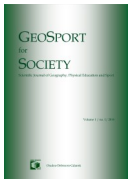


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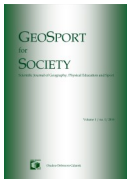


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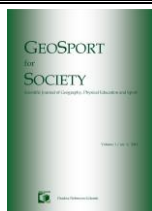
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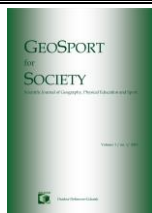
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# Aspects regarding the development of basic motor skills in 10-12 year old children in football. Perspectives of the coach

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**Abstract:** The 10-12 years age category is one of the most important periods in the training of young footballers, especially from the perspective of motor skills. Psycho-physical development allows the expansion of gestural accumulations, the rapid assimilation of new motor skills and the formation of a culture of movement. At this age, there is an increase in motor guidance capacity, temporal differentiation, rhythm and reaction. By merging the new skills with the ones already learned, in an integrative way, the prerequisites for the consolidation of a multilateral motor baggage are ensured. The role of the coach in the football game is to ensure the development of the children on a sporting, social, psychological and educational level. The coach, in order to succeed in these things, must know the child, know the particularities of age and, last but not least, take into account his abilities. Thus, this study proposes the application of a questionnaire to the coaches from Bihor County, regarding their vision on the development of motor skills in 10-12 year-old children in the game of football. Analyzing the responses of the coaches, we can affirm the fact that most of the respondents are very well prepared from a theoretical point of view.

**Keywords:** physical training, motor skills, harmonious physical development, training, coach's perception

## Introduction

Physical preparation is one of the most important factors in sports training. The physiological attributes necessary for sports success are developed through adequate physical training. These physiological adaptations are the basis on which technical and

tactical advances are built. In the absence of physical skill development, the athlete's ability to tolerate training will be substantially diminished, leading to the impossibility of developing the technical and tactical attributes he needs to succeed in reaching his maximum level (Sandra et al., 2023). The main obstacle to adequate technical and tactical development is, most frequently, accumulated fatigue, which can be avoided by developing the physiological base, through a structured physical training (Demian, 1998; Dumitrescu and Petan, 2001; Bompa, 2014; Papp et al., 2019; Erdely et al., 2020).

In the age range of 10-12 years, the focus needs to be on the development of basic and specific motor qualities: speed, coordination, endurance and general strength will be worked on (Sandra et al., 2022). On the qualities: speed, mobility, suppleness, coordinative capacities must be acted upon properly due to their impact on the improvement of the technical-tactical actions that the football player encounters during the game (Ciolca, 2006).

The determining of motor qualities in the soccer game at the 10-12 age group are speed and coordination. Acting on the development of speed in children between the ages of 10 and 12, we can reach values of up to 83% of the maximum yield that children can acquire at this age, thus different methods will be used through which we can positively increase the potential of speed at this age, namely: sequences of play, quick attacks, executed in game conditions (Ciolca, 2006; Dumitrescu, 2011).

For training aimed at developing speed, it is recommended that the surface on which the activity takes place be a grass field or a tartan track which, being softer, does not negatively influence the muscular system, the bone system, the joint system and the ligaments (Avram, 1980). The forms of manifestation that are mainly acted upon are reaction speed, execution speed and repetition speed (Abraham, 1980; Szabo et al., 2021).

In the foreground is coordination, without which the technique is inconceivable. The importance because it is closely related to all other basic motor qualities, contributing to their development (Dumitrescu, 2014). Although coordinative capacities are largely genetically determined, action must be taken to improve them. Using complex means, methods and forms of training organization, both general and specific coordination indices will increase (Ionescu and Demian, 2007; Sopa and Pomohaci, 2021).

Acting on the motor qualities, certain requirements must be taken into account that must be applied in the training process. The duration of speed exercises should be about 5-6 seconds up to a maximum of 40-43 seconds, the breaks between repetitions should be long enough to allow the return of vegetative functions, but not to reduce the state of optimal excitability obtained at the level of the cerebral cortex that as a result of working at full speed (Tudor, 1999). The approach to the development of coordination abilities is carried out at the beginning of the lesson, as in the case of speed, on a background of rest and appropriate warming up of the body, the rest intervals must be chosen in such a way that they are optimal in duration to allow the major body functions to return to their values suitable for the resumption of effort (Tudor, 2005; Cristea, 2017).

Motor skills are decisive in the game of football, in the 10-12 age group we mainly work on the development of speed and coordination. The main component of

sports training in the football game at this age group is technical training and physical training, on which we act to a lesser extent compared to technical training. Thus, the football coach, before training the children, must be well prepared from a theoretical point of view, to know the particularities of individual age and gender and of the group he is leading, and last but not least, the specificity of training for the age category at who train (Cernaianu, 2000).

In this context, the purpose of the present study is to evaluate the degree of training from a theoretical point of view of the coaches of children and juniors from Bihor County. The assessment of knowledge mainly covers aspects related to basic motor skills, determining motor skills in 10-12-year-old children, the components of sports training for this age group and details related to seniority in coaching, the type of license held, the age group where he trains.

### **Methodology**

This paper represents a study in which the research method used is the survey based on the questionnaire. The questionnaire was used as a data collection tool. To carry out this work, the following research methods were used: the questionnaire method, observation method, statistical-mathematical analysis method and the method of studying specialized literature.

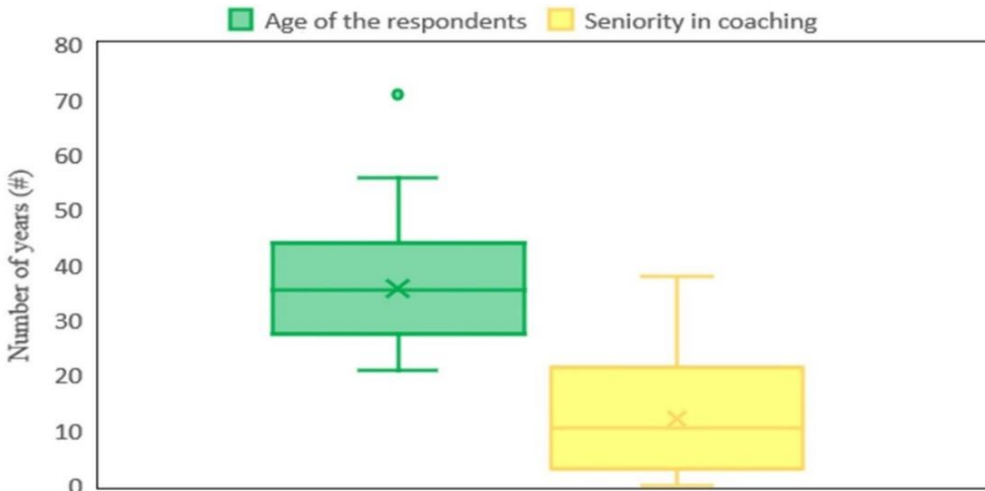
The subjects on whom this study was carried out work in sports clubs, academies and in the High School with Sports Program in Bihor County. Most of the scouts to apply the questionnaire work as coaches in children's and junior teams, there are also coaches who train at the senior level in the 5th league, 4th league and 3rd league. The research was carried out between November 2021 and April 2022, the period in which the questionnaire was created and distributed to the majority of coaches.

This work aims to know their vision on the development of motor skills in 10-12 year old children in the football game, the questionnaire comprising 18 items. They are divided into 3 categories of questions. The first category concerns aspects of age, seniority in coaching, professional training. The second category of questions focuses especially on theoretical aspects related to the motor qualities in the football game, methods by which they develop, their place in the training, their influences on the children's body. The third category of questions considers the components of sports training and their weight in football training for 10-12-year-old children.

### **Results**

Figure 1 shows the socio-demographic profile of the respondents who participated in this scientific research, it can be seen that the average age of the coaches is 37 years, the maximum age is 71 years and the minimum age is 20 years. The average age in coaching is 12 years, the maximum age is 37 years and the average age is 1 year.





**Figure 1.** Age of the respondents and seniority in coaching

In the game of football in the age category 10-12 years, the determining motor qualities are speed and coordination, and their development is important (9) and very important (23) according to the answers of the coaches, 90% of them have more than 10 years. Most of the respondents to this questionnaire consider speed, skill, coordination, mobility and suppleness as the main qualities they look for in a selection, and at the same time the motor qualities they act on 1-2 times in a weekly training cycle (Table 1).

The main component of sports training in this age category is technical training. All those who answered this question (35) indicated technical training in the 10-12 age group.

The development of strength in this age category is not recommended for the respondents, and if it is acted upon, dynamic strength and the methodical process in the circuit without the use of weights are recommended. Those who answered that they use the methodical process in the circuit for the development of the force are over 25 years old, from which it follows that they have a richer experience regarding the development of strength in 10-12 year old children. Regarding the motor quality of speed, the respondents 90% of them act on the different forms of manifestation of speed (moving speed, execution speed, reaction speed and speed in regime with other motor qualities, using the following methodical procedures (relay method, repetition method, the game method, the competition method). About 31 of the respondents recommend developing this motor quality at the beginning of the training, after the body is very well warmed up and prepared for the effort.

The development of co-ordinative capacities has a very important role in the development of individual game techniques, something that can be seen from their answers, all 35 coaches consider it important and very important to improve co-ordinative capacities for technical training.

