LATVIAN ACADEMY OF SPORT EDUCATION

Ivars KRAVALIS

IMPROVEMENT OF STUDENT'S GENERAL PHYSICAL PREPARATION FOR SERVICE IN POLICE

Summary of the Promotion work

Doctoral thesis to attain a Doctoral Degree in Sport Sciences
Subdepartment: Sport pedagogy

Rīga, 2009

Doctoral dissertation (theoretical part) was carried out in Institute of Faculty of Pedagogy and Psychology of University of Latvia and in Latvian Academy of Sport Education, in the period of time from 2001 to 2008. The practical part of research – in Police Academy of Latvia.

Supervisor:
Dr.paed., prof. **Juris Grants**

The defence of thesis will take place in the Promotion Council of LASE.
President:
Dr.h.paed., prof., **Jānis Lanka**

Members of the Commission:
Dr. paed., prof. Leonīds Čupriks
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Dr. paed. doc. **Irēna Dravniece**

Reviewers:
Dr.h.paed., prof. Ausma Špona
Dr.h.paed., prof. Algirdas Čepulenas
Dr.paed., prof. Leonīds Čupriks

General characteristics of the Promotion Work

Evolution of new Technologies in the world, also in Latvia, reduces to minimum physical activities, but the psychological load increases. Accordingly a contradiction arises between mental and physical development of young people, because at the age from 7 to 23 years or more, youngster spends a lot of time in the educational institutions doing intellectual and mental work. Since the retrieval of independence of Latvia and transition to market economy, when changes came into different spheres of activities, changes started in the sphere of education and they are still in progress. Retrieval of independence and change of socio-economic formation created preconditions for the modifications in social, educational and pedagogical paradigm. The dominant values changed. The educational environment in Latvia now had become an integral part of educational environment of European Union and that influenced changes in educational environment of higher educational establishments. Lot of new public and private higher educational establishments have been established in Latvia. Sports activities are not included in curriculum of newly-established higher education institutions. Therefore it is important that the young person didn't loose his interest of physically active and healthy lifestyle during his studies, which are often accompanied by work, and improved the knowledge of sport, obtained in school. It means not only improvement and development of different motive and motor activities, i.e., training, but also teaching and improving interest about physical activities and their diversity, about physical preparedness as an integral part of professional qualification and about individual training.

In other countries of Europe and world, physical health and possibilities of physically active and healthy lifestyle are in governmental and intergovernmental charge. For example, Council of Europe acts within the framework of European Cultural Convention. To support the idea of sport, Council of Europe acts in several directions that are approved in the Council of Europe Summit in 1997 in Strasbourg [42]:

- recognise the role of sport in promoting social integration, particularly among young people,
- develop tolerance through sport and protect the sport from serious threats.

Committee for the Development of Sport (CDDS) co-ordinates the execution of this Convention, leads programs of work and organizes the conferences of European Ministers responsible for Sport. Results of rigorous studies have shown a linkage between physical exercises and health. Committee for the Development of Sport (CDDS) has initiated several measures to encourage healthy lifestyle and active participation in sports activities, for example, it has developed *Eurofit* complex [46, 50]. It is a complex of physical exercises, provided to acquire the ability of strength, speed, flexibility, tenacity and coordination. This complex is developed for the school age children and has

been used in European schools since 1988 [49]. *Eurofit* test for adults was developed in 1995 [46]. Committee for the Development of Sport (CDDS) organizes different activities (training and educational seminars) to propagate principles, expressed in Sport Charter, and to stimulate practical application of Charter's Articles in specific matters, for example:

- protecting sport from bad influences (fight against intolerance, support to sportsmanship and fair play);
- anti - discrimination in sport (spreading information about Sports for all Charter and use of it's principles regarding persons with reduced mobility and women);
- popularizing the idea of interconnectedness between sport and health;
- protecting the role of sport in youth education, on a basis of Lisbon manifest in 1995;
- researches of economic impact of sport.

Public authorities in Latvia also demonstrate their interest about physical activities of inhabitants. As a proof for that, there is Sports Law, adopted on 2002, and Latvian National Sport Development Program 2006-2012, with the aim to establish conditions for creating healthy, mentally and physically developed personality. ***Problem and actuality*** of the research results from theoretically justified and empirically approved facts, that along with the rise of welfare level and introduction of newest scientific achievements, that reduces the necessity of physical effort, people become physically inactive. The development of new technologies and their introduction in working places and in everyday life, along with the raising requirements for mental work, reduces physical activities. Physical preparedness, physical development and health of young people, including students, are becoming worse and worse. Although there are a lot of publications in different media about possible abnormalities in general health caused by inactive lifestyle, physical activity of inhabitants of Latvia still is not satisfactory. Doctors of different specialities also recommend physical activities (not a specific type of sport or discipline, just an activity that gives pleasure) as a good prophylactic measure to improve and maintain one's health [3, 5, 15, 46, 47, 98, 136]. For external students of Police Academy of Latvia (PAL) that serve in the police, passing of the physical preparedness test according to the requirements of Ministry of Internal Affairs, present difficulties. The physical preparedness test results of full time students of PAL decline. The comparison of achieved results of control tests every term since 1994, affirms it. The hypothesis of this research was developed on the basis of terms and conditions highlighted in Police law, in the standards of professions and in other laws and regulations [58, 77, 109, 125, 140], that good physical preparedness is an integral element of police officer's professional qualification. It is also based on results of questionnaire survey about physical activities in higher educational establishment.

Object of the research

The process of general physical preparation in Police Academy of Latvia, oriented for student's professional service in police.

Subject of the research

The raise of general physical preparedness level for student's professional qualification in Police Academy of Latvia.

Aim of the research

To improve student's general physical preparedness by improving the general physical preparation course in Police Academy of Latvia with balanced theoretical and practical lessons and introducing interactive study methods in theoretical lessons, to promote student's professional qualification for service in police.

Research hypothesis

- General physical preparedness of students, which is a part of professional qualification, would improve, if general physical preparation course is combined with the raise of comprehension in theoretical knowledge about the meaning of physical preparedness in professional qualification also with justification of necessity of self-control criteria and with reinforcement of the aim (improvement of physical preparedness).
- General physical preparedness that is a part of professional qualification for service in police would improve, if theoretical knowledge, self-control and progress in improvement of physical preparedness are used in individual self-development lessons.

Research tasks

1. To identify the opinion of students from different higher educational establishments about the role and necessity of physical preparedness in further professional activities.

2. To identify the possibilities of students of Police Academy of Latvia to improve individually their general physical preparedness during their studies, thereby improving professional qualification for service in police.

3. To improve the *General physical preparation* course in Police Academy of Latvia with theoretical lessons, thereby balancing the content of theoretical and practical lessons.

4. To evaluate the influence of the improvement of course of studies on student's general physical preparedness that is a part of professional qualification.

