Bulletin of the *Transilvania* University of Braşov
Series IX: Sciences of Human Kinetics • Vol. 15(64) No. 1 – 2022
https://doi.org/10.31926/but.shk.2022.15.64.1.9

# LEARNING TO EXERCISE BY IMITATION IN CHILDREN AGED 6-7

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***Abstract:*** *The present study is an experimental research, conducted on children aged 6-7 years, included in preparatory classes, based on the learning and implementation of the theoretical and practical information with the help of "live demonstration" and "iconographic demonstration", therefore relying on imitation. In Physical Education, the quickest and easiest way for children to learn is through imitation. The analysis of the results showed that in the experimental group the use of the "live demonstration" leads to a greater increase in the number of pupils who can memorise and perform more related items than in the control group, which used the iconographic demonstration.*

***Key words:*** *learning, imitation, children, exercise.*

## 1. Introduction

Learning, as a basic action of the instructional-educational process, involves an activity based on communication, practical and verbal practice by individuals of different ages and skills. In order to work together, a pupil and a teacher must know each other, help each other and work in the same direction, with the same objectives. Learning means knowledge assimilation, skill and ability building for daily activity "in an organised framework ...using effective methods and techniques, based on compliance with the didactic principle" [8] and it has a certain purpose.

"in an organised framework ...using effective methods and techniques, based on compliance with the didactic principles" [8] and has a certain purpose. Nielsen, & Blank, demonstrated" that children copy all of an adult's goal-directed actions, including those which are clearly unnecessary to achieve the goal" [4]. As a form of learning, the sensory-

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motor learning, also called perceptual-motor learning, focuses on the acquisition of motor skills, which results in improved motor behaviour. Early learning is achieved through imitation, where children mimic what their parents, tutors, teachers and peers do, thus gaining behavioural experiences. The sensory-motor based on experiences acquired by children through imitation foster association training between sensory and motor representations of actions, but "the strength of the sensory-motor associations depends on the frequency and quality of the previous experience" [5]. Imitation is a type of theoretical or practical response given by the child in response to an auditory or visual perception. Stănescu, having carried out several studies, points out that for children an educator "must use certain training methods" [11], and that imitation is "the first attempt at reproducing as faithfully as possible the behaviour of a model" [11]. Imitation involves the training of new sensory-motor representations, increasing the accuracy of motor acts and has as its main objective the acquisition of "behavioural acts in which the reactions that are stabilised depend on the proprioceptive sensory components" [1]. Children imitate both actions and factual statements of the experimenter which demonstrates that imitation is a powerful means of influencing children's social development [7], but also a powerful means of learning at an early age.

During ontogenesis, learning depends on the organism's development and maturity, but especially on the child's adaptability to the training requirements. A child's development depends on the individual's particularities, but also on the multitude of stimuli acting on them along the way. During the training activities conducted by the educator, teacher, nervous processes such as: will, attention, comprehension, memory, thought reproduction, motivation, perseverance, etc., undergo changes depending on the frequency and intensity of the stimuli acting directly on the sensory organs. Triggering the activity of the mental mechanisms responsible for the acquisition of practical and theoretical knowledge requires interventions to stimulate the system of reception and response. The activity mechanisms of information reception are improved in the instructional-educational process and are influenced by the children's predispositions, and by the acuity of the sensory organs.

"Children can learn important skills through imitation" [12], but the child responds differently to the reception of information, but also to the way it is presented, and the use of imitation in the learning process of young children is different from that of adults, since children "may have a strong impulse to realise the stimuli that are presented before they are able to process them in any other way" [9].

"Imitation in bodily activities is extremely diverse in terms of its content" [11], but also in terms of the way it is carried out. In preschoolers, imitation by a clue is the most effective way to act, in order to assimilate information and motor skills. The visual,

tactile and kinaesthetic activity, as well as the direction and monitoring of the teacher/educator, influence the learning process.

## 2. Materials and Methods

### 2.1. Purpose and hypothesis

The present study has the **aim** to carry out research on the achievement of learning in preschool children by using imitation based on "live demonstration" and "iconographic demonstration".

In conducting the present research, we started from the **hypothesis** that different levels of learning are achieved in pre-school children by using "live demonstration" and "iconographic demonstration".