**Table 1.** The subjects' answers to the questions in the questionnaire

Question	Answer options							
	Answer	Ability	Endurance	Strength	Flexibility	Mobility	Coordination	I don't know
Which are the motor qualities you look for in a selection at 10-12 years age category?	29	32	1	0	11	14	31	0
Which do you think are the motor skills that can be developed more easily in the 10-12 year age category?	28	32	0	0	11	14	32	1
In a weekly training cycle, what are the main motor qualities you work on?	28	28	0	0	8	10	34	1
How important do you think is the development of motor skills in the 10-12 years age category?	Very important    Important    Less important    I don't know							
	23	9	2	1				
In a weekly training cycle, how many times do you train motor skills?	Never    1 time/week    2 times/week    3 times/week    4 times/week    5 times/week							
	0	10	20	5	0	0		
In the 10-12 year age category, you priority train	Physical training    Technical training    Mental training    Tactical training							
	0	35	0	0				
From the point of view of muscle contraction, which form is the most recommended to be developed in the 10-12 years age category?	Static    Dynamic    Both forms    I don't know							
	0	33	0	2				
Is it recommended to use weights for strength development in the 10-12 age category?	Yes    No    I don't know							
	3	28	4					
Which methods do you use most often to develop strength?	Weights procedures    Circuit procedures    Isometrical procedures    Power training    Maximal effort    I don't know							
	0	33	1	0	0	1		
On which forms of manifestation of speed do you act in the 10-12 years age category?	Speed    Execution speed    Repetition speed    Reaction speed    Speed combined    I don't know							
	25	24	0	19	27	1		
Which method do you think it is the most used one for developing speed?	Relay method    Repetition methods    Race method    Games methods    I don't know							
	12	14	14	7	2			
At what point in the training lesson you think that is suitable for speed development?	At the    At the end of    During    I don't know							
	31	0	4	0				
To what extent do you think strength development would improve speed development?	To a very large extend    To a large extend    To a small extend    Not at all							
	7	17	9	2				
How important do you think it is to improve coordinative capacities for technical training in the 10-12 year age category?	Very important    Important    Less important    Not important    I don't know							
	31	4	0	0	0			
Referring to the 10-12 age category, to what extent do you agree with the development of coordination?	Totally agree    Rather agree    Neither agree nor disagree    Rather disagree    Totally disagree							
	34	1	0	0	0			
Referring to the 10-12 age group, to what extent do you agree with the development of joint mobility?	11	15	8	0	1			
Referring to the 10-12 age group, to what extent do you agree with the development of aerobic endurance?	2	19	9	2	3			
Referring to the 10-12 years age category, to what extent do you agree with the duration of speed exercises (approx. 5-6 seconds to a maximum of 40-43 seconds)?	25	6	4	0	0			

Referring to the 10-12 year age group and at the same time to the soccer game, the motor qualities we work on are: speed, coordination, joint mobility and aerobic endurance. Considering the motor quality of coordination, 99% of the respondents of this research totally agree regarding its development in 10-12 year old children in the soccer game. Joint mobility is one of the motor qualities on which not many trainers act in this age category. Thus, only 11 of them totally agree with the development of

mobility, 15 agree, and 8 of the respondents are undecided regarding this motor quality. As in the case of joint mobility, aerobic endurance is not acted upon by all the respondents, so 2 of them who have the most training experience are totally in agreement with starting the development of aerobic endurance at this age. Totally disagree are 3 respondents who, according to the analysis of the questionnaire, are the youngest coaches and are between 20-22 years old. For this age group of 10-12 years, the duration of the exercises aimed at developing motor skills and speed is between 5-6 seconds up to a maximum of 40-43 seconds. 31 of the respondents totally agree and rather agree regarding this optimal requirement for speed development, and 4 of them neither agree nor disagree.

### **Discussions**

Analyzing each question separately and comparing the coaches' answers with the specialized literature, we noticed some discrepancies between them. When asked about the importance of physical training for this category, the majority of respondents to this questionnaire consider that physical training is important and very important for the age category 10-12 years, just as Epuran (2001) also considered, but when asked which training acts with priority at this age, 99% of them answered about technical training, which is the most important component of sports training for this age category according to Dumitrescu (2011).

When asked what are the motor qualities they look for in a selection at this age, what are the motor qualities they act on at this age, the motor qualities that develop more easily at this age category, most of the subjects' answers were: speed, skill, coordination, mobility/flexibility, which is also presented in the methodology of training for children and juniors, promoted by the Romanian Football Federation (<https://www.frf.ro/publicatii/metodologia-pregatirii-copiilor-si-juniorilor/>).

Considering the quality of the motor force, more than half of them act on the dynamic force, just as the specialty literature recommends (Dragnea and Teodorescu, 2002) at this age. Also related to the motor quality of strength, all respondents act on the development of general strength using the circuit procedure which is the one recommended by Tudor and Crisan (2007) for children aged 10-12.

When asked which forms of manifestation of speed they act on in 10-12-year-old children, most coaches answered: movement speed, execution speed, reaction speed and speed in regime with other motor qualities, forms of manifestation that must be acted upon at this age according to Leon (2010). They act on the speed motor quality at the beginning of the training according to their answers, which is correct compared to the specialized literature, and they use several methods for its development, namely: the relay method, the repetition method, the competition method and the game method. The subjects were asked if they believed that strength development would bring improvements in terms of speed development, more than 70% believed that strength development would bring improvements to motor qualities and speed (Dumitrescu, 2011).

With regard to technical training for the 10-12 age group, the development of coordination skills has a very important role. According to the coaches' answers to the question "*How important do you think it is to improve coordination skills for technical*

training in the age category 10-12 years old" all 35 subjects who answered this question consider it very important to improve coordination skills, an aspect that it is also presented by Ionescu and Demian (2007) in their work.

## Conclusions

Following the research carried out on the coaches from Bihor County, we can affirm the fact that most of the coaches who completed this questionnaire are very well prepared from a theoretical point of view, especially those with an advanced age and at the same time with an experience of over 10-20 years in this field. Thus, analyzing the results obtained from the distributed questionnaire and comparing them with the specialized literature, we can affirm this. There are also exceptions, because the lack of experience in this sports activity speaks for itself, over 20% of the respondents to this questionnaire are aged between 20-25 and with 2-3 years of coaching experience. In this work, the emphasis was placed on finding out the level of training of the coaches in Bihor County from the perspective of basic motor skills in the age category 10-12 years in the football game. In constructing the questionnaire, we tried to include all the basic motor qualities: speed, coordination, strength, resistance, mobility, suppleness, but the emphasis was placed on the determining motor qualities for the 10-12 age group.

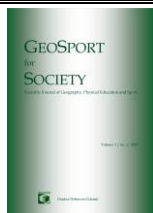
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# Stakeholder perspectives concerning the progress of South Africa's urban ecotourism destination

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**Abstract:** South Africa is a leading destination for ecotourism. The establishment of ecotourism projects in South Africa - as is the case with most of the world - has been associated with geographically remote rural spaces located in the peripheral regions of the tourism space economy. This paper directs attention to the progress of an urban ecotourism destination in South Africa, namely Dinokeng in the Tshwane metropolitan area which is centred around the city of Pretoria. Dinokeng is distinguished by the fact that it hosts a Big Five game reserve in a metropolitan area. The research is based on stakeholder interviews conducted with 27 accommodation providers. The present study is original for its subject focus on urban ecotourism and by offering stakeholder perspectives on the emergence, progress and challenges of this ecotourism destination as a vital dimension of tourism change occurring in the Global South.

**Keywords:** urban tourism, ecotourism, urban ecotourism, South Africa, Dinokeng game reserve

## Introduction

In a seminal text Fennell (2007) considers ecotourism as an extension of 'alternative tourism' and has expanded as a consequence of dissatisfaction with conventional forms of mass tourism which in general ignored the social and

ecological elements of destinations in favour of profit-centred approaches to the delivery of tourism products. Although the definition of the term 'ecotourism' is contested it is usually considered as nature-based tourism development which is done in a specific way following a set of principles promoting social, environmental and economic sustainability (Bricker, 2017; Turyspekova et al., 2022). Stronza et al. (2019) view the origins of ecotourism as occurring in the 1980s coinciding with the beginning of debates about sustainable development. Ecotourism was to be used as a vehicle to channel tourism revenues into conservation and development (Stronza et al., 2019). Among others, Kropinova et al. (2023) identify ecotourism as the type of tourism "most fully in line with the principles of sustainable development". Spenceley and Rylance (2021) pinpoint the growth of ecotourism as one of the foundations for attaining certain of the United Nations Sustainable Development Goals.

In the global landscape of ecotourism South Africa is one of its leading destinations (Snyman, 2017). Ecotourism in and around the country's major protected areas has been at the forefront of several initiatives for using pro-poor approaches for tourism-led and place-based local economic development in South Africa (Rogerson, 2006a and 2014). The establishment of ecotourism projects in South Africa - as is the case with most of the world - has been associated with geographically remote rural spaces located in the peripheral regions of the tourism space economy. It is against this backdrop that in this paper the focus is on an urban ecotourism destination that has been developed in South Africa, namely Dinokeng in the Tshwane metropolitan area which is centred around the city of Pretoria. Dinokeng is distinguished by the fact that it hosts a Big Five (elephant, lion, leopard, rhino and buffalo) game reserve in a metropolitan area (Burton et al., 2020). It represents a distinctive form of niche tourism that has been innovated in urban South Africa. The present study is original both for its subject focus on urban ecotourism and by offering stakeholder perspectives on the emergence, progress and challenges of this ecotourism destination as a dimension of tourism change occurring in the Global South (Saarinen & Rogerson, 2021). Three sections of discussion are presented. The next section provides the literature context which frames this investigation. Further sections of material are devoted to introducing the background case study of Dinokeng and research approach before moving to the major discussion on the results of stakeholders and their perspectives on the development of the reserve, its management and progress as an ecotourism destination.