Methodological foundation of the research

- Conclusions about theoretical justification of physical preparedness and physical activity: Auliks I. (1975; 1978; 1985), Ästrand P.O.,(1952; 1970; 1988), Brēmanis E. (1982; 1991), Krauksts V. (2006), Nilsson J. (1988), Liepiņš I. (1993; 2000), Stephen S., Silverman. S.J. (1996) a.o.
- Conclusions about physical activities in the course of studies. Myers T., Griggs G. (2004), Vuillemin A., Bertrais S., Oppert J.M. (2004.), Zelli A. (2004), McAuley (1994), Grants J. (2003; 2007), Tsigilis N., Douda H. (2002) a.o.
- Conclusions about modern educational methods. Kolb D. (1999), Delors Ž. (2001), Grants J. (2003), Grineski S. (1996), Gudjons H (1998), Špona A. (2004), Geidžs N.L., Berliners D.C. (1998).
- Conclusions about the role of physical activities in maintenance of health and improvement of physical preparedness. Shephard R.J. (1994).
- Review of health and health-cafe of inhabitants of Latvia. (2004; 2006), Vuillemin A. (2004) Lefevre J., Philippaerts R. (2006) a.o.
- Conclusions about the essence of physical preparedness and physical activity, and evaluation criteria, issued from the description of *Eurofit* test method, *Eurofit* tests credibility verification, experience of scientists from other countries, using *Eurofit* tests in researches, personal experience etc.
- Conclusions about the necessity of physical preparedness in professional qualification of police officers, stated in laws and regulations that concern the employees of establishments of law enforcement institutions with special service ranks.

Methods of the research

1. Theoretical

- On the basis of analysis of sports theory and methodology, sports physiology and pedagogical literature, an improvement of program is developed to promote student's physical preparedness and activities in everyday life.

2. Empirical

- Questionnaire survey data assembly, to find out student's will to develop individually their physical preparedness during their course of studies and about the possibilities to fulfil their will in higher educational establishment.
- Questionnaire survey data assembly about level of student's knowledge about the methods and methodology of improving physical abilities, about physical activities and physically active lifestyle. Questionnaire survey was carried out in the beginning and at the end of the experiment.
- Pedagogical experiment; for its accomplishment two male-student and two female-student groups were formed: experimental male-student group (ME) and experimental female-student group (FE), as well as male-student control group (MC) and female-student control (FC) group.
- Tests of physical preparedness (*Eurofit* tests) for all groups were carried out in the beginning and at the end of the experiment.
- Interview. Non-standard (creative) interview. Process – in the form of free negotiations.
- Mathematical data processing – statistical methods:
  - evaluation of differences in connected selections with Student criteria for connected selection;
  - comparing of independent selection with Student criteria for independent selections;
  - evaluation of differences in connected selections with Wilcocson criteria.

Participants of the research

In total 143 students of Police Academy of Latvia (PAL) were involved in the experiment, including 100 men and 43 women. In the experimental male-student ME group there were 63 students of PAL, but in the experimental female-student FE group – 27 women students of PAL. For the control groups: in male-student control group MC there were 37 students of PAL, but in the female-student control group FC – 16 women students of PAL. Research was carried out in autumn term of 2003 /2004 and 2004 /2005 year of studies.

Scientific novelty

In the process of studies, acquirement of the knowledge with the interactive study methods and creation of theoretical comprehension about the meaning of physical preparedness in the professional qualification, as well as justification of necessity of self-control criteria and reinforcement of the aim helps to attain the improvement in physical preparedness by balancing physical preparation lessons with theoretical lessons. Concurrently raises the comprehension and knowledge about the influence of physical preparedness to health and working capacity. Students acquire the theory better, if interactive study methods are used and if they take advantage of their theoretical knowledge in individual lessons. If students, by understanding the structure of the performance of exercise, its effect and training method, participate in their own physical preparation process improvement, the level of physical preparedness increases. Together with the ability to use different methods in own physical preparedness improvement, participation in individual self-development lessons are being stimulated. After acquirement of practical and theoretical knowledge in general physical preparation course, the theoretical knowledge of the students and their preparedness to use it in practice are in the level, that they can perform an individual and determined physical preparedness self-development process – the training. In general physical preparation courses and in individual self-development lessons – trainings – the physical preparedness of student is being upgraded together with the improvement of professional qualification and suitability to service in police after graduating. The theoretical knowledge and abilities acquired, empower to maintain individually and continuously one's physical preparedness in the level necessary for the service in police.

Theoretical significance of the research

During the research an interconnection between accomplished physical preparation exercises and the condition of one's general health and physical condition was discovered and theoretically justified. Although the way how physical preparation exercises are accomplished differs, active people do have a better general heath condition than the inactive. If physical preparation exercises are performed regularly and professional advices are taken into consideration as well as health-enhancing factors, it has a positive influence on both sexes all age group people. While acquiring abilities of health promotion and of physical preparedness self-development in individual physical preparation courses, an improvement is being achieved in physical preparedness and professional qualification for service in police.

Practical significance of the research

The supposition of the hypothesis about theoretical knowledge and physical preparedness was approved during the research: combing general physical preparation course with the raise of comprehension in theoretical knowledge about the meaning and possibilities of improving the physical preparedness, and use of this knowledge in individual self-development lessons, improves general physical preparedness that is a part of professional qualification for service in police. Taking into account the theoretically approved interconnection between physical preparedness and health, we can say, that health condition is stabilised and improved, a theoretical and practical basis are established to continue individual physical preparation self-development process after starting the service in police, thereby helping to maintain the professional preparedness for the service in the necessary level. It means that after graduating students have received the necessary knowledge and abilities to maintain individually their physical preparedness in the level necessary for the service in police.

Theses for the presentation

- Improvement of student's general physical preparedness during the studies would come into effect, if practical and theoretical courses are balanced and comprehension formation in theory about the meaning of physical preparedness in professional qualification is reinforced.
- Physical preparedness of students will be improved by using acquired theoretical knowledge, as well as practical abilities during the process of studies and self-development lessons during the course of studies. Theoretical and practical basis will be established during the studies, to continue individual physical preparedness self-development process after starting the service in police, thereby helping to maintain the professional preparedness for the service in the necessary level.

Key-words:

physical preparation of students, physical preparedness of students, physical activity, improving professional preparedness of students.

Stages of the research

Research was accomplished in three stages in the period of time from 2001 to 2008.

In stage one (September 2001 – September 2003) theoretical analysis of literature was started and initial hypothesis was posed. A questionnaire survey was carried out in different higher educational establishments, finding out students opinion about the role of physical preparedness and it's necessity in further professional activities, about physically active lifestyle, about the possibilities of individual physical preparation lessons in higher educational establishment, and clarifying what physical activities do students participate in during their studies and what activities they would like to have. An upgrade was established in the *General physical preparation* course in Police Academy of Latvia, based on the results of the questionnaire survey and requirements for the police officers, defined in laws and regulations. The results of the survey were approbated by reporting in scientific conferences. Further directions for the examination of problem were established.

In the second stage (September 2003 – October 2005) theoretical analysis of literature continued and hypothesis was improved. During the autumn term (August – December) in 2003 and in 2004 *Eurofit* physical preparedness testing was accomplished by the students of Police Academy of Latvia. After the accomplishment of *Eurofit* physical preparedness tests in the beginning and at the end of term, a questionnaire of students from all groups was carried out. Questionnaire survey showed the level theoretical knowledge of students about physical activities and physical qualities, about methods and methodology of training; it also revealed the abilities of students to use their knowledge individually in practice. The results of questionnaire survey at the end of term reveal changes in student's theoretical knowledge. Experiment data and questionnaire survey data assembly and analysis were started. The results of the experiment were approbated by reporting in scientific conferences and in the courses of active tourism and recreation in Sweden. Further directions of thesis were established.

