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Roland Naul & Claude Scheuer (Eds.)

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Physical Education and School Sport in the Republic of North Macedonia

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Literature

1 Structure and organization of the educational system in Republic of North Macedonia

The Republic of North Macedonia is a small country located in the southeast part of Europe, in the heart of the Balkan Peninsula. The historical and social background of the country has an impact on the educational system and educational policies. Nowadays, established educational policies are changing according to the requirements of modern living. Yet, the educational traditions, multicultural and multiethnic character of the country are deeply integrated into the segment of education today.

The current educational system of the Republic of North Macedonia consists of four different stages:

- Preschool education (noncompulsory);
- Primary compulsory education (nine-year compulsory education);
- Secondary compulsory education (three years of vocational training or four-year general, pre-university education);
- University studies.

The *system of preschool education* is organized for children from 9 months up to 5.8 years of age and is realized in kindergartens established by the state and governed by the Ministry of Labor and Social Policy. The first two years of preschool education, particularly from 9 months to 3 years, are organized as nursery school. Their main goal is childcare and nursery school, followed by different daily activities that affect all development segments of the children. Specially educated staff with a background in pedagogy and nursery school education is responsible for children during this period. The second stage of preschool education is organized for children from 3 to 6 years of age. Based on their age, children are divided into three age groups: a younger group (3 to 4 years of age), a middle group (4 to 5 years of age) and an older group (5 to 6 years of age). The focus in all three age groups is overall education in different areas of educational work, oriented towards a holistic development of the child. The educational work is realized based on standards for early childhood development, with a focus on all developmental segments

and integrated in the program for preschool education developed by the Ministry of Labor and Social Policy. Educational work is delivered by specially educated teaching staff: preschool teachers who have graduated with a university diploma from a teaching faculty or pedagogues who have graduated with a university diploma from an institute of pedagogy.

The system of *primary school education* is established as nine-year compulsory education that includes children from 6 to 14 years of age. It is organized in three cycles of study based on the children's age and developmental characteristics: first cycle – 1st to 3rd grade (aged from six to eight years old, starting with a minimum age of five years and eight months); second cycle – 4th to 6th grade (nine, ten and eleven years of age); third cycle – 7th to 9th grade (twelve, thirteen and fourteen years of age) (Conception for nine-year compulsory education, 2007).

Within all three cycles, the teaching process is organized as classroom teaching and subject teaching. *Classroom teaching* integrates children from 1st to 5th grade and is delivered by generalist classroom teachers who teach all school subjects. During the classroom teaching period, the structure of the classes is the same for all five years and the same teacher or two teachers with the same class the whole day. This offers teachers the opportunity to be familiarized with the children's possibilities, characteristics and level of development that are essential for their education and development during early childhood. *Subject teaching* is maintained from 6th to 9th grade and is delivered by subject teachers that are specialized in a certain subject (PE specialist, math teacher, biology teacher, etc.). They have acquired a university diploma from particular faculties at teaching programs for subject teachers. Regarding the organization of school life, classes remains the same from 6th to 9th grade, and teachers change depending on the subject they teach. Each classroom has one teacher that is responsible for the whole class during this period of four years for issues related to class organization, discipline, school life, etc.

Secondary education is also compulsory in the Republic of North Macedonia. It is organized as a general secondary education or gymnasium, which lasts four years and allows pupils to enroll at university. Specific, professionally-oriented secondary education or vocational schooling of 4 years' duration, prepares the students for specific professions (for example,

secondary schools for electronics and techniques, informatics, schools for medicine, art school, sport gymnasium, music school, school for mechanics, etc.). These schools offer their students the possibility to continue their education and enroll in particular universities to obtain a diploma or to work in the labor market. There are also secondary vocational schools of three years' duration that offer the possibility for students to work in a specific field in the labor market. Teachers who teach in secondary education must have a university diploma from the responsible faculty (teaching study program) or a university diploma and additional courses for pedagogic and didactic competencies.