### **Literature Context**

Cities are major multi-purpose tourism destinations which attract visitors for leisure, business, visiting friends and relatives as well as for health, sports and religious reasons (Law, 1993 and 1996). As van der Borg (2022) highlights urban tourism became a topic of major academic focus most especially about cities of the Global North. A surge of research was triggered by the growing importance of tourism in diversifying the economic base of cities and for economic restructuring occasioned by the post-Fordist transition because of the deindustrialization of many

cities particularly in Europe and North America. The vital role of niche tourism offerings for destination development is pinpointed by several authors and the focus of multiple investigations in urban tourism literature (Ali-Knight, 2015; Bunghez, 2021; Rogerson & Rogerson, 2021a; Novelli, 2022; Salnikova, 2022). Arguably, it is observed that “having a diverse range of niche tourism products is crucial for destination marketing since they impact visitors’ preference of the place” (Eneyo et al., 2022). Other drivers of scholarly interest in urban tourism relate to mounting concern and conflicts about issues of ‘overtourism’ occurring in many European cities such as Amsterdam, Barcelona, Berlin, Copenhagen or Venice (Novy, 2018; Aall and Koens, 2019; Koens, 2021; Novy and Colomb, 2021). Stakeholder perspectives on the development of urban tourism therefore are a theme of compelling international concern with most interest surrounding resident attitudes (Andriotis and Vaughan, 2003; Schofield, 2011; Dirksmeier and Helbrecht, 2015; Smith et al., 2019; Tournois and Djeric, 2019; Pavlić et al., 2020; Şorcaru et al., 2022; Stumpf et al., 2022).

Urban tourism is a phenomenon of growing significance for many cities outside of the Global North. Rogerson and Rogerson (2021b) show that many cities in the Global South, such as Bangkok, Beijing, Cape Town and Rio de Janeiro, are leading destinations for urban tourism development. As argued by Visser (2019) the tourism sector can be a driver for urban economic development across the Global South. Indeed, in a parallel with the situation in cities of the Global North, the employment-creation potential of tourism in Southern cities made it an attractive driver for urban economic development. Across sub-Saharan Africa, Leonard et al. (2020) argue that cities are pivots for socio-economic development with an ever-increasing potential for tourism development, notwithstanding the plethora of challenges African many cities face in terms of urban management. Within the region of sub-Saharan Africa urban tourism has been most advanced in South Africa’s major cities (Rogerson and Visser, 2007; Rogerson and Rogerson, 2017, 2021c) and attracted considerable scholarly interest particularly among tourism geographers (Rogerson and Visser, 2020). Leading themes of research relate to tourism’s role in contemporary urban economic development (Rogerson, 2002, 2013 and 2018), the development of accommodation services (Rogerson, 2011a, 2011b, 2013 and 2014; Greenberg and Rogerson, 2015; Visser et al., 2017; Rogerson and Rogerson, 2018; Greenberg and Rogerson, 2019; Rogerson, 2020; Visser and Eastes, 2020), and a strand of literature which explores historical dimensions of urban tourism in South Africa particularly during the troubled period of apartheid (Rogerson, 2017 and 2018; Rogerson, 2019; Rogerson and Rogerson, 2019; Rogerson, 2020; Rogerson and Rogerson, 2020, 2021d, 2021e, 2022a and 2022b; Rogerson, 2022). For cities of Southern Africa resident perspectives on urban tourism and tourism product development have been investigated in a number of different contexts (Nunkoo and Ramkissoon, 2010; Makoni and Tichaawa, 2017; Tichaawa and Moyo, 2019).

In both cities of the Global North and Global South different niche tourism products have been introduced to strengthen the competitiveness of destinations. The most popular, widespread and best-documented are those for the maximisation



of local assets around cultural or heritage products, for food and gastronomic tourism as well as for creative tourism products (Rogerson and Rogerson, 2021b). In South Africa there is a mushrooming literature on various aspects of niche tourism both in the country's leading cities as well as in smaller urban centres (Rogerson, 2006b; van der Merwe, 2013; Naicker and Rogerson, 2017; Rogerson and Rogerson, 2021f; Drummond et al., 2022; du Preez and Kruger, 2022; Proos and Hattingh, 2022a, 2022b and 2022c; Van Vuren, 2022). Impetus for niche tourism development derives from the growing recognition by South African policy makers of the potential advantages of leveraging niche products for destination development (Rogerson and Rogerson, 2021a and 2021g). In addition, a further stimulus has emerged in recent years that the shifting psyche and preferences of consumers in the COVID-19 environment highlights the opportunities for niche tourism development (Rogerson and Baum, 2020; du Preez and Kruger, 2022; Rogerson and Rogerson, 2021g).

### **The Dinokeng Case Study**

Dinokeng is an 18.500 hectares portion of bushveld situated in the north-eastern quadrant of the province of Gauteng, South Africa's inland economic heartland. The name Dinokeng is derived from the languages of the baTswana and baPedi tribes, who traditionally inhabited the area. Dinokeng means "a place of rivers" and characterised by the catchment area of two rivers, the Pienaars and the Boekenhoutspruit. The area is characterised by a mix of savanna and grassland habitats which serve as the ideal environment for game animals and the Big Five. Geography was critical for the project's development as Dinokeng is located in close proximity also to South Africa's major airport gateway and transit point for many tourists – many on short business visits and thus often without the opportunity to travel to experience the 'big 5' in their natural surroundings in game reserves such as Kruger National Park. It was considered that the planning of an 'All-Africa' tourism destination around a Big Five game reserve combining linkages of culture and nature would offer an opportunity to promote Gauteng as a comprehensive tourism product (Burton et al., 2020). The project was targeted also to boost economic development in the most economically underdeveloped part of Gauteng Province. The implementation of Dinokeng within the boundaries of a metropolitan municipality, Tshwane, makes it the only residential Big Five game reserve situated within an urban environment globally.

The inception of the Dinokeng Big Five Game Reserve occurred through a unique partnership between the Gauteng Department of Economic Development and private landowners. This partnership aimed to boost the economy in the north-eastern region of Gauteng through the promotion of tourism. This was an attempt to attract private sector investment into the economically depressed region so that tourism could serve as a key sector for growth. In the initial planning of the project in the late 1990s it was intended to grow and cover an area of over 100.000 ha by extending beyond Gauteng Province into conservation land in both Mpumalanga and Limpopo provinces (Burton et al., 2020).

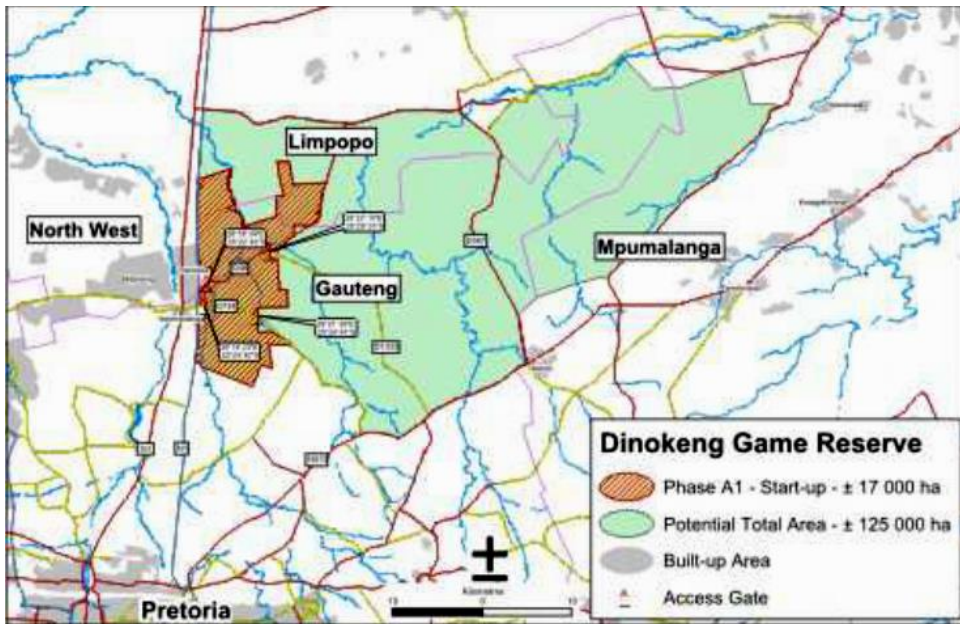


Figure 1. The Location and Planned Phased Expansion of Dinokeng Game Reserve

Figure 1 shows the project's location. The expanse of the area is denoted by a mix of savanna and grassland habitats which serve as the ideal environment for game animals. Dinokeng is a malaria-free destination near the city of Pretoria which is South Africa's national capital. In fact, the western portion of the game reserve is flanked by the N1 national highway and a densely populated community (Kekana Gardens), toward the north-west. The eastern portion of the game reserve is characterised by large expanses of farmlands and other accommodation facilities which do not form part of Dinokeng. The northern portion of the game reserve consists of a private nature reserve, the Pride Africa, which was established before Dinokeng. The Boekenhoutkloof Military Base is situated along the southern section of the game reserve. The land use associated with the military base did not allow for it to be incorporated into the reserve. In fact, the southern portion of Dinokeng contains large portions of unincorporated land.

### Methodology

The Dinokeng Game Reserve opened in 2011. By 2018 there was a total of 57 lodges within the reserve, which is visited for a range of reasons, from day trips to family holidays as well as weddings and conferences. The research uses a qualitative approach in terms of undertaking a set of semi-structured interviews with hospitality business stakeholders operating in the Dinokeng game reserve. A total of 27 of these stakeholders were interviewed, 26 of whom were lodge owners or managers and one the operator of a restaurant and craft brewery. The 27 interviews were conducted in person during 2017-2018. The perceptions of these 27 stakeholders about the unfolding development of the Dinokeng Game Reserve as an ecotourism destination constitute the focus of this investigation. The list of

respondents is given on Table 1. It is evident that several respondents held key positions within the management structures of the Dinokeng Game Reserve.