In the third stage of the research (October 2005 – year 2008) the theoretical analysis of the problem, posed in the research, was finished; the experiment data assembly was continued and finished. Interviews with former students of experimental and control groups was carried out in October – December 2008, lecturers from NDA Physical preparation department was asked as experts for the evaluation. Further directions of research of the problem were established. The results of the experiment was approbated by reporting in international scientific conferences, in study visits in foreign countries and in international projects.

The structure of Promotion work consists of preface, three chapters and annexes. In total 198 sources in Latvian, English and Russian have been analysed. The results of theoretical and practical data visualised in 14 charts and 14 images.

Contents of the Promotion work

In the **preface** there is justification of the choice of the theme and its significance in modern higher educational establishment with specific professional specialization, also the object, subject, aim, hypothesis, tasks, methods, theoretically methodological justification, scientific novelty and practical significance of the research were determined. Described the basis and methodology of the research.

In the first Chapter "Physical preparation and physical preparedness" terms *physical preparation*, *physical preparedness* and *physical activity* are explained, basing on the analysis of literature of pedagogy, sport pedagogy and sport physiology, as well as on articles of sport scientists and their publications in scientific conferences, periodicals and electronic media.

In subdivision 1.1 "Pedagogical theories in physical preparation" is given an insight in the evolution of opinion and knowledge about physical preparation, preparedness and physical activities. For persons of different profession, different professionally applied physical preparation is needed in their day-to-day work. Still, high level of general physical preparedness affects also the professionally applied physical preparedness. Thereby the principle of forming a personality, who is developed in a comprehensive and harmonious way, is that the general and special physical preparation should be realized as united and common action. In this chapter the evolution of sport or physical preparation pedagogy at the turn of the 19 and 20 century in Russia and in territory of Latvia is discussed. Examined different pedagogical methods (behaviorism, cognitive, heuristic, humane, constructionism), that are used in the process of pedagogy and also in the physical preparation courses in schools and higher educational establishments. Today big emphasis in the learning process of sport is on the development of thinking, student's involvement in active cognitive process and use of knowledge in practice for each type of sport. The point is – pedagogue, by using a discussion, organizes and leads the process of learning so, that student would come to logical solution of the problem all by himself, pedagogue would just assist a little. The aim of this method is to promote the student to acquire the knowledge all by himself and to think logically, to build interest about teachable type of sport and it's technical execution, special physical preparedness and to achieve good results in different types of competition (Gudjons H. 1998., Grants J. 2003.). It is suggested that the pedagogue should not give what student can take himself and should not say what student can say himself.

Sport teachers in their classes use also cooperative learning method. This term consists of two concepts: cooperation (cooperation - collaboration) – type of management, and learning – process of personality development, that each and every person realizes in his own way. We can say that cooperative learning is process where each participant of the group and the entire group together is

oriented to progress. Participants of the group learn themselves; help to learn each other, thereby promoting the improvement of competence of each individual. Cooperative method in sport lessons is recommended during extended and detailed learning and further stages of improvement. By using the cooperative method, teacher realizes not only educational, but also social objectives. Thereby learning process is directed to form multilateral and creative personality (Kolb D. 1999., Grants J. 2007.).

Sport pedagogy have evolved and improved during the history, together with development and progress in pedagogy and didactics.

From absolute obedience and glorification of physical skills and strength in ancient Sparta to humane approach to students, to interactive, constructive and cooperative teaching methods, where student and the development of his thinking is in the centre of attention, as well as student's involvement in active cognitive process and use of knowledge in practice. An essential instrument to attain such quality of education is team work, where teachers and students are working in groups and building the learning process together. Such collaboration permit students to improve their skills in cooperation and to attain individually as high results as possible. In sport pedagogy it would be improvement of knowledge and skills and strengthening of physical health.

In subdivision 1.2 "Latvian and European institutions about physical activity and sport" the promotion policy of sport and physically active lifestyle in the scale of state and in the scale European Union is examined. In Sports Law in Latvia as well as in European Sports Charter term ”sport” means ”all types of individual or organized activities in order to maintain and improve physical and mental health, as well as to achieve success in sports competitions”. Latvian National Sport Development Program 2006-2012 is elaborated, taking into account the four year cycle between Olympic Games. Within the framework of this Programme, children and youth sport means sport in educational establishments, i.e., in kindergartens, schools and higher educational establishments. Sport is defined as subject, sport competition between classes, schools or universities, also as work with youth in specialized sport schools and sport clubs until youngsters attain the level of National youth/junior team candidate in individual or team sports. One of the main tasks in development of children and youth sport is defined in point 3.7. of the Programme: *"To define the number of minimum sport lessons in higher educational establishments (2-3 lessons per week) for first four terms"*. It is defined that Ministry of Education and Science is responsible for the execution and precise term of execution is also defined - year 2007. This point of the program was not realized and that causes doubts if all other tasks related to children and youth sport and tasks oriented to healthy lifestyle are realized and introduced in practice. Healthy lifestyle in the Programme means different mass sport competitions (running races, cycle races, and orienteering, streetball and beach volleyball competitions, attendance of sport and fitness centres etc.), sport of working population and

veteran's sport. Competition in such kind of activities is used as an instrument of private inurement and for the diversification of activities.

The aim of European Sports Charter is to achieve, that governments take necessary measures to apply the conditions of the Charter in accordance with principles of the Code of Sport Ethics, to promote sport as an important factor of person's development. The intention of Charter is to give each person the opportunities to participate in sport, especially to ensure, that youth would have the opportunity to receive physical education and basic skills in sport, as well as to ensure, that each person would have the opportunities to participate in sport and active recreation in a safe and healthy environment. Mass sport or sport that is accessible to everyone has an important role in the society. The *Eurofit* methods, drawn up in the Council of Europe's Committee for the Development of Sport, are tests for determination of physical preparedness, and are elaborated resulting from researches about inhabitant's physical development, physical preparedness and capacities for work and about musculoskeletal apparatus. Accomplishment of tests doesn't require complicated equipment for measuring the results and they can be used for the determination of physical preparedness of children and youth of both sexes. Aim of the *Eurofit* test authors was to create a complex of tests that would be credible and safe, simple to accomplish and to monitor and would show interconnection between health and physical activities for each individual and for society in general.

Subdivision 1.3 "Physical preparedness and health". Physical preparedness is the result of physical preparation process. Process of physical preparation includes not only regulated physical preparation lessons or trainings under guidance of lecturer or teacher, but also individually accomplished physical activities. Physical activities mean active movements of the body insured by musculoskeletal apparatus that increase remarkably the energy consumption in comparing with rest state. Not only determined trainings in any kind of sport, but also day-to-day physical activities define the state of development of person's physical preparedness. Possibilities to participate in such activities combine with individual qualities and skills. Test results show that regular physical activity is connected with higher quality of life, but sedentary lifestyle and work enlarge the risk of different illnesses. Scientists understand the quality of life as The Human development Index, which is a complex coefficient that consists of:

- person's physical existence and health – expected lifespan for the children born in the respective year;
- level of inhabitant's education and knowledge – combination of two parameters: level of adult inhabitant's literacy (reading/writing skills) and the amount of all level formally studying persons;
- financial situation of inhabitants – recalculated gross domestic product (GDP) per capita, according to purchasing power parity.

