

**MINISTRY OF NATIONAL EDUCATION AND SCIENTIFIC
RESEARCH**

**NATIONAL UNIVERSITY OF PHYSICAL EDUCATION AND SPORTS
OF BUCHAREST**

DOCTORAL SCHOOL

BUCHAREST, 2016

Abstract of the doctoral thesis

*The specific content effects of the basketball game on the psychomotor
of students from vocational education in architecture.*

Scientific advisor: Prof PhD Vasilica Grigore

PhD student: **Hossu- Longin Lacramioara Georgeta**

Keywords: **basketball, psychomotor capacity, creativity, spatial vision, skills.**

Introduction

Through the doctoral thesis, entitled "The specific content effects of the basketball game on the psychomotor of students from vocational education in architecture" we intend to deepen the way basketball game can improve certain elements necessary for the formation of a young man, for practicing a professional activity in the field of architecture. In our opinion, the practice of the basketball game helps students, who carry out this activity, contributing among others, to the development of creativity, the effort readiness and ability to make decisions, the assumption of roles and responsibilities. Basketball game request and at the same time develop at a higher level, the physiological and psychological functions of the body. Practicing the game of basketball contributes to personality development of the athlete through the development of thought speed and quick decision-making, while implementing the decisions taken.

The thesis contains 3 parts: part I, part II, part III, with 11 chapters, bibliography and appendices.

Part I contains three chapters: Chapter 1 Motivating theme choice, Chapter 2-methodological aspects regarding scientific approach, Chapter 3 - Critical analysis of the theme reflection in specialty literature.

Part II includes a preliminary study.

Part III includes a base research by which we wish to highlight some characteristics of the students psychomotor organization.

PART I

Theoretical substantiation of thesis

Motivating the choice of theme

Given the diversity of research that demonstrates the importance of sport performance that reflects directly over the psyche and motor, we want to make a connection between the two dimensions that we have highlighted and to point out the influence in professional skills unrelated to sport, over social and interpersonal relations for those who want excellence in their chosen field.

I chose the subject to study and deepen the ways and means by which to point out the tactical and technical characteristics of basketball from necessary psycho-behavioural model of a future architect.

I chose for psychomotor because in the physical education in higher education without profile, the contents of the proposed sports disciplines, students must be systematically subjected to influences that lead to achievement of objectives such as: maintaining the health, mental and motor development and qualities specific to the profession.

Methodological aspects concerning scientific approach

The goal

The present research aims to study the pedagogical point of view in the game of basketball for higher vocational education - namely, to prepare future architects.

Thus the main purpose of the research in this thesis is to develop a synthetic picture on the influences of practicing basketball by students of Architecture and Urbanism 'Ion Mincu'. In the preliminary research (exploratory research), we intend to study some features of psychomotor organization of students in vocational education, specializing in architecture, which are heavily involved in adapting future employment and who have an important role in optimizing the performance capacity for the architectural profession.

Research stages

To elaborate the thesis entitled „The specific content effects of the basketball game on the psychomotor of students from vocational education in architecture” I realized a staging of the scientific approach, reflected in the Gantt diagram.

RESEARCH METHODS, PARTICIPANTS SUBJECTS TO RESEARCH AND MEANS APPLIED

- **Methods of data collection**
- **Documentation**
- **Remark**
- **The conversation**
- **Evaluation method**

The subjects participating in research

The research design was done by a group of subjects composed of students of the University of Architecture and Urbanism 'Ion Mincu' both for research preliminary and for psycho-pedagogical experiment.

Our group of subjects analyzed was divided into 4 groups: two experimental groups and two control groups: experimental groups, the number 2 were composed of students who perform physical (unsportsmanlike), and control groups were made up of basketball team students from U.A.U.I.M.B.

- ✚ **G1 - women's basketball team at the University of Architecture and Urbanism, Bucharest;**
- ✚ **G2 – female students of vocational education unsportsmanlike profile;**
- ✚ **G3 - men's basketball team University of Architecture and Urbanism, Bucharest;**
- ✚ **G4 – male students from vocational education unsportsmanlike profile.**

The conditions under which the research was conducted

Preliminary research was conducted during October 2013 - February 2014, on a total of **58 subjects**, students in years I and II at the University of Architecture and Urbanism 'Ion Mincu' Bucharest.