**Table 1.** List of respondents

<b>Respondent</b>	<b>Position</b>	<b>Lodge</b>	<b>Additional Positions</b>
1	Owner	Thorn Tree Bush Camp	Chairman of Dinokeng Management Association
2	Operations Director	Ritsako Game Lodge	Vice-chairman of Dinokeng Management Association
3	Owner	Rust Te Vrede	Vice-chairman of the Landowners Association
4	Owner	Chameleon Bush Lodge	Chairman of Dinokeng Game Reserve Tourism Association
5	Owner	Ys Shiloh	Vice-chairman of the Dinokeng Game Enterprises
6	Director	Kwalata	*
7	Director	Abendruhe	*
8	Owner	Arlington Brewery & Cidery Restaurant	*
9	Owner	De Kleine Serengeti Game Lodge	*
10	Manager	Dinonyane Bush Lodge	Ranger
11	Member	Halfway There Guest House	*
12	Owner	Honey Lodge	*
13	Owner	iKhaya LamaDube Lodge	*
14	Owner	Isinkwe Lodge	*
15	Owner	Kolobe Ya Noyo Bush Lodge	*
16	Operations Manager	Mongena Game Lodge	Ranger
17	Manager	Mooiplaasie Bush Camp	*
18	Owner	Ngata Safari Lodge	*
19	Owner	OuKlip Game Lodge	*
20	Manager	Owl Spot Cottages	*
21	Manager	Phakama Private Game Lodge	*
22	Owner	Tamboti Bush Lodge	*
23	Owner	Thekwane Lodge	*
24	Manager	Tshikwalo	*
25	Manager	Willem's Rus Caravan Park	*
26	Owner	Island Property	Chairman of the Island Properties
27	Owner	African Flamboyance	Tour Operator

## **Results and Discussion**

The results and discussion of the interviews are organized into three subsections of material. These relate to (1) the characteristics of landowners and tourism products, (2) the management of the reserve, and (3) the state of Dinokeng as a ecotourism destination. Throughout the analysis the views of the different stakeholders as expressed in the interviews are given as direct quotations.

### Landowners and Tourism Products

The development model utilised for the game reserve involved a public-private partnership (PPP) between the provincial government and landowners. Respondent 16 emphasised that it was important to acknowledge that the Dinokeng “endeavour is a PPP” which influenced the structure of the reserve’s development. Regarding this particular project, the government served as a mostly financial partner requiring the reserve’s landowners to develop it into a tourism destination. The interviews disclosed that there were three kinds of landowners, namely (1) “lifestyle” landowners, (2) lodge or product landowners, and (3) island properties. It is important to appreciate that each of these different landowners were involved in the game reserve for different reasons.

A significant segment of the 174 landowners could be described as “lifestyle” landowners. Respondent 5 describes these individuals as “residents who either bought into or chose to become part of the reserve” because it offered a “nice lifestyle which is relatively cheap and away from the city but still close enough as well”. Many of these “permanent residents” had experienced a lifestyle shift from being cattle farmers to inhabitants of a game reserve. The second group were lodge or product owners who had taken the opportunity to develop their property for the purpose of creating a tourism product. Many of these landowners bought or fenced into Dinokeng for different reasons, from retirement and a new lifestyle choice to investment opportunities. Figure 2 shows the overall picture of the reasons why respondents decided to establish in Dinokeng.

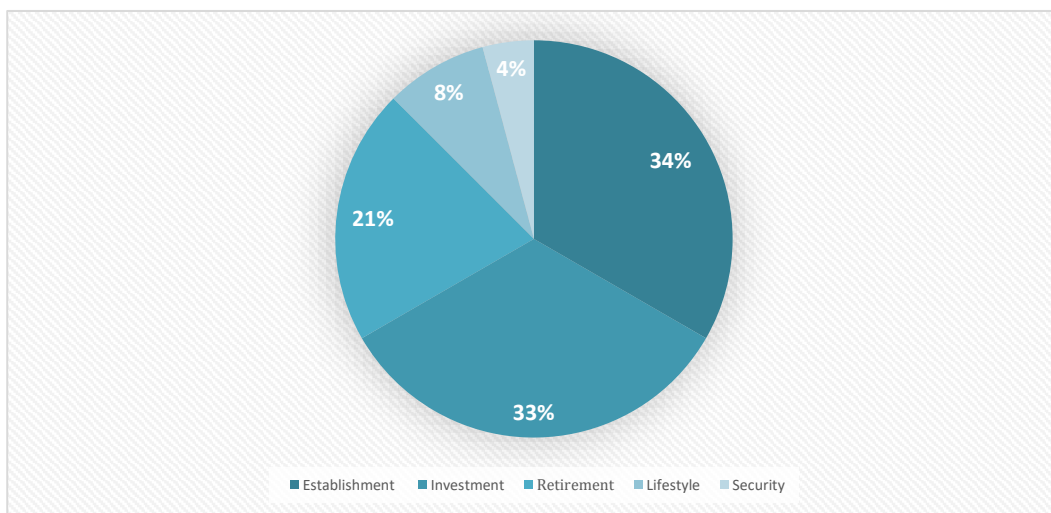


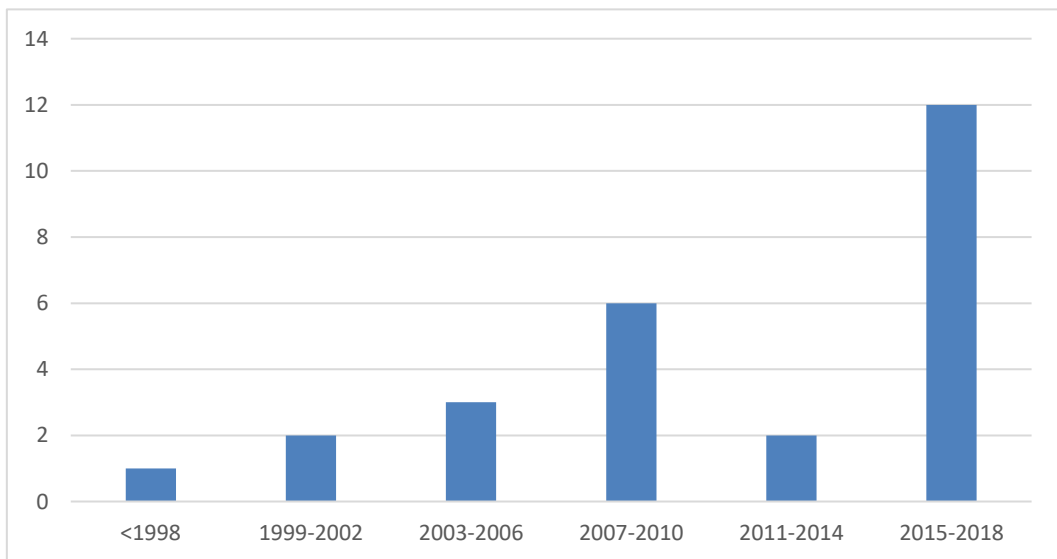
Figure 2. Reasons for establishing a tourism accommodation establishment within Dinokeng

It was evident that many interviewed lodges (34%) were already established before the implementation of Dinokeng. These lodges had an established history and often witnessed the development of the game reserve. Respondent 2 emphasized this point by acknowledging that he used to be “1 of 15 lodges and is now 1 of 60”. Dinokeng experienced major growth over a period of fifteen years. The second most popular reason (33%) for the establishment of a lodge was the investment

opportunity that Dinokeng offered to recent lodge developers with many of them drawn to the idea of investing because of the development or establishment of Dinokeng which held promise and showed growth. Another significant reason for establishing a lodge was the opportunity for it to serve as a retirement option, with Respondent 12 describing it as a way to “earn a soft income”. This group of stakeholders also had a major influence on the demographic of lodge owners within the game reserve. Respondent 3 saw the reserve as a haven to protect his income, investments and way of life.

The third type of landowner were individuals who owned pieces of land which were not included in the game reserve. Respondent 12 stated these are referred to as individuals with “island properties”. Respondent 1 stipulated that these are individuals who had chosen to “completely fence out their whole property” and practice their right to “refuse to become part of the game reserve”. This means that their properties are situated inside the game reserve, but are not part of the game reserve. This situation of island property owners created a number of challenges and frictions with conflicts about the desire of many of these owners to continue farming cattle.

Overall, it is evident that the development model for Dinokeng was influenced by the number and type of landowners with the majority choosing to either stay in the game reserve or fence out.



**Figure 3.** The development of accommodation establishment over the period 1998-2018

Figure 3 shows the pattern of lodge establishment based upon the interviews with surveyed lodge owners. The interviews disclosed a churning in the establishment and ownership of lodges with new lodges being opened whilst established lodges were sold into new ownership. Figure 3 reveals the greatest growth of new accommodation establishments occurring after 2015 in the period 2015-2018. Prior to 2015 an average of two lodges were established every four

years. The period of 2007-2010 witnessed another burst of establishments which related to the build-up to the hosting of the 2010 FIFA Soccer World Cup in South Africa. Unfortunately, by 2010 the game reserve was not ready to serve as a major attraction as the Big Five animals had not yet been introduced. In terms of types of accommodation that was developed the survey disclosed that self-catering was the most popular (68%) option available to the tourist market. The second largest (16%) accommodation type was Bed and Breakfast accommodation offered by eight lodges. It was observed by Respondent 16 that a gap existed in the market for Dinokeng to develop more camping, especially during the peak holiday times such as Christmas and Easter. Camping and caravanning in South Africa has been a growth segment of the domestic tourism market since the 1950s (Rogerson and Rogerson, 2021e). Only 10% of establishments provided camping and caravanning accommodation options. The majority of the accommodations establishments (77%) did not have any official form of star rating or grading.

A range of activities is available to visitors in the game reserve with restaurants, game drives and the Self-Drive Route serving as the most popular options. By 2018 there were eight restaurants and one café offered in Dinokeng which range from fine dining to buffet, catering to á la carte menu. All these restaurants, except for the café, were run as additional income streams for accommodation owners. These restaurants were proving to be an important attraction within the reserve. Another additional income stream for accommodation owners is to offer their guests a game drive opportunity. By 2018 there were 15 concession holders legally allowed to offer game drives to their guests. This was a significant tourism attraction for bushveld accommodations, especially because Dinokeng is a Big Five Game Reserve. In fact, the establishment of the game reserve was specifically designed to allow landowners access to 3 451 hectares (excluding any public or tarred roads) of traversing rights.