Aggregating information about different scientist's researches about efficiency of physical activities, especially exercises in spare time, physical health and functional preparedness' capabilities in the perspective of public health, reveals the conclusion that muscle mass, strength, power and tenacity, which all together form general physical preparedness, is important to every person.

Sport and sport medicine specialists in the whole world, including Europe and Baltic states, are making bigger and bigger emphasis on insufficiency of physical activities for inhabitants of all age groups. Scientists and medicine employees in all countries have discovered that number different illnesses and diseases grow together with decrease of physical activities. Illnesses that were formerly characteristic for elderly people, are now affecting youth. Sport and sport medicine scientists have proved that every person can improve and maintain his health, retain high working capacity and lively mind for a long period of time, if he is exercising regularly and doing it right. Active sport exercises promote physical development and maturation of the body at early age and also help to maintain the physical health and physical shape at a mature age. It is also very important to feel and recognize the moment, when it is time to change training methods from those that are meant for reaching high results to physical activities that helps to maintain health.

Further in text the focus is on physical activities in the open air and their influence to the health and wellbeing at different ages and on day-to-day life physical activities. The importance of physical activities at every age has been proved many times in various researches of different scientists from different countries. It should be noticed that they are especially important for children, teenagers and youth, because human body develops and matures in the period of time from birth to the age of 20-25 years. Further the possibilities of getting traumas in different physical preparation lessons and sport competitions are revealed. Good physical preparedness promotes prevention of traumas in sport lessons and competitions. Good physical preparedness and physical activities accomplished in physical preparation process has a positive effect on human organs and organ systems (heart and vascular system, respiratory, digestive and central nervous system). Physically inactive lifestyle is possibly the main illnesses' risk factor in the developed western European countries. Healthier lifestyle and better condition of health of all the society could be achieved, if every individual lessens his illnesses' risk factor. Scientist's researches and analysis of the public health data has proved that health of all the society would improve remarkably, if it lessens illnesses' risks even for a little. Analyses of research material from different countries show that regular physical activity is connected with high quality of healthy life. Whereas people of sedentary lifestyle and those who have sedentary work, are subjected to greater illness risks.

In this chapter focus is on the achievements of most sporty students of Police Academy of Latvia and Banking Institution of Higher Education in the Universiade (Student Games) competition, and on the possibilities of physical activities in each establishment of higher education. And it was concluded that results in competitions doesn't reflect the training possibilities in higher educational establishments, or the total physical activity of all students. If sport courses are not included in the obligatory and not even in the voluntary curriculum and if in the higher educational establishment there are no sports centre or rented premises for sport lessons, many students cease their trainings, because the need for physical activities is not dominant, although they understand its importance. The fact that students have to pay for sport lessons is the reason why they turn to other ways of spending their free time that maybe require the same amount of many, but certainly less physical effort. Student questionnaires showed that students of different higher educational establishments do have theoretical knowledge about positive effects of physical activities. But if sport lessons are not scheduled in the curriculum, physical activity of students is small or it doesn't exist at all.

In subdivision 1.4 "Physical preparation of students and evaluation of physical preparedness with *EUROFIT* method" the main focus is on physical preparedness exercises and exercise complexes that are used in European countries. Scientists use *EUROFIT* test complex or separate *EUROFIT* tests in their researches as one of those exercise complexes. *EUROFIT* test method is standardized, scientifically approved method in sport medicine for estimating inhabitant's, including student's and athlete's, physical development, physical preparedness, and functional abilities of the body and progression of their development in dynamics. The aim of using the *EUROFIT* method is elevation of inhabitant's, athletes, pupil's and student's physical preparedness level and improvement of quality of life. *EUROFIT* method for adults is used for:

- Determination and evaluation of physical development;
- Determination and evaluation of general physical preparedness;
- Evaluation of human body functional condition;
- Comparison of own data of previous year or of average parameters in the respective age group in population.

EUROFIT method in Latvia was approved in 19 august 2005 in Health statistics and Medical Technologies State Agency as a medical technology of sport medicine. In year 2006 Latvian Sports Medicine State Agency carried out physical preparedness evaluation using *EUROFIT* method for:

- Athletes and children with high physical load within the framework of prophylactic and deepened medical examination in Agency and also in visiting examinations in regional professional sport education establishments and sport clubs;

- Pupils of comprehensive schools and 6-7 years old children from preschools, in accordance with written application from principles of these establishments.

For athletes and children with high physical load evaluation of physical preparedness using *EUROFIT* method in 2006 reveals that the level of physical development, physical preparedness and functional abilities of the body for the trainees from sport organizations is "high" or "above average" in 19.8% (in 2005 – 22.9%), "average" – 42.7% (in 2005 – 44.4%), but "under average" and "low" – 37.6% (in 2005 – 35%). In percentage the numbers of trainees whose physical preparedness and functional abilities of the body are evaluated "under average" and "low" have increased. For pupils of comprehensive schools evaluation of physical preparedness using *EUROFIT* method in 2006 reveals that the level of physical development, physical preparedness and functional abilities of the body is "high" or "above average" in 6.1% (in 2005 – 11.3%), "average" – 22.6% (in 2005 – 29.8%), but "under average" and "low" – 71.3% (in 2005 – 58.9%). In percentage the number of children whose evaluation is "average" has decreased and the number of children whose level of physical preparedness is "under average" and "low" has increased.

For athletes and children with high physical load "low" and "under average" level of physical preparedness, using *EUROFIT* test method, was determined in 37.6%, for pupils – 71.3%. "Average","above average" and "high" level for athletes and children with high physical load determined in 62.5%, but for pupils – 28.7% (Sport Medicine State Agency public review of year 2006. 2007.).

In Riga Stradiņš University Rehabilitation faculty several researches has been carried out about the influence of different factors and physical load, including precisely dosed physical loads, to aerobic working capacities of untrained persons. Working capacities determined for more than 300 students by using the veloergonomic test PWC-170 and *EUROFIT* test (Theory and recommendations. 2007.).

Before the use of *EUROFIT* tests in researches they have been subjected to several and independent testing experiments. For example, in 2002 in Greece, in Thessaly University Physical education and sport science faculty test of *EUROFIT* complex credibility was carried out by testing the students of sport faculty. 98 Physical education and sport science faculty students, men (29) and women (68), at the age of 19.5 +/- 2.7 years took part in this experiment. Level credibility of all *EUROFIT* tests in this experiment was close to or above 0.7, only PLT - plate tapping test credibility was lower – 0.57. According to those results, a conclusion was made that *Eurofit* tests are safe and satisfies totally the evaluation of student physical preparedness.

In Semmelweis University, Hungary, *Eurofit* complex was used to determinate the differences between students-athletes and students who doesn't participate in any physical activities. The comparison was made separately for

men and for women. The aim of this research was to characterize the physical preparedness of students who are next sport teachers, in comparison with other students. 122 students of Faculty of Physical Education and Sport Science were involved in this experiment in the autumn 2006. Eight *Eurofit* tests were used: FLB - Flamingo balance, PLT - Plate tapping, SAR - Sit and reach, SBJ - Standing broad jump, HGR – Hand grip, SUP - Sit – ups, BAH - Bent arm hang and SHR – Shuttle run. In the conclusion after this experiment it is said that there are major differences in physical preparedness between both sexes and also between students-athletes and students who doesn't participate in any physical activities. (*Differences between Hungarian male and female students in physical education training by EUROFIT test system.2005.*).

