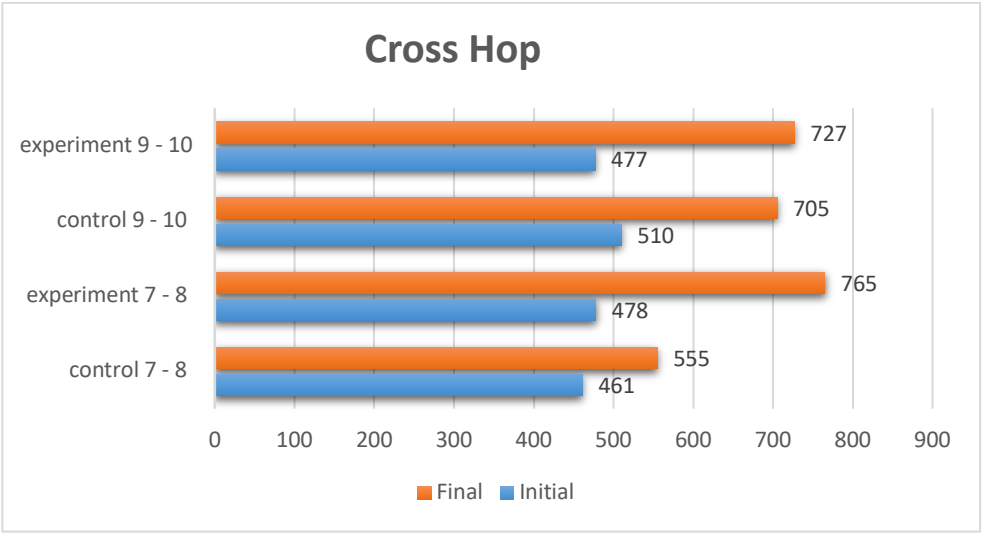


Figure 6 summarizes the results for both age groups, showing both the initial and final test results for the "Cross Hop" test. This figure provides a clear comparison of the progress made by the experimental and control groups in both categories.

Fig. 6 Comparative analysis for the Cross Hop trial



Discussion

Both in art and in sports, children can develop their motor skills, imagination, emotions, and physical identity, as well as their self-confidence. Both art and sports provide children with opportunities for expression, movement, and learning. These aspects are also present in our study, where at the end, children became more disciplined and more focused on achieving superior results through teamwork. They learned to help each other, collaborate with others, respect the rules, and take responsibility.

The results of the study are clear in terms of the progress made by pupils from initial to final testing. Our objective was achieved, as the performance of the experimental groups surpassed that of the control groups, with teamwork playing a crucial role in this case. The approach of learning the basic mechanisms of running and jumping, using a new postmodern perspective—emphasizing collective performance rather than individual performance—represents, in our opinion, a starting point for transforming the organization, planning, and evaluation of children's progress in terms of motor skills, social skills, and temperament. The limitations of our study include the inability to apply all the tests recommended by the program due to the limited number of physical education lessons in primary education. We aim to continue the research, also incorporating other tests from the program (such as Formula One, Sprint, Hurdles and Slalom Running, 8 Endurance Race, Forward Squat Jumping, and Knee Throwing), recommended for the 7-8 and 9-10 age groups, to further assess their effectiveness in physical education lessons.

Conclusions

Given the data presented, we can confidently affirm that the hypothesis stating *"pupils' progress in primary school physical education lessons would be significantly greater through the implementation of the IAAF Kids' Athletics concept in these lessons"* has been confirmed. The study was validated both through the concrete results of the pupils and through the mathematical-statistical processing of the data. Thus, for the 7–8-year-old age group, in the running test, the cumulative progress of the experimental group was 46.46 seconds, compared to the 10.74-second progress achieved by the control group. In the jumping test, we observe the same significant difference in progress, with 287 jumps in the experimental group (from initial to final) and 94 jumps in the control group (from initial to final).

Analyzing the final results for the 9–10-year-old group, in the running test, the experimental group's progress was 42.83 seconds compared to the 15.11 seconds of the control group. In the jumping test, we again observe a large difference in progress between the groups: 250 jumps in the experimental group and 195 jumps in the control group, results obtained from the initial and final tests.

These results demonstrate the importance and benefits of implementing the IAAF Kids' Athletics concept in physical activities. Considering the points mentioned, we aim to expand the study to a larger number of schools and include more tests recommended by this program.

In the end, we believe that this study can support the development of educational programs and teacher training, thus improving the overall teaching-learning-assessment process in physical education.

In carrying out the study, the authors made an equal contribution.

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