Overall, the respondents indicated that the majority of visitors were domestic rather than international tourists. For example, it was asserted by respondent 13 that the reserve served as a destination for “*mostly local tourists*” and believed that the saturation of self-catering accommodation limited Dinokeng to a larger proportion of local tourists. The vast majority of these visitors were from the Gauteng metropolitan areas. The distinctive location of Dinokeng within a metropolitan area allowed it to cater for both day visitors and overnight staying guests. The proximity of the game reserve to Pretoria resulted in many visitors coming in for a game drive or a lunch over the weekends. Day visitors were attracted by the opportunities for game drives, the area's picnic sites, visits to restaurants and to a craft brewery, which was established as part of the broader growth of the craft beer industry and of beer tourism in South Africa particularly after 2000 (Rogerson and Collins, 2015). The need for separate facilities for day visitors was necessary as it could impact the privacy of in-house guests. This would respect the inbound guests who paid to stay the night but might share facilities such as the pool with day visitors (Respondent 6). The majority of lodges, however, did not provide facilities for day visitors. Day visitors could explore the reserve in their own vehicles by purchasing a one, two or three day permits for the Self-Drive Route

which was established to generate an additional income stream for the game reserve. Much controversy, however, surrounded the self-drive route. Respondent 11 stated that the reserve was “*struggling to control the self-drive route*”, with Respondent 8 believing that the “*self-drive route has too much traffic*”. Others such as Respondent 15 mentioned that “*people are driving on private land*” which “*we are trying to prevent*”. For Respondent 7 “*we get so many people who get lost on the self-drive route*” which guest feedback suggested was a result of poor and confusing signage.

According to Respondent 21, Dinokeng “is a weekend destination” with “the average amount of time spent in the game reserve being 1.7 days”. Likewise, from the perspective of Respondent 16 it was described that Dinokeng functions as “a weekend getaway” In fact, many lodges were fully booked on weekends with Respondent 5 stating the “weekend business is going quite well”. Overall, therefore it was disclosed that at the time of the interviews (2018) Dinokeng attracted a significant flow of day visitors over the weekend but relied on in-house guests during the week. This pattern influenced the tourist demographic with the majority being domestic visitors as it was considered there were insufficient attractions for international guests.

### ***Reserve Management and Regulations***

The development of Dinokeng was influenced by the regulations and management organization of this reserve. The role of regulations within the conservation area are the product of national legislation, the requirements of local government as well as the reserve’s operations. The lack of protected area status for Dinokeng means that landowners situated within the game reserve were governed by articles of association and traversing rights (Respondent 1). The implementation of an Environmental Management Plan addressed national regulatory requirements. Environmental Impact Assessments were another a regulatory issue due to certain lodges having over-developed their properties for a conservation area. In one case a lodge attempted to complete an EIA but discovered that they had exceeded their land use footprint; Respondent 5 claimed that “he has to now buy more property to justify the amount of development”. The rule in Dinokeng, was that owners were only allowed to develop one percent total land area (Respondent 4). This rule was put in place to ensure that sufficient space existed for the Big Five animals to roam (Respondent 4).

Multiple regulations impact the everyday operations of landowners (Respondent 5). First, the process of buying or fencing into the game reserve required the landowner to sign an agreement called the Dinokeng Land Integration Operation (DILIO). This DILIO governed the internal workings of the game reserve and determined each individual’s levy (Respondent 7). Landowners were expected to pay a levy to assist with operational funding such as paying staff and maintenance of fencing (Respondent 16). The levy paid by landowners was dependent on the size of property and lodge establishment. In the early stages of Dinokeng’s history, there was no intention of making landowners pay levies, however, this needed to change so that Dinokeng could maintain its infrastructure. It was observed that respondents

did not have an issue with this, as some claimed that the levies were not high and that Dinokeng only relies on small contributions from its landowners because the majority of the project funding came from government. (Respondent 19).

For safety reasons the regulations of Dinokeng require tourists to abide by the house rules of the game reserve. This ensures that guests sign the Dinokeng indemnity form which allows lodges to produce an additional indemnity form of their own for extra security. According to Respondent 4 these indemnities inform the guests that *"no music may be played, the electric fences are live and should not be touched"* as well as some other general rules. The most important of these rules ensured that *"guests are aware that they are not allowed to get out their vehicles"* on either the self-drive routes or game drives (Respondent 4). The game drives therefore have strict rules which are implemented through both national regulations and are also monitored by the game reserve (Respondent 5). Respondent 6 stated that *"there are standard policies and procedures that are needed when offering game drives"*. Dinokeng had 15 concession holders who offered game drives. These concession holders agreed to sign toward these conditions and enforce them (Respondent 5). These conditions, generally, involved the importance of *"game viewing etiquette"* and *"stringent game monitoring controls"* (Respondent 20, 2018). This said, Respondent 7 observed that *"there are rules but not everybody follows them"* and *"The majority of people follow these rules but there are certain individuals who just do what they want"* (Respondent 7).

In terms of its management operations Dinokeng is a distinctive game reserve because it was not run by the government or its national parks agency but instead by the group of 174 landowners. Nevertheless, challenges of reserve management were disclosed. Respondent 6 acknowledged that *"having 174 landowners is a massive challenge"* because it requires *"everyone to be in the same boat and move in the same direction"*. This can be a challenge when decisions are required to be made about operations within the reserve and each landowner has their own individual ideas regarding Dinokeng's business, tourism and conservation (Respondent 6). A management team was required to ensure effective implementation of strategies which resulted in the formation of the Landowners Association (LOA), a governing body that consists of eleven, voluntary candidates who serve for a period of two years (Respondent 1). These candidates utilised their personal time and do not receive remuneration despite it being *"a lot of work"* according to Respondent 1. From the eleven candidates serving on the governing body, four were elected to serve on the management team (Respondent 1). The management team was in charge of dealing with the operational tasks within the reserve and referred to as the Dinokeng Management Association (DMA) (Respondent 1). The reserve employed 50 full time staff members to serve in roles such as the general manager, administration, rangers, maintenance crews and security (Respondent 1). Another structure that serves Dinokeng is the Dinokeng Game Enterprises (DGE) which manages the game and conservation practices within the reserve. This was viewed as an essential management role by Respondent 1 who emphasised that *"we have the true Big Five here"* which *"we obviously have to manage"*.



A core challenge for reserve management was funding. The reserve had been funded by the government and Respondent 12 explained that the government initially invested to establish the reserve. Respondent 1 gave credit to the government for investing R120 million into the reserve and Respondent 12 noted that they still provide a stipend amount to the reserve. According to Respondent 6, as Dinokeng's revenue expanded the amount of government funding was correspondingly reduced. Respondent 15 acknowledged that the government was a key funder of the project albeit only covered about "40% of the running concern [and] they keep on reducing it". It was Respondent 6's understanding that this continued as Dinokeng sought to reach self-sustainability. A further difficulty related to was poor management of the reserve. Respondent 5 described that the management has experienced a number of changes. Respondent 12 observed the challenge to set up a committee that was reliant on volunteers. Respondent 1 mentioned that, in 2017, the LOA faced many challenges due to nine out of the eleven members on the governing body resigning during the year. This is a significant issue due to an insufficient amount of landowners required to maintain the cycle of eleven different members to serve every two years. Furthermore, Respondent 21 also raised the point that of total population of lodge owners only a small share participated in management. Respondent 1 believed that "people don't want to serve anymore because it is just too challenging" and that internal politics was rife within the reserve, leading to in-fighting. Respondent 1 emphasised that "it is not easy to keep all 174 people happy". Indeed, internal politics presented several leadership challenges for management; Respondent 5 acknowledged that "from a management perspective, there is a lot of frustration" which they were trying to address at the time of the interviews.

### **The State of Ecotourism in Dinokeng**

The Dinokeng Game Reserve was initiated as a development through which the concept of ecotourism would serve as a source of upliftment and sustainable employment for the surrounding rural communities. It was planned that the utilisation of the Big Five as an attraction would serve to develop the region as well as ensure the conservation of animal species. In this section an analysis is undertaken to understand the perceptions of accommodation owners of Dinokeng as an ecotourism destination.

At the outset it was evidenced that many respondents were unclear on both what was the concept of ecotourism and its role in the game reserve. This led to situations of respondents describing their personal greening activities as ecotourism. Overall most respondents viewed Dinokeng as an ecotourism destination, with only three out of the 27 stating otherwise. One example was respondent 7 who claimed that "there's zero ecotourism" within Dinokeng. By contrast Respondent 6 describes Dinokeng as "more eco-based" because "it's a lot more about conservation for us and not just using the animals as a way to get people here". Another respondent expanded upon this point that "*we definitely want to be very sensitive to ecotourism*" and "*that's why there's not a hotel here*" (Respondent, 1). This said, it was pointed out that the Dinokeng model allows for anyone to buy into

the reserve, which could challenge this perspective. Respondent 24 emphasised that “there was a recent purchase of land within the reserve” where the “owner does not wish to fence out but has refused to sign the DILIO”. Despite these challenges, many respondents were optimistic about the progress that Dinokeng was making in ecotourism. Respondent 2 described he would “like to believe it is the direction” the game reserve was moving. Another common response to the question about ecotourism was that it would lead to many lodge owners describing the “green practices” that they utilise on a frequent basis. Many respondents focused on the idea of recycling and how Dinokeng used to have a recycling programme. For example, respondent 2 described that the “rubbish is recycled by the surrounding community.” Recycling often involved local in-house staff members who sorted out all the recycling bins which served as an opportunity for the staff to earn small additional incomes by working on the weekend and sorting the recycling bins.

A second aspect of ecotourism relates to its ability for upliftment of surrounding local communities. The development of Dinokeng aims to utilise tourism as a tool for social and economic upliftment with support directed at the communities surrounding Dinokeng, such as: Steve BikoVille, Hammanskraal and Kekana Gardens. Each of these communities sought benefits from the development of the game reserve through job creation and the development of community support structures. As the project has expanded there has occurred a growth in population of the surrounding communities as is shown on Figure 4 for the dramatic expansion of the community of Kekana Gardens.