In Lithuanian Academy of Physical Education, in Kaunas the above mentioned eight *Eurofit* tests have been used to analyze differences in physical development of youth of different age in 1992 and in 2002. To determine those differences, student height and weight were measured, as well as their results of *Eurofit* tests were fixed. (*Health – related physical fitness among schoolchildren in Lithuania: a comparison from 1992 to 2002*.). it was concluded after the tests that aerobic capacities and flexibility have declined, but tenacity of abdomen muscles have increased. For girls leg muscles development have a little decreased, but for boys it remained in the previous (of year 1992) level. Everyday life's physical activities have decreased and that's why there is a declination in aerobic capacities and flexibility, because reorganization of sport lessons in schools didn't make the right effect and doesn't compensate the lessening of everyday life's physical activities.

In subdivision 1.5 "Necessity of physical preparedness in the service of police and in studies of PAL" the necessity of physical preparedness in the service of police, referring to Police law and other laws and regulations about service in police is shown clearly. The legal basis of Police Academy of Latvia (PAL) is Constitution of republic of Latvia (Satversme), Education Law, Law on Higher Education establishments, Professional Education Law, Law on Scientific Activity, PAL Constitution and other laws and regulations. PAL is an establishment of education and science that, on governmental order, prepares specialists for Ministry of Internal Affairs and other law enforcement institutions and that's why it is acting also on the basis of those laws and regulations that concerns the employees of establishments of Ministry of Internal Affairs with special service rank. Studies in PAL are intended to elaborate the skills of individual, critical and creative thinking. Studies should promote the communication ability, capability of working in groups and of dealing with conflicts, the self-confidence, the ability of being tolerant to lawbreakers and the ability to adhere the posed requirements. They should also promote patriotism, humanism ideas, respect to human rights, honesty, creative use of knowledge, orientation to development and self-dependence in service. Special attention is drawn to acquirement of practical professional skills. In the individual working

and learning process of student the role of teacher or lecturer are advisory, he is an expert or consultant. Besides the "General physical preparation", "Professional physical preparation" and "Weapon rights and shooting/no-shooting" courses of studies, students are preparing individually to fulfill the for service physical and professional preparation normative.

The duties of police officer, listed in the profession standard, are connected with elevated requirements in psychological and physical preparedness. In the standard there are stated special requirements for the accomplishment of tasks: good physical preparedness; psychological balance; appropriate health condition and driving license. For accomplishment of work there are mentioned the abilities to use tactical methods of fighting off the attack and defense, the use of special measures and fire-arms, arrest of lawbreakers and many more. We can see that for day-to-day use of those skills and abilities, required for accomplishment of work, a good physical and psychological preparedness is required, for what each officer has individual responsibility. Working hours are often not fixed and the possibilities to be present in organized sport courses are limited, every police officer should have knowledge in methodology of physical trainings, to maintain physical preparedness in the level necessary for the service in police.

In this chapter there is analysis of student physical preparedness dynamics beginning with the results of entrance examination until the results of graduating examinations. Mutually comparing the average test results of group after one, three and five years of studies, we can see that results have changed in a floating way. After the first year of studies, when 64 contact lessons are in the course of studies, the average result of group is improved in speed, skill and tenacity tests. Results of strength test have decreased. It can be explained with the low normative required for passing the test – 12 pull-up times. Students don't want to pull up more than it is required for passing the test. In the running tests it is practically impossible to control the result by themselves, so the results shown by students are the best or close to the best. After six terms of studies, when there are no GPP lessons in third, fourth and fifth term, the average results of the group, in comparing with entrance examination results, have declined in speed and tenacity tests, but increased in strength and skill tests. By comparing with the test results after two terms of studies, increase is observed only in strength test, because the requirements for passing of test are higher. Improvement in skills test is irrelevant. On graduating tests average results of physical preparedness have decreased for speed, strength and tenacity qualities. Result of skill test is worse than after two and six terms of studies, but just a shade better (one tenth of second) than in entrance examination. Analysis of dynamics of results during the course studies, show that student's general physical preparedness decreases along with the number of general physical preparedness lessons. Especially alarming are the decrease in tenacity test results, because the

maintenance and development of physical qualities and high working capacities in everyday life and all lifelong must be based on good general tenacity.

Chapter 2 "Research tasks, methods and organization of research" reveals the plan and process of the research.

In subdivision 2.1 "Research tasks" there is the aim of the research, hypothesis and tasks.

In subdivision 2.2 "Methods of the research" is given the description of analysis of literature, questionnaire survey, physical preparedness testing, pedagogical experiment, interviews and mathematical statistics.

In paragraph 2.2.1 "Analysis of literature" is given information about sources analyzed. In total 174 sources in Latvian, English and Russian have been analysed. It includes 66 books (45 in Latvian, 5 in Russian and 16 in English), 41 publications of scientific works in collections of works, 11 publications in periodicals and journals, 56 publications of scientific researches in electronic media.

In paragraph 2.2.2 "Questionnaire survey" explained that during the research there were two questionnaires carried out. In the first questionnaire participated 517 students from PAL, BIHE, LASE and RTTEMA. It was meant to find out students opinion about the role of physical preparedness and its necessity, about physically active lifestyle, and also to clarify what physical activities do students participate in during their studies and what activities they would like to have. Second questionnaire was for 143 experimental and control group students, who had the *Eurofit* test in the beginning and at the end of term. It was meant to find out the changes in student's theoretical knowledge about physical preparation, physical qualities, and methods of physical trainings, self-control and ability to use knowledge in practice.

In paragraph 2.2.3 "Testing of physical preparedness" is given the description, protocol of execution and order of execution of *Eurofit* tests (*Eurofit for Adults – Assessment of Health related fitness.* 1995.) that students accomplished in the beginning and at the end of term. Tests took place in the gym-hall in a strictly set order, all the necessary equipment for testing was prepared and students were wearing special sportswear. Every test has its own protocol of execution, which is presented to student before of test. For each exercise only one attempt is provided. *Eurofit* tests for ME, MC, FE and FC groups took place in gym-hall of PAL, Ezermalas iela 8.

In paragraph 2.2.4 "Pedagogical experiment" is given the description of experiment that revealed changes student's in physical preparedness and theoretical knowledge during one term. Students of PAL were divided into four groups: experimental female-student and male-student groups (ME and FE) as well as male-student and female student control groups (MC and FC).

MC and FC groups accomplished *Eurofit* physical preparedness tests in autumn term of year 2003. ME and FE groups accomplished *Eurofit* physical

preparedness tests in autumn term of year 2004. Students of all groups accomplished tests in the second week of August and December, because study year in PAL starts in August 1.

In the beginning and at the end of term and after the accomplishment of *Eurofit* tests, a questionnaire survey was carried out for students of all groups to find out their theoretical knowledge about physical preparedness, physical qualities, self-control and abilities to use knowledge in practice. It was a multiple choice test and all students from all four groups fulfilled it.

In paragraph 2.2.5 "Interview" is given short review of non-standard (creative) interview with aim to get extended answers of good quality.

