

TEACHING THE TECHNIQUE OF CYCLING TO PRIMARY SCHOOL CHILDREN

Alexander Skaliy¹

Kateryna Mulyk²

Olena Ponomarenko²

Tetiana Grynova²

*Institute of Sports and Physical Education of the
University of Economics¹,*

Bydgoszcz, Poland

Kharkiv State Academy of Physical Culture²,

Kharkiv, Ukraine

Purpose: to determine the main elements of cycling technique and establish their relationship with the motor qualities of primary school children.

Material and methods: the study involved 60 children of primary school age (6-7 years old), studying in secondary schools in Kharkov. The study used: pedagogical observations, expert assessment, testing. During the academic year, the dynamics of the level of development of the motor qualities of children of 6-7 years old was determined, and at the end of the school year, the correlation between the use of the basic elements of cycling techniques and the level of development of the motor qualities of children of 6-7 years old was established.

Results: the main elements of cycling technique were analyzed and a list of mistakes that were encountered during training was established. Correlation analysis of the influence of individual motor qualities on the implementation of various

elements of cycling technique was carried out. So, the technique of landing on a bicycle is the main element of the primary assimilation and requires, first of all, the manifestation of static balance. The pedaling technique and acceleration are associated with the manifestation of agility and speed-strength qualities. The braking technique is associated, first of all, with the manifestation of hand strength and was determined by wrist dynamometry. More complex elements of technology associated with cornering and turning and overcoming obstacles require, first of all, speed-strength qualities and dynamic balance.

Conclusions: the conducted studies allowed to determine the motor qualities, which are necessary for the fulfillment of the elements of the landing technique, pedaling, braking, acceleration, turning and turning and overcoming obstacles, and their correlation with control motor exercises was established.

Keywords: bicycle, technical elements, physical qualities, children.

Introduction

According to the results of studies [1, 11], it was found that the largest number of primary school students has external motivation, that is, the school attracts such children mainly as an object of extracurricular activities, in one third of children there is low motivation, indicates the accumulation of fatigue after school and makes it necessary development of measures aimed at restoring the psycho-emotional state of primary school age children. Among the priority types of physical activity of schoolchildren, outdoor and sports games, walks, tourism, cycling, rollerblading, etc. are distinguished.

Cycling technique involves performing all kinds of cycling techniques, braking, climbing, descending and turning. All of these skills are formed on the basis of the development of coordination abilities [5, 10].

Mastering the technique of landing and pedaling does not cause any particular difficulties and is described in sufficient detail [3, 6, 12, 14], and there is practically no methodological support for teaching the technique of cycling, especially with the observance of traffic rules.

Thus, there is a need to introduce training in the technique of cycling for elementary school students into the educational process of general education schools with a parallel study of traffic rules.

Purpose: to determine the main elements of cycling technique and establish their relationship with the motor qualities of primary school children.

Material and methods

The study involved 60 children of primary school age (6-7 years) studying in secondary schools in Kharkov. The study used: pedagogical observations, expert assessment, testing. During the academic year, the dynamics of the level of development of the motor qualities of children of 6-7 years old was determined, and at the end of the school year, a correlation was established between the use of the basic elements of cycling techniques and the level of development of the motor qualities of children of 6-7 years old.

Results of the research

The first idea of motor actions is achieved through stories, demonstrations, explanations, and trial execution attempts. At first, it is advisable to demonstrate the action, if possible in perfect execution. After the first demonstration, it creates a general idea for the student, the main elements of the movement technique and its correct execution should be highlighted.

So, according to Emelyanova E.S. [2] identified the main reference points reflecting the features and structure of the main elements of cycling technique (Table 1).

Based on the analysis of studies [7, 8, 13], we have established a list of errors in cycling techniques that are encountered during the study: improper landing, pedaling with "toes, heels", uneven and non-straight movement, loss of balance and fall associated with incorrect the choice of the trajectory of the turn, the setting of the feet when passing bends, the wrong overcoming of obstacles, braking with one brake.

**The main datum points of the main elements of cycling technique
(Yemelyanova E.S.)**

№	The main elements of technique	Main datum points				
		1	2	4	5	6
1.	Planting technique	Find the most comfortable riding position	Hands on the steering wheel are not clamped, slightly bent at the elbow joints	The shoulders are not tense	The knees are close to the frame	Back straight, not tense
2.	Pedaling technique	Achieve proper landing	Stop evenly and gently, powerfully rotate the pedal in a circle	One foot push, pull the other foot in a circle		
3.	Braking technique	Achieve proper landing	Hands on the brake levers	Index and middle fingers grab brake lever	Smoothly press the brake lever	Maintaining body position on the bike
4.	Acceleration technique	Bend your arms a little at the elbow joints, place them on the brake levers, complete delight	Press sharply on the pedals alternately	Move as a "dancer", transferring body weight over the saddle in time with leg work	Hands pull the steering wheel on itself	Strain your back
5.	Technique of cornering, turning	Make the correct landing	Place your hands on the brake levers, bend slightly at the elbow joints	With the right turn, the left leg is in the lower position, the right leg is in the upper position, the knee is bent and taken to the side	When turning to the left, the right leg is in the lower position, the left is in the upper position, the knee is bent and taken to the side	Tilt the body slightly towards the turn
6.	Obstacle crossing technique	Place your hands on the brakes, bend slightly at the elbow joints	Set your legs on the pedals parallel, bend slightly, take the body position "above the saddle"	Push with arms and legs at the same time	pull the bike towards you at the same time	Smoothly land the bike, perform a shock-absorbing movement with your hands, feet