**Figure 4.** The growth of Kekana Gardens within the period of one year

It was considered that the promise of jobs through the building of the Big Five game fence and guard gates in 2008-2009 encouraged people to settle in the area. During the initial development of the game reserve, therefore, the issue arose of managing community expectations. For example, Respondent 6 highlighted that

that “*one of the biggest challenges with the community was to educate them about the Big Five game*”. Respondent 6 emphasised that they needed to “*understand that they cannot come into the reserve and fetch wood*” but this, to some extent, scared them. The lack of understanding was partially responsible for acts of vandalism, such as breaking the fences when animals were introduced (Respondent 6). This caused major delays for the project as animals could not be released until the fences were fixed.

One of the major signs of progress is that since the establishment of the game reserve more than 800 permanent jobs had been provided by 2018 for residents in the adjoining communities. Accommodation providers were encouraged to employ staff from the surrounding areas. The growth in employment was emphasised by Respondent 6, who confirmed that his lodge has shifted from “only having 18 staff in 2009 and, now, has a total of 85 staff in 2018”. The majority of the staff were “employed locally and stay in the surrounding communities”. Overall, it was evidenced that the development of the reserve allowed for job creation within surrounding communities of the reserve. Beyond opportunities at the hospitality establishments in the reserve lodges and restaurants there were other local spinoffs. One was the establishment of D’Nokasi Crafters, a collective of creative entrepreneurs situated in Dinokeng. The development of this small enterprise served as an opportunity for individuals to create items from clay, fabric or wire and sell them as artwork, home décor items and accessories. The growth of this project allowed for the establishment of an arts, crafts and farmers market on weekends from September 2018. Another opportunity for employment and skills training was the initiation of beehive fencing as a method to resolve human-animal conflicts. This initiative was implemented through a cooperative of 12 youth from Kekana Gardens who were trained and employed to erect beehive fences within the game reserve (Respondent 10).

In addition to the creation of jobs for the surrounding community the establishment of the Dinokeng Reserve resulted in the formation of a Community Trust which was launched in 2017. This trust offered a range of opportunities for the surrounding communities such as greater involvement through public participation in the activities of the game reserve. It forged better working relationships between Dinokeng landowners and community members and importantly safeguarded the community’s shares in the reserve. The trust offered “feeding schemes for schools in the winter holidays” and, according to Respondent 16, has led to a “school being built in Dinokeng” which also acts as an education centre. The community trust also runs drives throughout the year, on dates such as Youth Day and Christmas. Nevertheless, despite this support offered by the DMA it was widely recognized that the surrounding communities required a boost in terms of “government upliftment” (Respondent 16).

The imperative for government assistance to local communities was evidenced dramatically through the occurrence of service delivery protests in both 2017 and 2018. It was acknowledged that these service delivery protests were a critical issue for Dinokeng. Political instability in July 2017 was reflected in massive protests which extended over two weeks. The community protests resulted in 10km

of fence being damaged beyond repair (Respondent 1). In April 2018, another service delivery protest resulted in the residents of Kekana Gardens blocking the N1 highway and other roads needed for visitors to access Dinokeng by burning tyres and blocking the road with rocks. This particular protest related to the need for important infrastructure to be built by government and which had been abandoned. When the roads to Dinokeng had been blocked this required various accommodations to either cancel or redirect their customers via a different route. Overall, the shortcomings of government service delivery and local community infrastructure development became a major challenge for the Dinokeng stakeholders.

Progress has been recorded in biodiversity conservation since the opening of Dinokeng in late 2011. This 18, 500 hectare game reserve has supported an abundance of wildlife, providing a grassland/bushveld habitat for free-roaming game as well as a variety of animal, trees and birds which spread across five nature reserves and a number of conservancies. As a result of the establishment of Dinokeng the land was restocked with the Big Five including the introduction of free-roaming elephants and lions into the Gauteng Province for the first time in 100 years (Respondent 2). Dinokeng Game Reserve was described as “degraded land returning to its former glory” through the process of rehabilitation and conservation (Respondent 4). The conservation strategy at Dinokeng involved a two-pronged approach which sought to address the need to maintain open ecosystems and pristine wilderness area, while serving as a model to allow for the coexistence of people and nature.

Successes have been recorded with the eradication of invasive plant species, the management of the veld and game animals, as well as the protection of endangered species. It is important to understand that despite Dinokeng describing itself as a ‘free-roaming’ game reserve, a number of management interventions are required, due to its small size, to prevent in-breeding. This has led to the collaboration of Dinokeng with many non-governmental organisations (NGOs) such as the World Wildlife Fund for Nature and participation in animal translocation and reintroduction programme. Some of these animal exchanges involved the transfer of two lions to Rwanda and another to Welgevonden Game Reserve in Limpopo (Respondent 2). This form of animal exchange is common amongst established reserves and parks and included the introduction of 14 black rhinos from nature reserves in KwaZulu-Natal province of South Africa (Respondent 2). Other exchanges have involved the relocation of two elephants to Mozambique and the introduction of spotted hyena and cheetah into Dinokeng (Respondent 1) Overall, it was made clear that “as small as we are and as young as we are, we are already engaging” with other protected areas (Respondent 1). Another observation was that the ecosystem and environment was restoring itself as reflected in the presence of vultures in the game reserve which had moved there from other areas.

The reserve has three aspects of conservation, namely, the payment of a conservation fee, a team of voluntary rangers, and the utilisation of NPOs and NGOs. The payment of a conservation fee is considered an industry standard (Respondent 6). Respondent 6 emphasised that “every reserve you go to it must be paid” which “I

think that's brilliant." A conservation fee was necessary for a number of reasons. Without a conservation fee (and levies) the reserve could not generate money which was used to manage the reserve for activities such as anti-poaching strategies and vehicle upkeep (Respondent 6). The reserve operates a number of conservation projects and programmes, which are managed by external enterprises (Respondent 6). These companies assist the reserve with drawing up plans and according to Respondent 6 "*the reserve does get a lot of help with things like that*".

One of the reserves biggest challenges for conservation is resolving human-animal conflicts. A prime example of human-animal conflict within Dinokeng was the regularity with which elephants walk into and break fences (Respondent 1). It is important to note that due to the number of landowners in the reserve, there were many fences with the majority of properties only fencing off their house. In particular, Dinokeng was struggling with four elephants that, according to Respondent 1, would "break in and cause havoc". Two of the four troublesome elephants had already been removed and the other two were due to be relocated to Mozambique (Respondent 1). When elephants were breaking fences, Respondent 5 stated that landowners make it the management's problem "because management aren't managing the elephants". However, it was acknowledged that this was an aspect of living in a Big Five reserve "*when I bought here, when the elephants break my fence, I accept that it is part of living in this park and I chose this*". He further emphasised that one has "*to adapt to the animals out there*" and he "*cannot hold management responsible because elephants are breaking my fence*". Thus, Respondent 5 believes that "I have to change my fences to make sure the elephants don't come in".

Arguably, Dinokeng's major conservation risk remained its lack of expansion in terms of land (Burton et al., 2020). The expansion of reserve was described as a major barrier for Dinokeng. Three factors impact the issue of physical expansion, namely, land claims, surrounding farm land and the Dinokeng model. Respondent 1 admits that "we haven't expanded" and argued that by 2018 the game reserve should have been about 30.000 ha yet the reserve is only 18.500 ha. The physical expansion of Dinokeng was crucial as it needed to reach 45.000 ha in order for it to become a self-sustainable project. Initial projections, aimed to develop an area of 90.000 ha within a ten-year period (2008-2018) but these were not achieved. This issue of size was flagged by several respondents. For example, Respondent 13 acknowledged the "need for more land to expand". The major reason why Dinokeng is unable to expand relates to land claims. Another barrier relates to the large cattle farms situated along the boundaries of the reserve. Respondent 8 explained that "big farms on the border won't join because they can't make money" in the reserve. As a whole, however, the respondents recognised the need for conservation in the game reserve as well as the importance of sustainable tourism. Thus, the consensus view reflected that Dinokeng, despite its multiple challenges, was making progress towards becoming a successful ecotourism destination.

## **Conclusion**

This paper represents a contribution to scholarship on urban tourism and

product development in the environment of the Global South. The research has investigated stakeholder perspectives on the emergence and progress of South Africa's unique urban ecotourism project. The discussion was anchored on a set of detailed face to face semi-structured interviews which were conducted in 2017/2018 with hospitality stakeholders. The findings therefore, reflect the challenges and issues that were identified towards the end of the pre-COVID 19 era. The key findings from the analysis reveal a diversity of perspectives from the group of accommodation owners of establishments in the Dinokeng game reserve.

The distinctiveness of this game reserve is defined in particular by its geographical location as part of one of South Africa's major metropolitan areas and close to the country's leading international airport gateway. The discussion has highlighted various themes namely, stakeholder perspectives on the foundation of Dinokeng, its function, role in ecotourism, the barriers of challenges faced by the roll out of the project and viewpoints as to whether Dinokeng is a successful tourism destination. Overall, key management challenges were in evidence, structural issues as well as those relating to the project's ecotourism objectives. Critical issues have related to the project's relationships to surrounding communities which has been a source of tension and conflict not least due to the failures of infrastructural service delivery by government. As a whole, the balance of opinion from the stakeholders interviewed is that the Dinokeng Game Reserve was emerging and beginning to function as a successful tourism destination towards the close of the pre-COVID 19 era. Notwithstanding the multiple challenges faced by the project, it has been responsible for the growth of a significant local tourist economy which supports both conservation and job opportunities for the surrounding communities. From the perspective of stakeholders its major achievement was in conservation and the introduction and establishment of the Big Five within this game reserve which is part of one of South Africa's largest metropolitan areas. The findings of this study provide an important baseline of research material which can be used to examine COVID-19 induced changes and recovery of this distinctive urban ecotourism destination.