University education in the Republic of North Macedonia can be obtained at five state universities and approximately 10 private universities. Each university offers different or similar study programs in the first, second and third cycle of studies and offers different opportunities for students. University education at state universities is supported and partly financed by the government. The amount that each student pays for studying is equal at all state universities. Private universities have their unique politics of financing but equal politics for teaching and educational standards with state universities. The manner of work and work results are monitored by the state institutions responsible for higher education.

1.1 Responsible bodies for education in the Republic of North Macedonia

Different state bodies are responsible for the development and implementation of general educational policy, educational strategies, national curricula and monitoring, as well as evaluation processes. In the segment of school and university education, the main leading institution is the Ministry of Education and Science, responsible for developing concepts, organizing education in the country, designing educational strategy and policy, and creating and implementing legislation. The Ministry of Education and Science is the main organ that indicates certain reforms and innovations in the educational system. It is led by the Minister of Education and Science. Within the ministry, there are separate departments for primary school, secondary school and higher education.

Another very important state body, responsible for the segment of education, is the Bureau for Education Development. It is an administrative body within the Ministry of Education and Science as a legal entity and performs professional activities relevant to the development and promotion of education in the country. Responsibilities of the Bureau for Education Development are delegated to the segment of development of educational systems, standards, curricula and educational plans; professional development of teaching staff and corresponding professional work; research in education and publishing. Each of the noted segments is led by separate departments within the Bureau for Education Development.

The National Educational Inspectorate governs the quality of educational work. It is a governmental body that exists within the Ministry of Education and Science with the main responsibility of following and evaluating the educational process and monitoring the implementation and realization of the national education curriculum at all levels.

Other influential and important bodies in the segment of education in the Republic of North Macedonia are teaching unions. They represent teachers and lecturers engaged in primary and secondary education.

2 Historical background and development of compulsory physical education and school sport in the Republic of North Macedonia

Physical education is an integral part of the overall educational system in the Republic of North Macedonia. The organization and realization of physical education in schools is closely related to, and determined by, the organization of the overall system of primary and secondary education. Changes in the educational system, in general, have nearly always been followed by changes in the segment of physical education. From the point of the historical background of the compulsory education development, these changes in physical education should be emphasized within two periods.

The first period after the World War II marked a low for education before primary education was established as obligatory for all students. Within this period, physical education was also established as an obligatory subject and was represented with two hours per week in primary education. In that period, primary education was organized as an eight-year study program. In particular, it was implemented as classroom teaching from 1st to 4th grade and subject teaching from 5th to 8th grade. Regarding the structure and contents of teaching, several revisions were made during that period. One of the important revisions of teaching contents for all subjects, including physical education, was implemented in 1996.

Another important reform in the system of primary education was implemented 11 years later, in 2007 when a new conception for primary education was introduced. The biggest change within the new conception was the transfer from eight years of compulsory education to nine years of compulsory education. In this regard, the preparation group from kindergarten was established as a first grade in primary education, aiming to facilitate the transition period from preschool to primary school and to facilitate the process of adaptation of children. This change led to a new organization of primary education: classroom teaching was established with 5 years, from 1st to 5th grade, while subject teaching was established from 6th to 9th grade (Conception for nine-year compulsory education, 2007). The changes integrated in the new conception were based on previous experiences and noted disadvantages and results from teaching practice; positive experiences from other countries; and the requirement for educating children to be citizens of the fast-changing world.

The educational reform of 2007 was especially important in regard to physical education. Namely, the subject that was previously named *"physical education"* and was delivered with two hours per week from 1st to 8th grade was changed to *"physical and health education" (PHE)*. This subject was obligatory from 1st to 9th grade. The weekly frequency of the subject was also changed from two hours per week up to three hours per week, or 108 hours per year. Compared to other subjects, three hours per week for PHE could be considered good and emphasizes the orientation of the educational strategy toward developing healthy and active children and citizens (Malcev & Popeska, 2017). The introduction of the health component was also an important change in the new structure of the PHE curriculum. It emphasized the aspect of health and wellbeing in the

overall development of children and the importance of creating healthy habits from an early age, as well as the use of physical activity in the promotion of an active and healthy life and holistic development. Because of the implementation of the health component, PHE general educational goals were expanded and a cross-curricular integration and correlation concept was established and suggested. These changes emphasize the main orientation in the new conception of primary education: the holistic development of the children.