Psycho-pedagogical experiment was conducted on a total of 32 subjects unsportsmanlike students in years I and II at Ion Mincu University of Architecture and Urbanism, Bucharest.

Psychological tests applied are accredited by the College of Psychologists of Romania. Psychomotor level assessment was conducted in the Laboratory of Psychology U.N.E.F.S. under specialized guidance (Assoc. prof. dr. Mitrache Georgeta, Assist. prof. dr. Predoiu Radu).

ACTUALITY OF THE THEME AND CRITICAL ANALYSIS OF ITS REFLECTION IN SPECIALITY LITERATURE

Trends in modern basketball and actuality of the theme

We believe that in order to prepare a team to the rigors of the modern game requires individual development of players, over a long period of time, including the junior, which in our opinion should not be a priority to develop achieving results but getting physical skills, habits and develop qualities that provide solutions in any situation.

Physical Education - Concept

Exercise is an action completely different from what is used as a practice in shaping the intellectual skills and establishes general motor skills development and physical development in accordance with the form and content.

By playing basketball as a complex system drive, we try to stimulate creativity, attention, concentration, tenacity and desire of young people to explore and assimilate new knowledge and to apply them in social practice both family and professional.

PSYCHOMOTOR FUNCTION AND PERFORMANCE ABILITY

Psihomotor - conceptual clarifications

Psychomotricity issues requires a global approach to human being, under its physical aspects, motor, mental and adaptive postulating its psychosomatic unity. It refers to understanding the human being as a link between the physical and spiritual motor, where psyche and motility are in constant interrelation.

PART II

PRELIMINARY RESEARCH ON THE STUDENTS PSYCHOMOTOR SKILLS FROM THE UNIVERSITY OF ARCHITECTURE AND URBANISM 'ION MINCU'

PRELIMINARY ISSUES RESEARCH METHOD

Research premises

There is a rich literature demonstrating that intervention at motor and psychomotor level has extensive educational values both somatic (to improve or maintain physical fitness and improve health), as well as subsystems all the human psyche: cognitive, affective-motivational-volitional, personality.

Begining from understanding the academic education system, we can create a model to guide for identifying solutions of introducing programs to develop psychomotor skills.

Efficiency and variety of strategies to stimulate and develop the student, aim valuing individual psihomotric potential achievement performances of the architects.

Preliminary research purposes

In this regard, we propose that the purpose of the preliminary investigation to determine the relationship between the level of psychomotor skills for students who practiced systematically basketball game at the University of Architecture and Urbanism, Bucharest) and the psychomotor skills for students in vocational education profile that does not practice basketball.

Preliminary research stages

PHASE I - scientific documentation on the scientific and methodological research

PHASE II: Organization of the preliminary research

PHASE III collection, processing, analysis and interpretation of preliminary research

PHASE IV - statistical processing, analysis, data interpretation.

PHASE V - Develop preliminary research conclusions.

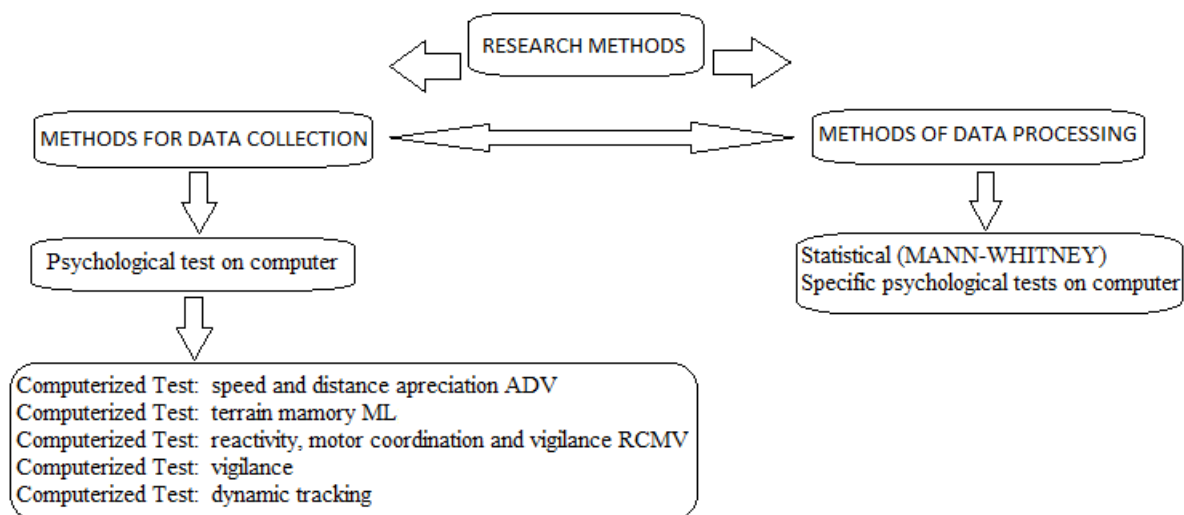
Preliminary research objectives

Making direct documentation with specialists;