Thus, the quality of mastering the elements of cycling techniques is ensured with the help of a correctly selected teaching methodology (Fig. 1).

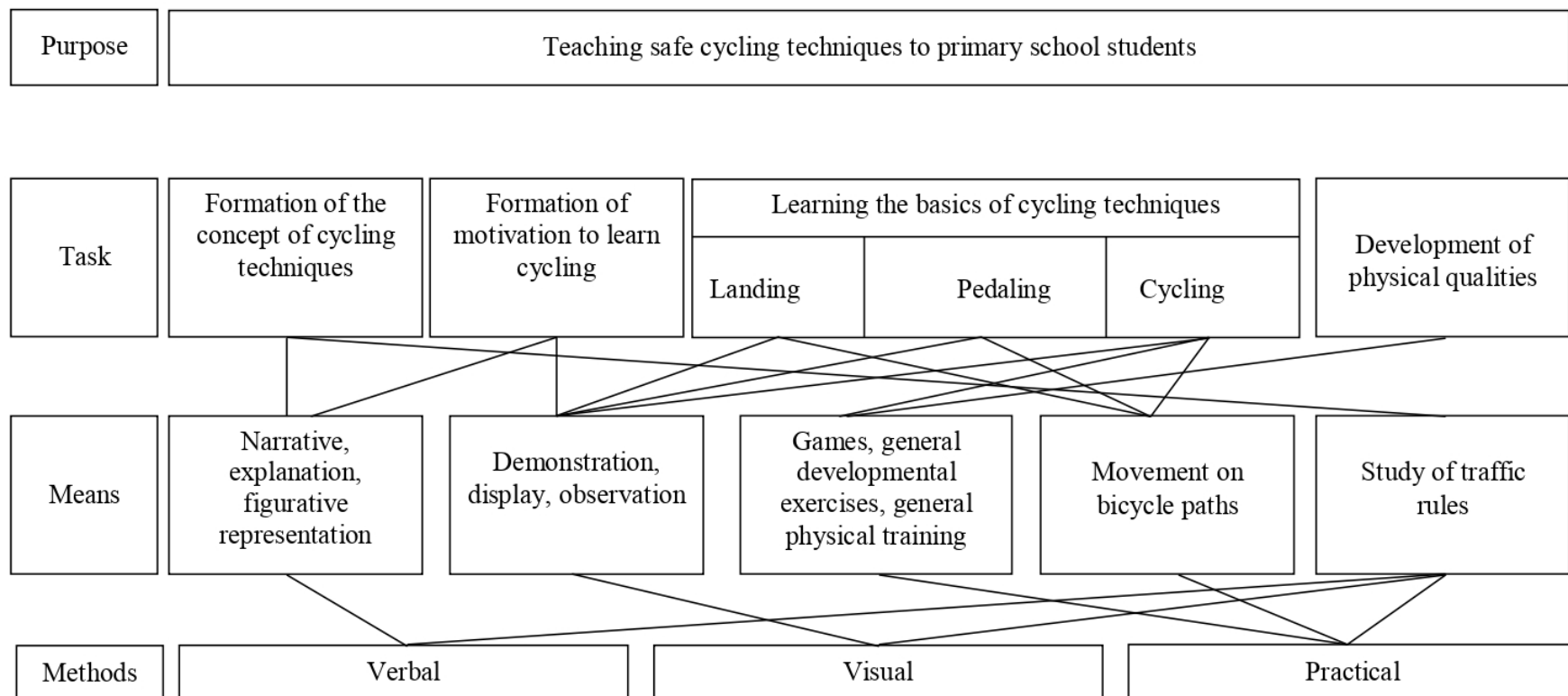


Figure 1. Methods of teaching safe cycling techniques to children of primary school age

Many children now learn to ride a bicycle between the ages of 3 and 5, but research has shown that most injuries occur at this age, compared to those who start learning later at 6-7 years of age. It is important to understand that each child is different from the others, so it is necessary to introduce cycling training classes in elementary school, when most children will be physically ready to cope with balancing on a bike.

Cycling has a complex coordination structure of movements, the implementation of which requires the manifestation of individual motor qualities. Therefore, it is very important to determine which motor quality influences the cycling technique to a greater extent. This will make it possible to develop complexes of tasks for the previous development of motor qualities and mastering the elements of cycling techniques. We have established a correlation relationship between the fulfillment of the main elements of the cycling technique and the motor qualities of primary school students.