3 Aims and objectives of current PESS curricula and teaching concepts of PESS

The aims and tasks suggested in the PHE curriculum are in accordance with the main educational goal: holistic and harmonious development of children according to their abilities and development characteristics (Conception for nine-year compulsory education, 2007). In this regard, the overall aim of the PHE teaching process is to have a positive impact on the overall development of children by using different physical education contents and fundamental motor activities. These contents activate the locomotor system and have an impact on the development of motor abilities, movement skills, symmetric growth, and on proper holistic development, as well as improving children's cognitive, psychomotor, emotional and social development. The implementation of a health component in the PHE curriculum not only expanded the goals, but also aimed to use PHE contents for the following benefits: promotion of a healthy and active lifestyle, development of awareness for care and protection of personal health, decrease stress with physical activity, maintain good posture and the acquisition of habits for a healthy and active lifestyle development, but also toward the improvement of health and enhancement of a healthy lifestyle (PHE curricula from 1st to 9th grade).

Furthermore, based on the requirement of educational contents to be based on children's real needs and possibilities and considering the differences that occur in all segments of children development in different age periods, different aims of the current PHE

curriculum and different PHE contents are determined in each cycle in primary education. Defined by cycles, the aims are described in the following.

The main purpose of the first cycle (1st to 3rd grade) is to propose different PE contents, fundamental movements, exercises and movement games that will activate children's locomotor system and will improve children's symmetric and regular growth and development by improving their motor abilities and health as well as enhancing a healthy lifestyle. All these activities also stimulate children's cognitive, psychomotor, emotional and social development and should create a platform of different movement routines and abilities that will facilitate children's future participation in different sports.

The purpose of the second cycle of studies (4th to 6th grade) is to continue the purposes of the prior cycle with an emphasis on learning basic technical elements of certain sports and to familiarize children with the need for regular exercise as well as the benefits of being actively enrolled in different sport activities during the future education and life.

The aims of the third cycle of studies (7th to 9th grade) are a logical continuum of the previous two cycles, emphasizing the participation in different sports and mastering the basic techniques of many sport disciplines. From the aspect of health and overall development, one of the aims of the selected sport programs in this cycle is to help students in reducing stress and improving their health, tolerance and cooperation by being engaged in sports and physical activity. Furthermore, the general aims of all three cycles are clearly defined and structured as specific aims of each development period or cycle, as well as aims of each grade. They are related to motor learning and motor performance (development of motor abilities and acquisition of different movement skills); health-related and educational tasks that emphasize the development of personal characteristics; and positive behavior concepts using physical education contents.

The aims of each cycle are further defined by particular objectives. These objectives are clearly expounded for each particular grade. Different contents, divided into several compulsory and optional thematic entireties are applied to achieve the determined aims of the PHE teaching process. The aims, objectives and contents are all described in the PHE curriculum that has been created and proposed by the Bureau for Education Development. Furthermore, the curriculum is approved and accepted by the Ministry of

Education and Science and is considered an official national document for the realization of the physical and health education teaching process.

4 Promotion of active learning with physical activity at school

Schools have been identified as important arenas for the promotion of physical activity, active learning and a healthy lifestyle (Webster, Russ, Vazou, Goh, & Erwin, 2015). The access to a large number of children included in the school, the amount of time that children spend in schools, as well as a controlled environment in school settings are important aspects that identify schools as a place for implementation of many interventional programs (Arundell, Fletcher, Salmon, Veitch, & Hinkley, 2015). Most interventional programs are created to help children to meet the recommended level of 60 minutes a day of physical activity (WHO, 2011). Besides physical education classes, this can be done by implementing active breaks during school lessons, active recess and active breaks between school lessons, and after-school health-enhancing physical activity programs (WHO, 2018). Such interventions are focused not only on improving the level of physical activity of children, but they also promote active learning.