Paragraph 2.2.6 "Statistical analysis". Results of both, questionnaires and tests, were processed using Student – t criteria for connected selections. (It was used for ***General balance test*** *- Flamingo balance test – FLB,* ***Flexibility test*** *- Sit and reach – SAR,* ***Static strenght test*** *- Hand grip – HGR* un ***Trunk strenght test*** *- Sit – ups – SUP.* Wilcocson criteria for connected selections was used in ***Speed of limb movement test*** *- Plate tapping – PLT,* ***Explosive strenght test*** *- Standing broad jump – SBJ,* ***Functional strenght test*** *- Bent arm hang –BAH and* ***Running speed agility test*** *- Shuttle run, 10 x 5 m - SHR.*

In Chapter 3 "Improvement of student's physical preparedness and theoretical knowledge" is given the course of empirical research and the obtained results about the changes in physical preparedness and theoretical knowledge for the groups involved in experiment.

In subdivision 3.1 "Student's physical activities in higher educational establishments" the questionnaire about the role and necessity of physical preparedness, physically active lifestyle and what physical activities do students participate in during their studies and what activities they would like to have and about possibilities of physical activities in higher educational establishments is analyzed. 30% of respondents continue their trainings in training groups and 30% prefer individual exercises. One of the main reasons mentioned in questionnaires, why students cease their trainings, is lack of time.

Students understand the necessity of physical activity, but they fail to realize it in practice. They have very poor theoretical knowledge to exercise individually and attain preferable result. Students prefer gym-halls and fitness-equipment hall rather that exercises in open air. So inaccessibility of sport centres also affects physical activity. 47.3% would prefer voluntary sport lessons during all course of studies. But 27.8% would like to see sport lessons in their obligatory programmes. Students don't use the opportunities provided by academy to realize physical activities.

In subdivision 3.2 "General physical preparation in Police Academy of Latvia" is given the analysis content of actual General physical preparation lessons in PAL. There are also proposed changes for experimental groups in thematic plan of the course.

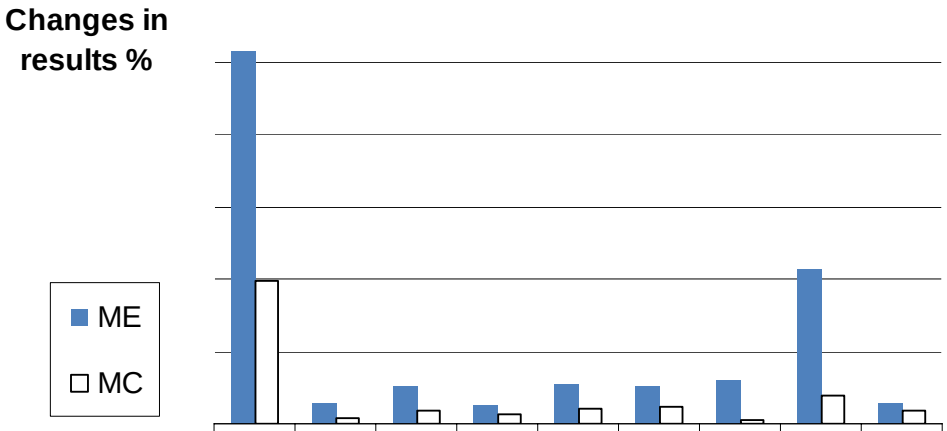
In subdivision 3.3 "Content of theoretical lessons for experimental ME and FE group students" is given the content of theoretical lessons and described method of learning. Important role in the process of planning these lessons was for the quotation of English scientist Peter Jarvis that "you can't teach an adult, you can only create environment where person learns". In this chapter themes of theoretical lessons are revealed as well as their aim and tasks and knowledge acquired at the end. There are 16 themes planned. Teaching methods to use are: discussion, work in groups, brain storm, experts, pro's and con's, example from life.

In subdivision 3.4 "Effectiveness of General physical preparation course in PAL" are given test results for all four groups of experiment (ME, FE, MC and FC) in the beginning and at the end of experiment. There is also comparison of both, experimental and control, male-student (ME and MC) group's results and both, experimental and control, female-student (FE and FC) group's results.

In paragraph 3.4.1 "Changes in PAL male-student control group (MC) test results", changes of *Eurofit* test results at the end of term are compared to results of the beginning of term. It reveals in the analysis that male-student who attend regularly physical preparation lessons have improved their results after one term. Evaluating results with statistical method, we can see that improvement of results is statistically believable in seven tests, but changes in two tests are statistically unbelievable.

In paragraph 3.4.2 "Changes in PAL male-student experimental group (ME) test results", changes of *Eurofit* test results at the end of term are compared to results of the beginning of the term. For this group there were changes realised in course of studies *general physical preparation*. Number of practical lessons remained the same (as to group MC) but with extra theoretical knowledge lessons. Students were asked to exercise individually, by using acquired theoretical knowledge and PAL's sports centre. Improvements of results for all tests are statistically believable.

In paragraph 3.4.3 "Changes of test results for experimental ME group compared to changes of test results for control MC group", changes of *Eurofit* test results at the end of term are compared to results of the beginning of the term for groups ME and MC (image 1). Comparing ME group result improvements to MC group result improvements, seven are statistically believable ($P<0.05$). For tests PLT and SHR delta of results was statistically unbelievable ($P>0.05$).



	FLB	PLT	SAR	SBJ	HGR right	HGR left	SUP	BAH	SHR
ME	51,4	2,85	5,16	2,48	5,39	5,27	6,01	21,2	2,87
MC	19,7	0,71	1,93	1,26	1,97	2,3	0,39	3,88	1,86

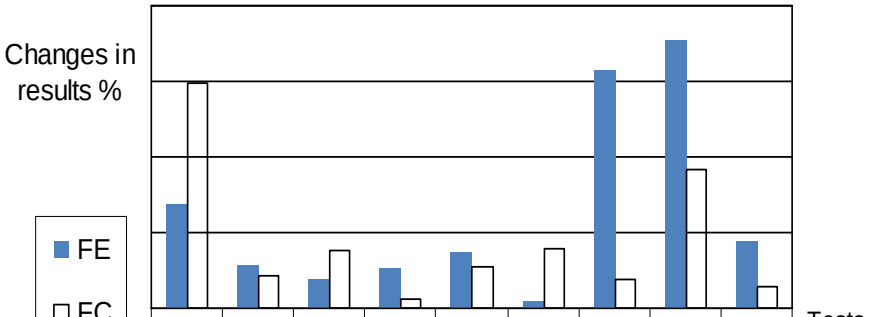
Image 1. C**hanges in percentage of average results of *Eurofit* tests for experimental (ME) and control (MC) groups at the end of experiment.**

In the beginning of experiment average delta for experimental ME and control MC group test results were statistically unbelievable (P>0.05; homogenous groups) in six out of nine tests. For experimental ME group delta of average improvement at the end of experiment is believable (P<0.05) in 7 tests.

In paragraph 3.4.4 “Changes in PAL female-student control group (FC) test results”, the changes of *Eurofit* test results during one term with no changes in program during the experiment are revealed. Comparing test results at the end of term to results of the beginning of term, the average result in all tests have improved. Changes in percentage of average result of group for seven *Eurofit* tests are statistically believable (P<0.05).

In paragraph 3.4.5 “Changes in PAL female-student experimental group (FE) test results”, physical preparedness test results in the beginning and at the end of the term of FE group are shown. This group had practical lessons accompanied by theoretical lessons of the same themes as for ME group. Summarizing the results of the end of term, we can see that average result of group have improved in all tests and improvement is statistically believable (P<0.05) in seven out of nine tests.