### 2.2. Research tasks

The following tasks were set for the present research:

– literature review and bibliographic records;
– selection of the research subjects;
– establishing and introducing the experimental factor;
– setting the working time;
– selecting and administering the initial and final evaluation tests;
– processing, analysis and interpretation of results;
– drawing conclusions.

### 2.3. Research location and duration

The research was carried out at the "Ion Creangă" Secondary School in Bacau, during the school year 2021-2022, from 15$^{th}$ September to 15$^{th}$ December 2021.

### 2.4. Research subjects, methods and tests

The 40 subjects participating in the research were divided into two groups: the experimental group A included 22 children (9 boys and 11 girls) and was instructed by the teacher AA, and the control group Ba also included 22 children (10 boys and 12 girls) and was instructed by the teacher AB.

The **methods** used in the study were as follows: bibliographic documentation, observation, tests, psycho-pedagogical experiment; statistical and mathematical method, graphical method. The results collected from the initial and final evaluation were recorded, compiled, analysed and processed.

The learning ability assessment **test** was represented by an 8-item applied pathway. The assessment aimed to show the number of technical elements which children achieve by imitation along the path and how many they perform on their own. The applied pathway includes 8 movement elements consisted of performing the following elements from a sitting position on a stool with palms on knees: 1 = crouch crossing, 2 = forward tumbling from crouch to crouch, 3 = 3-step walk lift, 4 = stepping over a gym bench, 5 = 5-step walk with arms sideways, 6 = crossing by stepping over an obstacle, 7 = running to the finish line

and back to the start, 8 = sitting on a stool.

The initial and final assessment of children was done by keeping and recording the number of motor actions that were correctly replicated and connected to each other

**3. Experimental Intervention**

The introduction of imitation learning was based on the observation according to which young children tend to mimic older children in their actions and behaviours. The experiment aimed to test whether the presentation of motor tasks in the form of a "live demonstration" leads to increased learning efficiency by facilitating the memorisation of a greater number of components of a motor structure compared to learning based on the reproduction of iconographic material. In conducting the study we used two methodological training procedures, which are based on imitation mechanisms, namely, the "live demonstration" method for experimental group A and the "iconographic demonstration" method for control group B. The effects of applying the two methods of using imitation were assessed by means of the retention and execution of the number of motor actions performed by the children in the initial and final stages. At the beginning of the assessment, the evaluation test (the applied pathway) was presented by means of an execution performed by the teachers for group A and by means of a board placed on the wall for the children in group B. After observation, the children practically carried out what they had seen. Reproduction consisted of an exercise, performed by each child in the gym. In order to eliminate any emotional states that would influence the children's performance in the circuit, as well as the uncontrolled intervention of fellow group mates, the assessment assistance was individual, i.e. only the child and the teacher remained in the room.

In the perceptual-motor stimulation programme, the motor task set to be learned by the children consisted of an applied pathway, including eight motor actions, which were practised singularly or linked together. For the control group B the applied pathway was presented through a poster designed and displayed on the wall of the room, and for experiment group A by means of a live demonstration.

Considering that the demonstration performed directly by the teacher, or the demonstration performed with the help of sketches, posters or films are two modalities which are often used in the instructional-educational process, we decided to examine whether learning through the two modalities is different in the two groups of children and to verify whether its effects are the same in the two groups of children by using two applied pathways in each lesson. During the two-month period the emphasis was on memorising sequences of movements. The number of items for which additional work was done increased. The increase was made week by week as in the table below (Table 1).

Table 1

*Scheduling of applied pathways according to the number of technical elements*

| S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 |
|---|---|---|---|---|---|---|---|---|
| 2 technical elements | 4 technical elements | | 6 technical elements | | 7 technical elements | | 8 technical elements | |

## 4. Research Results

The results recorded for the experimental and control groups following the control samples have been compiled and are shown in Table 2. Since "imitation provides an important tool for researchers interested in studying the development of skills, such as representation and memory in children" [2], we considered this analysis of the research results as necessary.