The study was used: pedagogical observations, expert assessment, testing. During the year, we determined the dynamics of the level of development of motor qualities of children of 6-7 years old and at the end of the school year we established a correlation relationship between the use of the basic elements of cycling technique and the level of development of motor qualities of children of 6-7 years.

While studying cycling technique, you need to solve the following tasks:

- make children want to ride a bike;
- to provide the process of general physical training;
- to form an initial understanding of the technique of cycling;
- to solve organizational problems of inventory preparation.

It is from the age of 6-7 that, along with the development of motor qualities, the issues of the formation of elements of cycling technique are solved: landing; pedaling; braking; acceleration; passing turns and turns; overcoming obstacles.

It should also be noted that the implementation of individual elements of technique requires the presence of the potential for the manifestation of individual motor qualities.

The carried-out correlation analysis according to the influence of individual motor qualities on the fulfillment of various elements of the cycling technique shows that it is not the same (Table 2).

Table 2

Correlation dependence between the main elements of technique and motor qualities of children 6-7 years old

№ i/o	Elements of technique	Physical qualities	Control motor exercises	Correlation coefficient
1.	Landing technique	Static balance	Stand on one leg	0,62
2.	Pedaling technique	Speed-strength qualities	Standing long jump	0,55
		Agility	Shuttle running 3 × 10 m	0,61
3.	Braking technique	Strength	Hand dynamometry (differentiated muscle effort)	0,67
4.	Acceleration technique	Speed-strength qualities	Standing long jump	0,67
		Agility	Shuttle running 3 × 10 m	0,62
5.	Technique of passing turns	Speed-strength qualities	Standing long jump	0,57
		Dynamic balance	Turns on the gymnastic bench	0,60
6.	Technique of overcoming obstacles	Speed-strength qualities	Standing long jump	0,61
		Dynamic balance	Turns on the gymnastic bench	0,68

So, the technique of landing on a bicycle is the main element of the primary assimilation and requires, first of all, the manifestation of static balance. In our study, to determine the level of development of this physical quality, we used the test "Stand on one leg", the indicators of which correlate with the execution of the landing technique and the simultaneous maintenance of balance on the bicycle ($r=0,62$).

The performance of the pedaling technique and acceleration is associated with the manifestation of dexterity and speed-power qualities, which were determined by shuttle run 3 × 10 m and long jump from a standing position, the level of which, in accordance with $r = 0,61-0,62$ and $r = 0,55-0,57$.

The technique of inhibition is primarily associated with the manifestation of hand strength and was determined by wrist dynamometry, which is confirmed by the correlation ($r=0,67$).

More complex elements of technology associated with the passage of turns and turns and overcoming obstacles require, first of all, speed-strength qualities and dynamic balance. It was determined that the passage of turns correlates with the standing long jump ($r=0,57$) and turns on the gymnastic bench ($r=0,60$), also overcoming obstacles correlates with the standing long jump ($r=0,61$) and turns on the gymnastic bench ($r=0,68$).

Conclusions / Discussion

Currently, there are works [4, 8, 10] on the need to determine the level of motor qualities for effective mastering of the elements of cycling techniques (landing, pedaling, braking, acceleration, cornering and turning, overcoming obstacles).

This is due to the fact that the insufficient level of development of motor qualities will not allow to correctly master the technique of motor activity (first of all, coordination of movements, it is important in cycling), or to perform elements of technique with significant errors, which will be difficult to correct in the future. Therefore, the studies carried out made it possible to determine the motor qualities that are necessary to fulfill the elements of the landing technique, pedaling, braking, acceleration, turning and turning and overcoming obstacles, and their correlation with control motor exercises was established.

In the future, it is planned to study the process of mastering the technical elements of cycling by primary school children.

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Information about the Authors

Aleksander Skaliy: PhD (Physical Education and Sport), Professor; Institute of Sports and Physical Education of the University of Economics in Bydgoszcz, Poland: University of Economy, Garbary 2 85-229 Bydgoszcz.

orcid.org/0000-0001-7480-451X

E-mail: skaliy@wp.pl

Kateryna Mulyk: Doctor of Pedagogical Sciences, Professor; Kharkiv State Academy of Physical Culture: Klochkivskaya, 99, Kharkiv, 61058, Ukraine.

orcid.org/0000-0002-6819-971X

E-mail: kateryna.mulyk@gmail.com

Olena Ponomarenko: student PhD; Kharkiv State Academy of Physical Culture:
Klochkiivskaya, 99, Kharkiv, 61058, Ukraine.

orcid.org/0000-0002-4302-3742

E-mail: alenska19890305@gmail.com

Tetiana Grynova: PhD (Physical Culture and sport), Associate Professor; Kharkiv
State Academy of Physical Culture: Klochkivskaya, 99, Kharkiv, 61058, Ukraine.

orcid.org/0000-0002-8768-0672

E-mail: tgrynova88@gmail.com