In Macedonia, there are different examples of the promotion of active learning with physical education. The most commonly applied strategy is the establishment of integrational and correlational relationships between physical education and other subjects, such as math, society, science, music, etc. In general, this means the use of physical education contents, mainly movement games, in order to empower students' learning from different subjects and to check students' knowledge of certain contents while practicing different movement games, etc. In such games and activities, students are active participants and learners. They are required to apply the knowledge they acquired from a certain subject in order to solve some movement problem, some task defined in the game, etc. Such possibilities are also allowed for in the curricula for different subjects, especially in elementary education. Several authors in Macedonia

have been working on this issue in different studies, suggesting the possibilities for the PE curriculum to promote holistic learning and the position of students as active learners in teaching process (Popeska & Jovanova-Mitkovska, 2016a, 2016b).

Another form of active learning using physical education contents in Macedonian schools is the implementation of active breaks during other subject lessons. Different forms of active breaks are applied, based on the teacher's experience, creativity and available resources. The positive effects of such interventions regarding children's subjective perception of their level of daily physical activity, promotion of holistic learning, improved goal orientation, and positive self-evaluation and self-esteem have been noted with the implementation of Brain Break® active breaks (Popeska, Jovanova-Mitkovska, Chin, Mok, Egington, & Gontagjev, 2018). The Brain Break® active break is a classroom-based and technology-supported platform that integrates different online videos, 3-5 minutes that include different forms of classroom-based physical activity. Along with the previously mentioned effects, the results from Macedonian students also emphasize the positive effect of three months' intervention of HOP Sport Brain Breaks® in a Macedonian classroom setting, emphasizing mainly the improvement of child knowledge and self-awareness for individual application of Brain Break® activities and promotion of the holistic health (Popeska et al., 2018).

Active learning is also promoted using traditional movement games as well as other forms of activities organized by teachers and schools, and supported by families. These activities integrate traditional movement games and outdoor sporting activities, such as hiking, orienting, cycling, cross running, etc. By participating in such events, children learn about the environment and its protection, responsible behavior in a social community, the promotion of health and health enchaining activities etc. Unfortunately, most of these activities are offered periodically, by individual enthusiasm and not on a regular basis.

5 Organization of school sport in the Republic of North Macedonia

School sport is a very important segment in the system of overall sport development. Under conditions in which modern life presents us with many challenges regarding health and an active lifestyle, schools have the obligation to grapple with many negative aspects and to suggest solutions that will promote health and wellbeing to all students. This can be achieved in many different ways and school sport is one of them (Domlevski, 2014). School sport has a big impact on young children and their overall development. It has an impact on the development of competencies for particular sport disciplines, affects the participation in organized and age-appropriate sport competitions and increases the sport competencies of children through participation in structured leisure-time activities. The level of children's physical activity and socialization also has positive effects on reducing the use of alcohol and narcotic substances (Stefanovski, Tufeksievski, Aceski, & Boglev, 2016). Based on this, school sport should be considered one of the main strategic aspects for the development of young generations and its perspectives should be considered very carefully. Professional staff, the sport infrastructure in schools, children's interest in physical activity and sport, as well as well-developed forms of organizing extracurricular sports activities in schools are the essential factors for a successful organization and proper functioning of the system of school sport (Tufekcievski et al., 2015).