In paragraph 3.4.6 “Changes of test results for experimental FE group compared to changes of test results for control FC group” changes in test results for these groups at the end of term are analyzed and compared. Comparing FE group results to FC group results at the beginning of the experiment, results are statistically unbelievable (P>0.05) in six out of ten tests. It means that groups FE and FC are statistically homogenous and it is possible to compare the changes of average result during the experiment.



	FLB	PLT	SAR	SBJ	HGR	HGR	SUP	BAH	SHR
FE	6,89	2,9	1,96	2,67	3,68	0,44	15,7	17,7	4,43
FC	14,9	2,11	3,8	0,54	2,71	3,9	1,86	9,16	1,47

Image 2. **Changes in percentage of average results of *Eurofit* tests for experimental (FE) and control (FC) groups at the end of experiment**

At the end of experiment average delta for experimental FE and control FC group test results were statistically believable (P<0.05) in five out of nine tests, but test result improvement in percentage for FE group, compared to FC group, is bigger in six tests. In four tests (PLT, SBJ, BAH and FLB) changes in average result of the group are small and are statistically unbelievable (P>0.05).

In subdivision 3.5 “ Dynamics of student’s theoretical knowledge” the changes in student’s theoretical knowledge in the beginning and at the end of term are analyzed and compared. A survey, to determine student’s theoretical knowledge about physical activities, physical qualities, training methods, self-control and abilities to use of knowledge in practice that all together forms the process of physical preparation, was carried out for all four groups, involved in pedagogical experiment, in the beginning and at the end of experiment. Answers were expressed in points (using Likert scale). Level of theoretical knowledge of

each group in the beginning and at the end of term was calculated and expressed in points.

Table1. **Results of student's theoretical knowledge before and after pedagogical experiment**

	Group	N	$\overline{X} \pm S$	%	P
Results before pedagogical experiment	ME	63	3,14±0,30	0,01	P>0,05
	MC	37	3,14±0,28		
	FE	27	3,12±0,40	0,03	P>0,05
	FC	16	3,15±0,41		
Results after pedagogical experiment	ME	63	3,55±0,34	0,26	P<0,05
	MC	37	3,29±0,26		
	FE	27	3,55±0,42	0,35	P<0,05
	FC	16	3,20±0,41		

Note: $\overline{X} \pm S$ – mean arithmetic and standard deviation
N – students in group
% – difference in percentage
P – probability

Results before experiment shows that theoretical knowledge of students of all groups are in the average level. Differences between ME and MC as well as between FM and FC groups are statistically unbelievable (P>0.05).

At the end of term theoretical knowledge and abilities to use it in practice have improved and changes are statistically believable (P<0.05) only for ME and FE groups, who had extra theoretical lessons. Changes in theoretical knowledge of MC and FC groups are statistically unbelievable (P>0.05). Comparing ME theoretical knowledge to MC's as well as FE to FC's at the end of experiment, differences are statistically believable (P<0.05).

In this chapter there are also results of interviews, obtained four years after the experiment by interviewing former students of FE and ME groups. And the opinion of Head of Department of NDA Physical preparation department, who was invited as an expert, about the content of theoretical and practical lessons during the experiment.

In subdivision 3.6 "Interconnection between student's physical preparedness and theoretical knowledge", connection of student's physical preparedness test results with their theoretical knowledge is analyzed. In the beginning of the pedagogical experiment, the physical preparedness rate for ME and MC groups was statistically believable. Both groups had equal number of physical preparation lessons during the term. At the end of term there were changes in physical preparedness rates for both groups. At the end of the experiment there was bigger improvement of results in percentage for ME

group. Difference with results of MC group is statistically believable in seven tests out of ten.

Comparing the theoretical knowledge rate for ME and MC groups, from the answers of questionnaire, the scene is equal – in the beginning of term results doesn't differ a lot and groups are statistically homogenous. At the end of term, after repeated questionnaire, important and statistically believable difference revealed, because students of ME group had extra lessons and they participated in interactive learning process about theoretical questions of physical preparation during the term.

Similar changes are in women (FE and FC) groups. In the beginning of term results rate were similar and statistically homogenous for six out of nine tests. At the end of term, after the accomplishment of the same physical preparedness tests, each group improved its rates, and wasn't homogenous already in five tests. By checking student's theoretical knowledge about physical activities, physical qualities, training methods, self-control and abilities to use of knowledge in practice that all together forms the process of physical preparation, and comparing the answers using statistical methods, they appeared to be similar and groups were statistically homogenous. At the end of term level of knowledge differed. FE group students answered questions better, because they had been participating in interactive learning process during the term.

Analysis of results obtained and conclusions made during the research, confirm the hypothesis and theses for the presentation that acquiring theoretical knowledge about physical activities, physical qualities, training methods, self-control and abilities to use of knowledge in practice that all together forms the process of physical preparation together with physical preparation lessons, it is possible to achieve the improvement in physical preparedness and in theoretical knowledge. Comparison of changes in test results between PAL experimental ME group and Control MC groups, as well as between PAL experimental FE and control FC groups, at the end of pedagogical experiment approves the abovementioned. If in the beginning of the experiment statistical differences between ME and MC groups were in SAR and HGR tests, then at the end of experiment statistical differences were already in six tests. In the beginning of the experiment statistical differences between FE and FC groups were in three, but at the end of experiment – in five tests.

Differences in theoretical knowledge in the beginning of the experiment between male-student experimental and control (ME and MC) groups, as well as between female-student experimental and control (FE and FC) groups, was not statistically believable. Knowledge test at the end of experiment revealed statistically believable difference in knowledge levels between groups.

Abovementioned results confirm the hypothesis: general physical preparedness of students would improve, if general physical preparation course is combined with the raise of comprehension in theoretical knowledge about the meaning of physical preparedness in professional qualification also with

justification of necessity of self-control criteria and with reinforcement of the aim for movement towards the results. General physical preparedness that is a part of professional qualification for service in police would improve, if theoretical knowledge, self-control and progress in improvement of physical preparedness are used in individual self-development lessons.

Thereby supplementing PAL general physical preparedness course of studies with theoretical lessons, gives statistically believable improvement of physical preparedness test results. Basing on the results of the experiment that revealed changes in physical preparedness and theoretical knowledge during one term, on the interview with former students of ME and FE groups, we can affirm that such improvement of the program would stimulate students to continue individual physical preparedness self-development process after graduating and starting the service in police. The acquired theoretical knowledge will permit to accomplish training exercises individually and to reach the objectives and tasks set, will reduce risk of getting traumas and will help to maintain the level of physical preparedness in the level necessary for service in police.

Conclusions

1. Questionnaire results showed that students prefer physical activities in gym-halls (40.8%) and fitness-equipment halls (37.3%) rather than in open air (21.8%). 47.3% would prefer voluntary sport lessons during all course of studies. But 27.8% would like to see sport lessons in their obligatory programmes. Students admit the necessity of physical activities in everyday life (96.3%), but they don't know how to use the opportunities provided by academy to realize physical activities. 30.4% continue training in training groups after starting their studies, but 31.5% perform individually their physical activities two to three times per week. One of the main reasons mentioned in questionnaires, why students cease their trainings, is lack of time – for 28.6% respondents. My personal experience in work with students (since 1992), permits to conclude that they miss knowledge of planning and organisation of individual physical preparation lessons for determined physical preparedness improvement. It is considered that the best location to acquire theoretical and practical knowledge of training methods is the site where trainings take place, not school.