Establishing the group of subjects;

Determining stage level of psychomotor features regarding **hand-eye coordination, alertness and reaction time of discrimination.**

Research methods used in preliminary research



PRELIMINARY RESEARCH CONCLUSIONS

Using Mann-Whitney test (U) for two independent samples we have verified whether there are statistically significant differences between groups in relation to G1-G2 and G3-G4 in terms of various psychomotor coordinate under research - intersegmentar coordination, hand-eye coordination, alertness and reaction time of discrimination, terrain memory and appreciation of speeds and distances.

The female subjects of our research, students in years I and II at Ion Mincu University of Architecture and Urbanism, Bucharest we can consider that the systematic practicing of basketball game:

- ⊗ **have a moderate to strong effect over performance if case of speed and swing movements that require motor coordination. The players of basketball have a processing speed of operational information, speed control and speed decision-production and conduct that requires intersegmentar coordination significantly better compared to unспортlike (students with vocational profile)**
- ⊗ **have a moderate to strong effect on performance if the learning ability of the new tasks that require hand-eye coordination. Athletes, basketball players hand-eye coordination compared to nesportivele (students with vocational profile), expressed through a faster understanding and adapting to new demands actionable movements, conditions perceptive us (that require hand-eye coordination), through a better ability to integrate a new task (the start of tasks that require hand-eye coordination). Good capacity for learning tasks that require eye-hand coordination indicates the existence of constitutional capacities - motor skills and plasticity of the nervous system.**

Male subjects of our research students in years I and II at Ion Mincu University of Architecture and Urbanism, Bucharest we believe that the systematic practice basketball game:

- **It has a moderate to strong effect on performance resistance to pressure in tasks that require hand-eye coordination. Subjects G3 group - basketball players, compared to subjects G4 group have the ability to control voluntary movements dynamics of their situations and hand-eye coordination when there is an increase dynamics;**
- **has moderate to strong effect on performance if topographic memory, specifically on performance if the efficiency ratio (fairness) and time**

(time that the subject performed the task). Basketball players have a terrain memory significantly better than unsportlike (students with vocational profile). Thus athletes, basketball players, have a better balance between accuracy - the ability to retain a certain path, registering a smaller number of errors when updating and time - during the trial has been completed, unlike unsportsmanlike (students with vocational profile);

- **It has a moderate to strong effect on performance in appreciation for speed and distance. Basketball players showed a significantly better performance for assessing speed and distance when compared with subjects without systematic physical activity (students with vocational profile). The coefficient of speeds and distances assessment also reflects the quality of perceptive (fairness in the selection, identification and interpretation of significant information), the motor act (accuracy, fairness in carrying out movements), and psychomotor ability of organizing against the background of significant information (requesting response) or insignificant (who calls no answered by the participant).**

PART III

RESEARCH REGARDING EFFECTS DETERMINATION OF BASKETBALL GAME OVER PSYCHOMOTOR CAPACITY OF VOCATIONAL EDUCATION STUDENTS AT ARCHITECTURE




ISSUES ON THE PSYCHOPEDAGOGICAL EXPERIMENT METHODOLOGY

Premises

Architectural profession requests the person at both the psychic, psychomotor and motor. Therefore we believe that the development of psychomotor ability in students from the University of Architecture will lead to development of specific qualities, necessary for the future architect / designer.

Intervention at psychomotor Level strengthens mental balance and balance of self – through development of the individual relationship with the world by movement, locomotor movements (general motor skills), to the complexity of the drawing, implies the possibility of achieving both graphic gesture (involving fine motor skills) and design of its intellectual activity (activity that is facilitated and enhanced by proper functioning psychomotorie).