5.1 Structure and activities of the Federation of School Sport of North Macedonia

Previously noted aspects of the effects of school sport have been recognized by educational and sport authorities in the Republic of North Macedonia. In a joint effort, and with the support of the Ministry of Education and Science and the Agency of Youth and Sport, a Federation of School Sport of the Republic of North Macedonia (Федерација на училишен спорт на Македонија) was established (http://fusmak.org.mk/). This federation is responsible for the organization and development of all

segments of school sport in all schools in North Macedonia at the primary and secondary level of education. The leading idea of the Federation of School Sport is: *"Massive school sport – sport for all."*

The existing organization of school sport in the Republic of North Macedonia has two main areas of interest: massive and high-quality school sport. The goals of these two segments are, on the one hand, the promotion of different sports and, on the other hand, to emphasize the benefits from physical activity, as well as the positive impact on children's development through sport. Yet, the target groups are different. While massive school sport is devoted to all children, regardless of their abilities and preferences for sport, quality school sport is oriented toward sport talents, children who are gifted in sport and have the potential to be future professional athletes in different sport disciplines. Figure 1 presents the scheme of the structure of both segments of school sport and their internal relations with the Federation of School Sport of the Republic of North Macedonia.

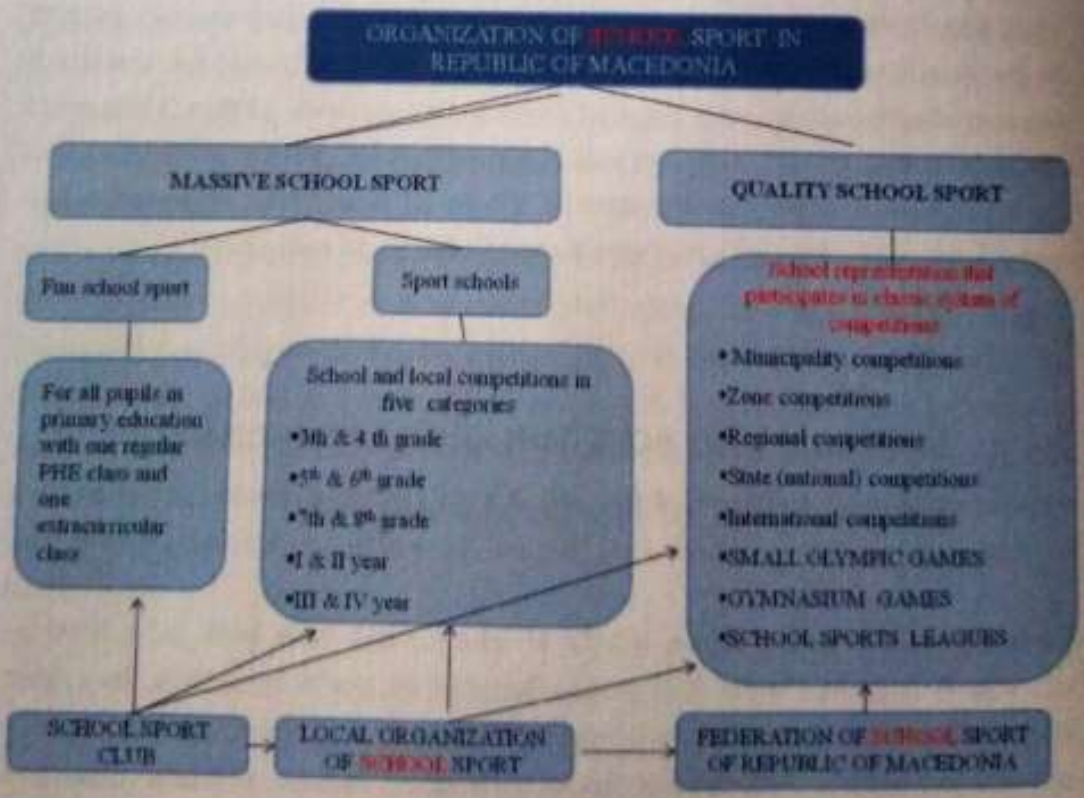


Figure 1. *Organization of school sport in the Republic of North Macedonia*

Figure 1 shows the general structure and areas of activities covered by the Federation of School Sport. Within each segment, the following sports are represented: basketball, volleyball, handball, football, futsal, athletics, table tennis, chess, gymnastics, wrestling, boxing, tennis, karate, judo, kayaking, swimming, skiing, and beach volleyball. Also, summer and winter sport camps are organized, as well as different activities and projects related to fun school sport. Many projects related to school sport are organized in cooperation between schools and the Federation of School Sport and supported by national sport federations. One of the projects that includes an impressive number of participants and schools is an ongoing project titled "football in every school," supported by the North Macedonian Football Federation and the Federation of School Sport. The target group of this project are pupils in the elementary level of primary education (1st to 5th grade), led by their generalist teachers and PE specialists.