2.1. Students prefer sport lessons indoors; nevertheless they are not satisfied with the opportunities proposed by establishments of higher education. Inaccessibility of sports centers for different reasons (lack of time, money, etc.) affects physical activities outside the establishment of higher education. Besides students in their turn doesn't understand how to realize the given opportunities in sports centers. The inability and

unwillingness to exercise in university's sports center is connected to lack of practice and theoretical knowledge about methods of physical preparation and their use in individual trainings.

2.2. Students who have physical preparation lessons in their course of studies and who fulfill the requirements planned for *general physical preparation* courses, improve their results of *Eurofit* tests at the end of term, compared to tests of the beginning of term, and improvement is statistically believable ($P<0.05$). Improvement of result for MC group in seven tests is from 1.26% to 19.7%. In *SUP* and *SHR* tests improvement is statistically unbelievable ($P>0.05$). In FC group improvement of *Eurofit* test results is statistically believable (from 1.86% to 14.9%) in seven tests. Improvement of result is achieved during physical preparation lessons.

3. Combining PAL's general physical preparation course with theoretical lessons, providing the comprehension in theoretical knowledge about the meaning of physical preparedness in professional qualification, justifying the necessity of self-control criteria, reinforcing the aim (improvement of physical preparedness), balancing the content of practical and theoretical lessons, giving the opportunity to use the acquired knowledge in individual practical exercises, provides statistically believable *Eurofit* test result and theoretical knowledge improvement regarding ME and FE group test result changes. Concurrently student's professional qualification and conformity to requirement for employees of establishments of Ministry of Internal Affairs with special service rank is improved.

4.1. Average *Eurofit* test result difference for PAL student groups FE and FC in the beginning of the experiment is statistically unbelievable ($P>0.05\%$) in six tests, groups are statistically homogenous. For PAL student groups ME and MC difference of average physical preparedness test results in the beginning of the experiment is statistically unbelievable(>0.05%(in six tests, groups are statistically homogenous.

4. 2. Comparing average *Eurofit* test results for FE and FC groups, difference is statistically believable ($P<0.05\%$) in five tests. Improvement in percentage for FE group at the end of experiment is bigger (from 2.67% to 17.7%) in six tests, compared to FC group (from 2.67% to 9.16%) (image 13), and is statistically believable.

4.3. Comparing average *Eurofit* test results for ME and MC groups, difference is statistically believable ($P<0.05\%$) in seven tests. Improvement in percentage for ME group at the end of experiment is bigger (from 2.28% to 6.1%, in *FLB* test 51.4%) and statistically believable, compared to MC group (from 0.39% to 3.88%, in *FLB* test 19.7%) in all tests.

4.4. In the beginning of the experiment comparing theoretical knowledge, there was no statistical difference revealed between female-student (FE – 3.12; FC – 3.15) and male-student (ME – 3.14; MC – 3.14) experimental and control groups ($P>0.05$) (chart 14). At the end of experiment at the end of term theoretical knowledge and abilities to use it in practice is improved and changes are statistically believable ($P<0.05\%$) for students of experimental groups (ME from 3.14 to 3.55; FE from 3.12 to 3.55), who had extra theoretical lessons. Changes of theoretical knowledge for control groups are statistically unbelievable (MC from 3.14 to 3.29; FC from 3.15 to 3.20; $P>0.05$). Students of experimental groups have used the acquired knowledge to improve their physical preparedness.

4.5. Interviewing former students of the experimental groups, we get affirmation that after graduation, the acquired theoretical knowledge as well as skills and abilities acquired and improved in practical general physical preparation lessons are used to maintain the level of physical preparedness in the quality that is necessary for service in police. Combining general physical preparation course with theoretical lessons, we create basis of theoretical and practical knowledge to continue physical preparation process after graduation and maintain professional qualification in the level necessary for the service in police.

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2. *Kravalis I., Grants J.* „Dynamics of Aerobic Endurance in Students of Latvian Police Academy in Course Their Studies." 6th International Scientific Congress „Modern Olympic Sport and Sport for All." Warsaw, Poland, June 6 – 9, 2002. P. 570 – 571.

3. *Kravalis I.* "Active life-style and studies at higher education institution". LASE scientific works 2002. Riga, LASE, 2003, Pages 107 – 114.

4. *Kravalis I. Grants J.* "Sports, active lifestyle and studies at University". International scientific conference's "Rural environment. Education. Personality." complete works. Jelgava, LLU, 2003, Pages 22 – 26.

5. *Kravalis I.* "General physical preparation in PAL curriculum." International scientifically-practical conference of Police Academy of Latvia "Preparation and further education of police officers". Riga, PAL, 2003, Pages 87 – 94.

6. *Kravalis I., Grants J.* "*Eurofit* tests for evaluation of student`s physical abilities in different universities in Latvia." LASE scientific works 2004. Riga, LASE, 2005, Pages. 47 – 54.

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2. "Dynamics of aerobic endurance in students of Latvian Police academy in course their studies." 6th International scientific congress „Modern Olympic Sport and Sport for All." Warsaw, Poland. 2002.
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Ivars KRAVALIS
Curriculum Vitae

Personal information:
First name, Surname: Ivars Kravalis
Date of birth, place of birth: 011161- 11576, Lazdukalna pagasts, Balvi
Telephone, e-mail: 29129568, ivix21@inbox.lv
Academic distinctions, academic degrees:
Lecturer; Master of Pedagogy Sciences, subdepartment - Sport Pedagogy.

Education:
2005. Accomplishment of studies in University of Latvia, Institute of Pedagogy and Psychology, doctoral program.
1998. Master degree in Sports Pedagogy, Latvian Academy of Sport Education
1979.-1984. Latvian Institute of Physical Education

Work experience:
Since 1999: Lecturer in Police academy of Latvia, department of Physical preparation.
Lieutenant colonel.
Since 2006: Guest lecturer in LASE.
Since 2001: Sport activities organizer in BIHE.
1992.-1999. Assistant in Police academy of Latvia, department of Physical preparation.
1986.-1992. Physical education teacher in Riga 17th art furniture trade school
1982.-1986. Trainer in sports association "Darba rezerves".

Additional education (trainings, seminary's):

- 2008. Study visit for coordination of program in University of J. E. Purkyně in Ústí and Labem, Faculty of Education. Experiential Education and Outdoor Studies Summer School, Czech Republic.
- 2005. Scientific discussion (preliminary presentation) in University of Latvia, Faculty of Pedagogy and Psychology about promotion work.
- 02.11.2005. Participated in 6 hour lection and discussion cycle under the guidance of Stockholm's universities of Sports professor about: „Management of sport in Sweden; Solutions for main sport obstacles in Sweden".
- 13.-20.08.2006. Linkoping University, Sweden. Training : „Outdoor Environmental Education", 56 hours
- April- June 2005. – Police academy of Latvia training, "Innovations in higher education system" 40 hours report in Latvian Universities doctoral program about promotion project
- 26.11.2004. Scientific seminary "Usage of force in police work, technical and tactical difficulties in candidate's physical training evaluation"

Pedagogical work, Reading study courses:
General physical preparation. PAL, 2 credit points
Basis of healthy lifestyle. PAL, 2 credit points
Drill and ceremonies. LASE 1 credit point

Language skills : Russian, English
09.02.2009.