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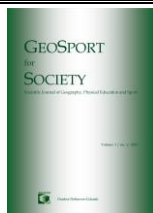
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# Study on the use of new trends, materials and exercises for the development of coordination in 5<sup>th</sup> grade students (10-11 years old)

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**Abstract:** From studying the bibliography and from experience we found that education issues regarding coordination abilities are addressed very vaguely and made by practical means scientifically unproven as effective. In today's sports branches, the importance of coordinative capacities is the starting point in the correct performance of motor skills but also in the ability to quickly adapt to different situations or working conditions. With the increase in the level of development of these motor capacities, in schools, through dedicated lessons, we could speak of a much better selection for certain sports branches but also for performance sports. Research presented at various scientific conferences and the published papers had a good impact on the specialists of Sport Science and Physical Education. We believe today that these studies are just the beginning to modernize the entire contents aimed at optimizing the motor capacities of the child. We know that today's young people, with problems of a motor nature, also have problems of an affective-social nature. This psychosocial imbalance is closely related to psychomotor development. In this sense, psychomotricity must be promoted as the main part of personality development.

**Keywords:** motor skills, coordination, optimization, physical education, middle school

## **Introduction**

New trends in the means and methods of developing motor qualities and skills are constantly updated and modernized, and their use in physical education and sports classes bring value and an increased degree of attractiveness to secondary school students (Aubert and Alboret, 2001; Albu et al., 2006; Papp et al., 2019; Erdely et al., 2020). The importance of coordination is directly involved in the development of other motor skills and reaching the objectives of the physical education and sports school program in the 5<sup>th</sup> grade could be achieved much more easily (Boreham and Riddoch, 2001; Marcu and Petan, 2005; Ilies and Caciora, 2020; Sandra et al., 2022).

The introduction of materials such as bossu ball, swiss ball, agility ladder, wobble board (balance board), in sports lessons in the 5<sup>th</sup> grade, will have an effect of progress in terms of the development of coordination capacities in close connection with the other qualities and motor skills (Okely et al., 2004; Pullen et al., 2020; Dapp et al., 2021; Patti et al., 2022).

Over time, in specialized literature, coordination has been defined as the quality that allows us to coordinate complicated movements, ensures the rapid acquisition of skills and their improvement, as well as their use according to requirements and adaptation to various situations (Hirtz, 1977; Szabo et al., 2020).

Macovei (2010) states about 11-year-old children who practice acyclic sports (sports games, gymnastics etc), that they have a much more specific and varied than those who practice cyclic sports, and their motor development is equivalent to that of 15-16 year-old children who do not practice sports activities.

## **Materials and methods**

### ***Subjects***

In this study, 40 students from two 5<sup>th</sup> classes from the Dacia Secondary School in Oradea were involved. The experimental group consisted of 21 students (11 girls and 10 boys) and the control group consisted of 19 students (11 girls and 8 boys). The proposed program was applied for 4 months, 2 times a week, after the schedule of physical education and sports classes of the experimental group, and the control group performed sports classes after the school curriculum normally.

### ***Used materials***

To achieve the proposed objectives, we used materials such as:

*Wobble board* – In physiotherapy a balance or wobble board is used for balance, athletic, postural, coordination and falls prevention training. It is a circular object with an uneven base, on which the user attempts to balance.

*Swiss Ball* - is the perfect equipment for improving core strength, balance, and flexibility. These versatile and durable exercise balls can be used for a variety of workouts.

*Speed Ladder* - is ideal for improving acceleration, agility and coordination.

*Bossu ball* - it is an excellent addition to aerobic and balance exercises, which contribute to the development of coordination of movements and to the activation and strengthening of the stabilizing muscle parts located in deeper layers, which are otherwise very difficult to develop.

We mention that all the exercises were done under the strict supervision of the teaching staff and with a dosage corresponding to the level of preparation of the class. In each lesson of physical education and sports, exercises accessible to the whole class of students were carried out and introduced as new work materials after an instruction in use.

### ***Tests description***

The Matorin test for general coordination - from a sitting position, a jump is performed with a turn around the longitudinal axis of the body (to the left and to the right). During the jump, the student must not lose his balance, he must land with his feet together, as in the initial position, and the turn should be as many degrees as possible. The teacher draws on the ground a circle with a diameter of 40 cm (graded) and a line for starting the jump. The student, in the standing position with his feet placed on either side of a line drawn on the ground, with his arms by his body, will perform a jump with a turn to the right, and then a jump with a turn to the left. After each jump with a turn, the student will remain in place in the landing position (which must be the same as the one at the start), and the teacher will measure the angle of the turn. The test is performed on flat ground. The teacher will draw a graduated circle with chalk and measure the turning angle for each jump with a ruler (Table 1).

**Table 1 . Tests used**

<b>No.</b>	<b>Name of the test</b>	<b>Abreviation</b>	<b>Forms</b>
1.	Matorin Test	Mat.	General Coordination
2.	Distance appreciation Test	Dist.Appr.	Sensory-Motor Coordination
3.	Denisiuk Test	Den.	General Coordination
4.	Ladder Test	Lad.	Agility

Distance appreciation test - it is a distance judgment test, the route is executed in two halves with a break. The subject must cover the distance on a straight line of 9 meters drawn on the ground with his eyes closed and stops when he considers that he has covered the 9 meters, waiting motionless. The go signal is

given after the subject has closed his eyes. During his movement, the subject is not allowed to use different reference points (number of steps, etc.) and must keep his eyes closed throughout. After stopping, he must wait motionless so that the distance covered can be checked.

Denisiuk Test - Consists of 5 m run, 360° round one flag, run, forward roll, run, 180 degree round the second flag, bent support run, forward roll, 360 degree round the flag and arrival where did he go from? The mattress is arranged in the middle of the distance between the two flags. The return route measures 30m and is timed.

The speed test (Ladder) – fast movement, timed from the moment one foot leaves the ground to the moment it stops on two feet, in the form of "2IN1OUT", over a ladder with 5 "eyes" measuring 40/40 centimetres.

### ***Programs and exercises proposed and used for the development of coordinative capacities***

The exercises used in the experiment are not considered to be the best, but with possibilities of application in all forms of sports manifestation. They were designed according to the particularities of the students in the experimental group. These exercises can be used as such or modified, they represent a point of support and at the same time a starting point for designing other exercises. They depend on the skill of the specialized staff, the goals pursued and the material conditions in which we want to apply them.

These exercises were carried out with a dosage corresponding to the level of preparation of the children and the place of the lesson in the didactic design, and these means are aimed entirely at the coordinative capacity.

In these exercises, the main components of coordinative ability that work are balance ability, kinesthetic ability and spatial-temporal orientation ability:

- standing while maintaining balance without touching the ground with the edges of the board;
- from standing: movements of the plate forward and backward without falling off the plate;
- from standing: movements of the board sideways left/right without falling off the board;
- from standing: toe-ups on the Wobble board;
- standing on one leg while maintaining balance without touching the ground with the edges of the board;
- from standing on one leg: board movements left/right and forward/backward without falling off the board;

- from standing on one leg: lifting on tiptoes while maintaining balance;
- from standing far away on the board, performing semi-squats while maintaining balance;
- from standing, twists of the trunk to the left and right while maintaining balance;
- left/right turns on the board while maintaining balance;
- from standing, throwing a ball vertically and retrieving it while maintaining balance;
- facial support with both hands on the board while maintaining balance;
- facial support with both hands on the board: bending the arms in the elbow joint and returning to the initial position;
- facial support with one hand on the board, the other hand behind the back while maintaining balance;
- from standing, dribbling with the right/left hand or alternatively with maintaining balance;
- from standing face to face on different boards passing the ball to pairs;
- from standing on the Wobble board, throwing a ball against the wall and catching it while maintaining balance;
- from sitting, alternate lifting of the legs with the passing of a ball from one hand to another under the leg;
- stepping through three Wobble plates placed longitudinally;
- passage by stepping on one leg of Wobble tiles placed in a zigzag pattern.

Working with and at Bossu Ball is demanding and requires extra attention. With this device, it can be said that during the exercises, only one of the components of the coordination capacity acts, but all the components of this capacity act, being interconditioned between them:

- jumping on two legs on Bossu Ball;
- jumping on the left/right leg;
- ascending and descending alternately with the left/right foot on the Bossu ball;
- jumping from the ground on the Bossu Ball and returning;
- from standing on the Bossu Ball, jumps with twists of the trick to the left and right while maintaining balance;
- from standing, squats with arms forward and back;
- from standing, squats with jump on Bossu Ball;
- jumps with turning 90o, 180o, 360o on the ball while maintaining balance;

- from sitting on the ground, jumping on two feet on the Bossu Ball, bending the knees with the lowering of the center of gravity and jumping back to the ground;
- from standing sideways to the ball, lateral jump from one leg to another alternately on the Bossu Ball;
- running with knees up on the Bossu Ball;
- passing by stepping on Bossu balls placed longitudinally or zigzag;
- running with a step on Bossu balls placed longitudinally or zig-zag;
- maintaining a floating position on the Bossu Ball;
- from support on the Bossu Ball with the flat side up, grasping the edges, by jumping bringing the knees to the chest in squatting support, and returning to the initial position;
- from support on the Bossu Ball with the flat side up, grasping the edges, by jumping bringing the knees to the chest in a crouched support, high jump with the arms raised high, Bossu Ball held up, moving into a crouched support and returning to the initial position;
- throwing the handball/basketball with two hands from the chest into the Bossu Ball and catching it;
- throwing the handball/basketball with one hand into Bossu Ball and catching it;
- shooting at the basketball basket with a beat on Bossu Ball;
- throw at the handball goal with a beat on Bossu Ball;
- multiple dribbling with the handball/basketball on Bosu Ball;
- from standing sideways to the ball, lateral jump from one leg to another alternately on the Bossu Ball, catching and passing the basketball/handball ball with two hands from the chest or with one hand above the shoulder with a partner located in front of the performer.