HYPOTHESES

-  **There are significant differences as compared statistically between initial testing and final testing in male subjects, students in vocational education (Ion Mincu University of Architecture and Urbanism Bucharest) in terms of various psychomotor coordinates: intersegmentar coordination, hand-eye coordination, alertness and reaction time of discrimination, terrain memory, appreciation speeds and distances;**
-  **There are significant differences as compared statistically between initial testing and final testing on female subjects, students in vocational education (Ion Mincu University of Architecture and Urbanism Bucharest) in terms of various psychomotor coordinates: intersegmentar coordination, hand-eye coordination, alertness and reaction time of discrimination, terrain memory, appreciation speeds and distances;**
-  **Specific basketball game content systematically applied to architecture students in vocational education causes positive effects on psychomotricity component of their overall driving ability.**

GOAL

In the psycho-pedagogical experiment we propose establishing, implementing and evaluating the effectiveness of a drive system through specific basketball means, adapted to students at the University of Architecture and Urbanism 'Ion Mincu' Bucharest in order to develop their psychomotor skills.

OBJECTIVES

- Development of the drive in order to grow psychomotor education to vocational education students through specific basketball means;
- Developing the psychomotor capacity education to vocational education students through specific basketball (by applying the drive);
- Determining the effects of the program applied for psychomotor features on their speed and distance appreciation, terrain memory, intersegmentar coordination, hand-eye coordination, and vigilance reaction time of discrimination on the application of the drive.

RESEARCH METHODS

- **Psychological Test**
- **PSIHOPEDAGOGIC EXPERIMENT**

The specific drive of basketball for psychomotor capacity development of vocational education students of architecture

The training program for students applied components of the experimental group included the following types of exercises:

- A - exercises system to develop motor capabilities;
- B - exercises system for technical training;
- C - tactical training system for individual exercises;
- D - tactical training system of collective exercises;
- E - exercises system to develop qualities and psychomotor ability through basketball game; (training program related to the theme);
- F - 3x3 and 5x5 bilateral game.

RESULTS AND THEIR INTERPRETATION

ANALYSIS AND INTERPRETATION OF RESULTS OBTAINED BY STUDENTS FROM VOCATIONAL EDUCATION

In the conducted study, we wanted to identify if there are significant differences between the results obtained by students (male subjects and female) at the end of the experimental intervention by the drive for development of psychomotor ability of students in vocational education through specific basketball means and scores recorded at the beginning of the study, in terms of various psychomotor coordinates investigated:

- ❖ **intersegmentar coordination**
- ❖ **hand-eye coordination**
- ❖ **discrimination reaction time and alertness**
- ❖ **terrain memory**
- ❖ **speeds and distances appreciation**

It can be concluded that in the case of male students, **there are statistically significant differences** between the results in relation to final testing compared to initial testing.

It can be concluded that in the case of female students, **there are statistically significant differences between the results achieved to final testing** and initial testing performances.

CONCLUSIONS

Theoretical conclusions

- ✓ **Concluding, a student employability increases if he practice an organized sport, our research brings important clarifications in this regard referring to social integration, greater sense of self-confidence, team spirit and desire to be noticed.**
- ✓ **The exercises were chosen in order to develop the capacity of attention, as a hobby manifestation, basketball, desire to be noticed and overcome their personal limitations, subjects not realizing yet the effects that these training prints in their developing individual skills.**

EXPLOITATION OF RESEARCH RESULTS

The research was exploited through a series of participations at scientific sessions and scientific papers published in journals.

I participated in two editions of the U.N.E.F.S. Congress, 'International Congress of Physical Education, Sports and Kinetotherapy' works:

- ✓ **The influence of basketball game on the psychomotor skills of future architects,**
- ✓ **Characteristics of the psychomotor profile in Architecture students practicing basketball.**

I also worked in magazine articles 'Discobolul' titled:

- ✓ **Characteristics of the psychomotor profile in Architecture students practicing basketball,**
- ✓ **The influence of basketball game on the psychomotor skills of future architects.**

Acknowledgments

This paper is made and published under the aegis of the National University of Physical Education and Sports from Bucharest, as a partner of program co-funded by the European Social Fund within the Operational Sectorial Program for Human Resources Development 2007-2013 through the project Pluri- and interdisciplinary in doctoral and post-doctoral programs Project Code: POSDRU/159/1.5/S/141086, its main beneficiary being the Research Institute for Quality of Life, Romanian Academy.