Table 2

*Results on the number of children achieving a certain number of technical items in the two groups*

| Groups | 1-2 elements | 3-4 elements | 5-6 elements | 7-8 elements |
|---|---|---|---|---|
| Initial Gr. A | 5 | 11 | 3 | 1 |
| Final Gr. A | 2 | 5 | 10 | 3 |
| Difference | - 3 | - 6 | 7 | 2 |
| Initial Gr. B | 6 | 9 | 4 | 1 |
| Final Gr. B | 3 | 8 | 7 | 2 |
| Difference | - 3 | -1 | 3 | 1 |

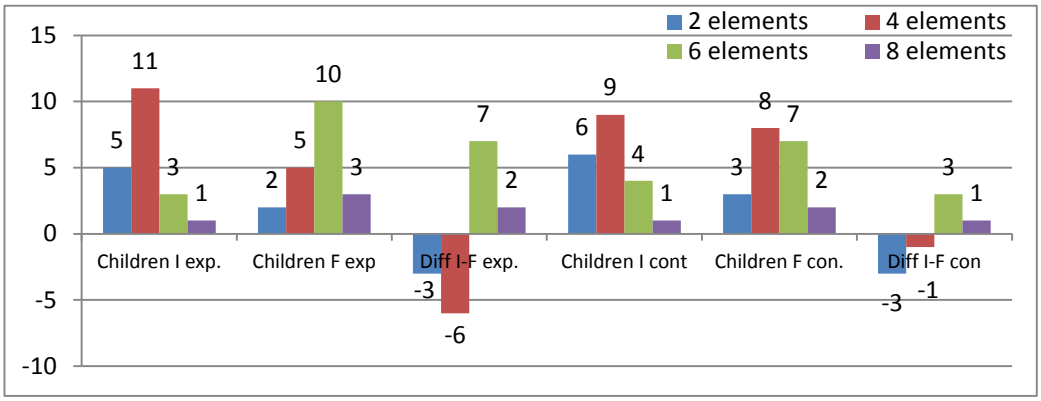


Fig. 1. *Graphical representation of the number of children according to the technical elements achieved in the two evaluations*

After comparing the initial and final results in Table 2 and Figure 1 of the two groups:

- the number of those who can perform by imitation 2 items connected by 3 also decreased in experiment group A and B;
- the number of those who can perform 4 elements connected by 6 in experiment group A and 1 in group B decreased;
- in the experimental group A, the number of children performing the linked 6 items increased by 7 and in the control group B by only 3;
- the number of those who perform 8 connected elements increased by 2 in experiment group A and by 1 in B.

By comparing the results obtained by the children in the initial test with those in the final test, it can be seen that the number of children who perform more items in both groups increases, which shows that they have become accustomed to memorising information and rendering it. We can assert that through imitation children manage to acquire more technical elements, improve their motor skills, but also their attention and memory, which are key mental processes in children's development.

**5. Conclusions**

Imitation defined as based on "the human ability to understand the intentions behind other people's statements and to put them into goal-directed activities is of fundamental importance for learning" [10] and constitutes for the 6-7 year-old children a way of both cognitive and motor development.

The analysis of the results obtained by us following the initiated research highlights the following aspects:

- the number of children in group A and group B who manage to perform several related items on their own, compared to the initial and final test, is increasing. Not all children succeed, some of them stagnate which means they need a longer period of time and more attention as they are slower learners;

- Differences were found between the two groups, i.e. more children in the experimental group improve their ability to memorise and succeed in the final test to reproduce more items;

- comparing the number of children who succeed in imitating after the teacher's demonstration with that after the iconographic presentation is observed in the final test, which shows that they have become accustomed to memorising information and rendering it. It can be said that they succeeded in imitating several elements.

Therefore, the hypothesis concerning the different learning levels achieved by the children in the preparatory class through the use of "live demonstration" and through the use of "iconographic demonstration" was confirmed, the experimental group that benefited from the live demonstration, conducted by the teacher, achieved better results. Lyons, d., Young, A. and Keil, F., in 2007 following a study in which they observed how children imitate adults, found that "young children are surprisingly judicious imitators, but there are also times when reproducing the actions of others seems strikingly illogical" and effortless [3].

Improved memory and better achievement ability in the experiment group supports the efficiency of the educational instructional process performed by direct action / "live demonstration" of the teacher.

It must be kept in mind that imitation based on direct demonstration or intuitive-based material can be used in pre-school education, but "anatomical imitation becomes available in the cognitive repertoire of children from the age of 9 years as an effect of increased body knowledge." [6].

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