The quality and effectiveness of the realization of all listed activities are provided by a well-established management structure of the Federation of School Sport of North Macedonia. The management structure is represented by the Executive Committee of the federation, comprised of 12 members: the president of the federation, two vice-presidents representing different regions, one secretary and eight members representing four different regions within the Republic of North Macedonia. Furthermore, each region, beside the representatives in the Executive Committee, has its own network of members and representatives, consisting of three persons: a representative for the region, a person responsible for the region and a coordinator for zones in each region. Furthermore, this network within the regions is completed with representatives from each city or municipality and responsible persons for it. Besides the Executive Committee and the members' commissions by regions, in the framework of the Federation of School Sport, there is a different commission that ensures the quality of the activities and competitions. It consists of the following: a supervision committee, a commission for competitions, a commission for registration, a discipline commission, a referee commission, a commission for international activity, a commission for marketing and promotion, a commission for publishing, a commission for sport camps and technical commissions for each particular sport.

The presented structure of the system of school sport in North Macedonia, supported and organized by the Federation of School Sport, is one of the best-developed forms of sport organization in the Republic of North Macedonia. Its effectiveness is based on

two main qualities: massiveness and networking. The number of participating students – and teachers as coaches and mentors, involved schools, and sport disciplines as well as the number of competitions per year – place the school sport at the top of the list of sports organizations in North Macedonia. For example, in school year 2017/2018, the school sport leagues in futsal, basketball, handball and volleyball consisted of 315 school teams with more than 4,000 students participating in a total of 1,026 games on 283 tournaments (Report, 2018, online source). The number of participating students in all other activities including fun school sport is much bigger.

The other factor in the success of this organization is networking. The previously presented network of the management structure of the federation is followed and supported by a well-developed network of physical education teachers and representatives of generalist teachers on a regional level. Key elements of the networking strategies are well-established principles of communication within all segments and frequent meetings between all involved participants. This is supported by a functional communication network via social media and the official web page of the federation. A management strategy oriented toward an openness to cooperating with all interested sport federations, state institutions involved in sport and education, as well as well-established international cooperation, are further key elements in the successful functioning of the Federation of School Sport. Their experience in many segments in school sport could be shared as best practices experiences. Yet, this does not exclude the possibility for further development, improvement and work towards the main goal and ideas: sport for all students and all schools (Tufekcievski et al., 2008).

6 Purpose, structure, aims and objectives of PESS teacher training

The structure of physical education and school sport teacher training in the Republic of North Macedonia is determined by the general structure of the system of school sport, particularly the placement of the subject PHE in nine-year primary education and sport

and sport activities in secondary education. The aims and structure of PESS teacher training depend on the segment of teaching where teachers deliver physical education. In this regard, two different categories of teachers deliver physical education: *generalist teachers or classroom teachers* that deliver PHE from 1st to 5th grade and *specialized physical education teachers* that teach PHE from 6th to 9th grade and sport and sport activities in secondary education. Both groups of teachers must have a university diploma. Considering the educational work that they should deliver, as well as the different age groups with which they work, the university education of these two groups of teachers is quite different.

Generalist teachers are educated at teaching faculties and the philosophy faculties, particularly the Institute for Pedagogy. Physical education specialists are educated at a faculty of physical education, sport and health. The education of both groups of teachers as well as within the group of generalist teachers is different, regarding the knowledge for bases of physical education, methodical and didactical aspects of the realization of the PHE teaching process, knowledge for development characteristics of children in different age periods, PHE contents and the level of practical preparation (Malcev & Popeska, 2017).