Within this set of exercises, we find the relationship between the ability to combine movements, the ability to differentiate kinesthetic, the ability to orient spatiotemporally and the ability to transform movements. Of course, we also find the influence of the other components of the coordinative capacity, but in the first place we find the previously mentioned ones:

- semi-squats with jumping simultaneously with hitting the swiss ball on the ground;
- throwing the ball into the wall with two hands from the chest and catching it;
- passing the ball with the ground into the wall simultaneously with bending the knees and catching the ball;



- multiple dribbling while walking and running with Swiss Ball;
- from lying face down on the ball, rolling the ball forward until reaching face support with feet resting on the ball and coming back;
- from lying on the ball, twisting the trunk to the left/right;
- from lying on your back on the ball, rolling the ball back until you reach extension with your hands on the ground and return;
- rolling the ball on the narrow side of the bank;
- driving the ball between the posts;
- from standing face to face with a partner, each with a Swiss Ball, one passes with the ground and the other direct pass;
- from standing face to face with a partner, each with a swiss ball, a direct pass is simultaneously made by hitting the partner's ball in the air and retrieving one's own ball;
- mini handball with Swiss Ball.

Regarding the exercises with the Speed Ladder, it is stated that all the components of the coordinative capacity come into action here as well. In addition to coordinative capacities, through this device one educates and develops indices of strength, speed and endurance:

- raising the left/right knee bent to the chest with a step inside each square;
- swinging the left/right leg back with a step inside each square;
- hops on two feet in each square;
- hops on one leg in each square;
- jumping on two feet close inside the square and jumping with the feet apart outside the square;
- side jumps on two feet with entry and exit from the square;
- side jumps on two feet with entry and exit from forward squares;
- quick side steps to the left/right with both feet stepping in each square;
- different combinations of jumping and running;
- cross running with right/close foot touching each square with one foot;
- from standing sideways to the ladder, cross running with pelvic twist;
- from standing sideways to the ladder, touching each square with one foot in the form "in-in-out-out";
- from standing to the side of the ladder, perform forward and backward stepping movements in a square like "two in-two over-two out";
- from standing sideways to the ladder, step forward and backward in a square of the form "one in-two out";

- running with a step forward in a square and exit with the separation of the feet laterally in the form "in-in-out-out";
- running with a step backward in the square and exit with the separation of the feet laterally in the form "in-in-out-out";
- running forward and backward with both feet squared and one foot out to the side in a "two-in-one-out" fashion;
- from lateral facial support to the stepladder, advancing with the right/left hand into the square followed by the left/right hand and exiting the square in the same order of the form "forward in-in - back out-out";
- from face support facing the ladder, entering the square with both hands simultaneously and exiting to the side simultaneously with both hands simultaneously;
- the exercises mentioned above, combined with handling the basketball/handball around the torso.

### Results and discussion

Regarding the value of the body mass index of the students who form the control group and the experimental group, it falls within the normal limits according to the results presented in the specialized literature (Table 2 and 3).

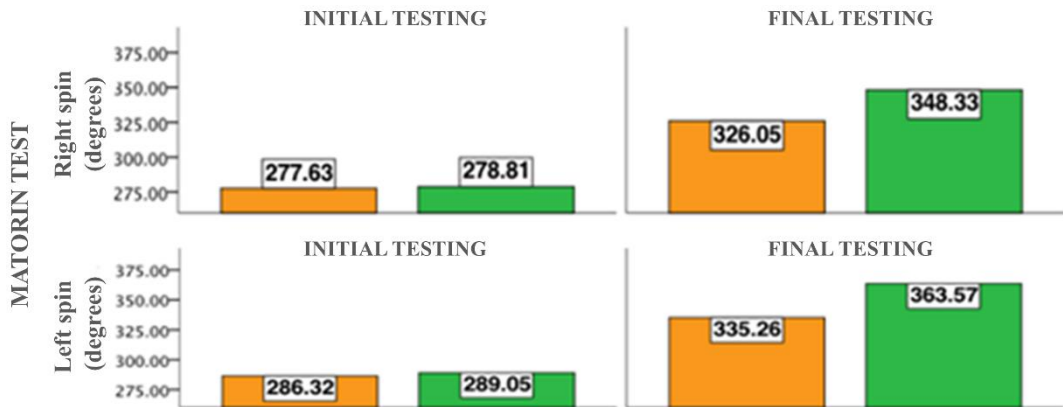
**Table 2.** Results of the control group in terms of body mass index value

Control Group	Height (m)	Weight (kg)	Wingspan (m)	BMI
5 <sup>th</sup> grade	1.54	44.89	1.51	18.91

**Table 3.** Results of the experimental group regarding the body mass index value

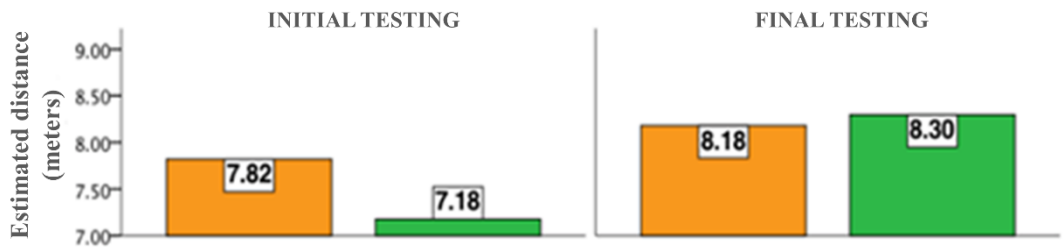
Experimental Group	Height (m)	Weight (kg)	Wingspan (m)	BMI
5 <sup>th</sup> grade	1.57	45.52	1.54	18.45

The graphic representations above show us that in the "Matorin" test, the values at the final tests are visibly improved in the experimental group compared to the initial ones, both in the test with turning to the right and the one with turning to the left. We can conclude that in this sample, the balance of the body in relation to its coordination were improved, the subjects of the experimental group managing to obtain better results. Therefore, the exercises performed during the lessons to develop coordinative capacities were beneficial for obtaining better results in this test (Figure 1).



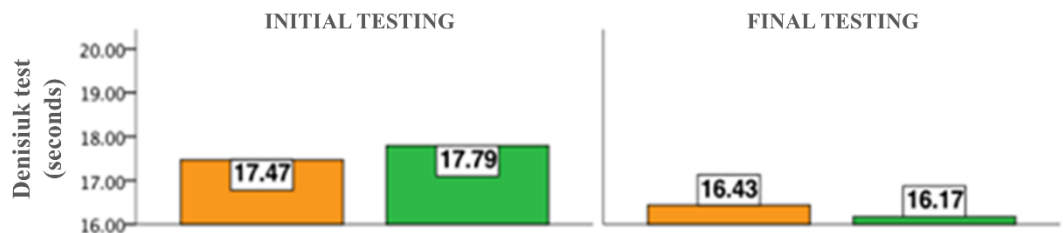
**Figure 1.** Representing the left-right Matorin test values at the initial and final tests in the control group and the control group

Distance appreciation was a test that in the final tests had significant differences compared to the initial tests, namely a difference of more than 1 meter better than the initial tests (Figure 2).



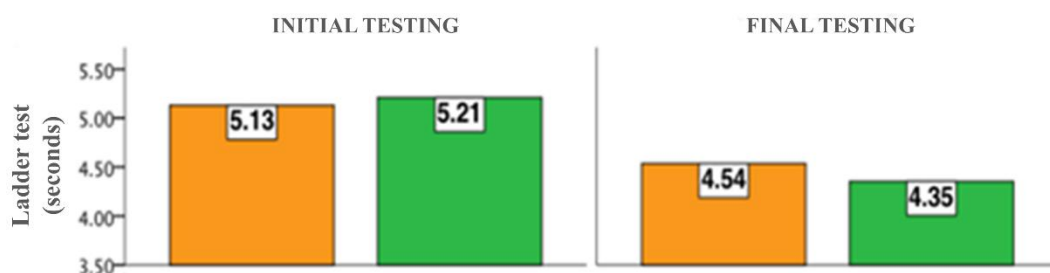
**Figure 2.** Representing the values of the distance appreciation test at the initial and final tests, the control group and the experimental group

The Denisiuk test is a test in which the results of the experimental group exceeded the results of the control group, initially the two groups recorded approximately the same values. Due to better overall coordination, better coordination speed, subjects in the experimental group were able to make better progress than those in the control group (Figure 3).



**Figure 3.** Representing the values of the Denisiuk test, at the initial and final tests, the control group and the experimental group

Regarding the Ladder test, a test that measures the agility level of the subjects, the difference between the initial and final testing in the control group was 0.59 seconds less, and in the experimental group the difference was 0, 86 seconds less or rather, faster. We can conclude that the agility exercises of the lower limbs, the speed in coordination mode, the multitude of applied courses performed during the lessons, helped the experimental group to register a higher progress than the control group (Figure 4).



**Figure 4.** representing the results of the Ladder test, the initial and final tests, the control group and the experimental group

## Conclusions

By introducing these modern means and materials in the physical education lesson, it was noticed that the interest of the students in participating in the lesson increased, the number of exempt students decreased and we noticed an improvement in the state of health and in general all the capabilities of the body through a walk nice, a proper run, proper breathing and even an improvement in the learning situation in the other subjects. The teaching situation is not part of the research, but it was observed by the educational counselors of the classes improvements in the children's behavior in the lessons.

The students in the experimental group became more interested in participating in the training lessons of the school team in different sports branches. This interest in participating in the additional training of the handball, basketball, cheerleading team of the school, we can say that it became interesting for the students with the increase in the level of development of these coordination capacities, and we could even talk about a better selection for performance sports.

The results obtained after the final testing prove the effectiveness of modern means, methods and materials, which aim not only at the development of motor coordinative capacities but also at motor skills and the stimulation of motor potential.

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