Generalist teachers or classroom teachers are prepared to work with children from 1st to 5th grade and to teach them all school subjects, including PHE. From the aspect of preparation for the realization of the PHE teaching process, there are differences in study programs at teaching faculties and the Institute of Pedagogy. Generalist classroom teachers can be educated at four different teaching faculties at four universities in different cities in North Macedonia and one institute (Institute for Pedagogy). These studies are a four-year undergraduate program, evaluated with 240 ECTS. The diploma obtained after the studies at teaching faculty or the Faculty of Educational Science is called "graduated primary school teacher," while for the students graduating from the Institute of Pedagogy it is called "graduated pedagogue." Differences occur in the aims and structure of study programs, suggested contents and requirements for practical work as well as the methodic practice during studies. These differences are especially emphasized in didactics of certain subjects (for example, didactics of physical education, didactics of arts, didactics of mathematics, music, etc.).

Namely, from the aspect of courses preparing the students to be future teachers and to deliver PHE within the study programs for generalist classroom teachers at teaching faculties, the subject of physical education is maintained in two obligatory courses, named *"Basics of Physical and Health Education with Methods 1"* and *"Physical and Health Education with Methods 2."* Both courses are realized in different semesters. The courses consist of theoretic lectures, practical exercises, independent work by the students and individual consultations. The second course includes practical exercises in primary schools (e.g., observation classes) and individual realizations of the student teachers which are mentored by a primary school teacher and a university professor. Each course is evaluated with 8 ECTS. Besides these obligatory courses, within the field of physical education, future primary school teachers can enroll in different elective courses (faculty and university) which are also evaluated by ECTS, such as *movement games, sport pedagogy, sport and recreation, kinesiotherapy,* etc. From the aspect of practical work and preparation for practical teaching, students are obligated to complete mandatory methodical practice in schools within the course *"PHE with methods 2"* as a precondition for registering for the final exam and also for attending the compulsory pedagogical practice of 3 weeks, delivering all school subjects, including PHE.

Compared with teaching faculties, the study programs at the Institute of Pedagogy do not have any subjects related to physical education, didactics of physical education, motor development of children, sport pedagogy or any other subject that will prepare these students. The evident lack of knowledge of teaching physical education among the students of pedagogy, combined with the legislation that allows these students to work as generalist classroom teachers after their graduation, leads to many problems related to the realization and effects of the physical education teaching process. Some of these problems are related to an inadequate realization of physical education classes or to exchanging PHE classes with other subjects, etc. (Popeska, Klincarov, Mitevski, & Nikovski, 2017; Klincarov et al., 2018).

Specialized physical education teachers, or physical education teachers who teach 6th to 9th grade and sport and sport activities in secondary schools, are educated at the Faculty of Physical Education, Sport and Health, at the University in Skopje and at the Faculty of Physical Education at the University in Tetovo. These studies are also realized as four-year undergraduate studies, evaluated with 240 ECTS. They also provide master

and doctoral studies. The diploma obtained after completing undergraduate studies in physical education is entitled "graduated physical education teacher." Besides this, students can enroll in a program for sports trainers in a specific sport. These students can gain additional pedagogic competencies through an additional one-year program for pedagogical and methodical competences and practical teaching in schools. Finishing these courses, they acquire a right to be included in the educational process as physical education teachers. In the last few years, for enrolling in these faculties, besides the scores from the general success from secondary school and scores from the state exam, there are no additional requirements or tests for the candidates as criteria for selection or elimination (Malcev & Popeska, 2017). Ten years ago, this was not a common practice, as the students had to pass two types of tests: a theoretical test and a practical test to evaluate their motor abilities.

Related to subjects and courses that they attend during their studies, each sport is maintained as a separate subject (for example, gymnastics, handball, volleyball, football, recreation, fitness, swimming, skiing, etc.). These students also attend courses related to medical aspects of sport and physical education (anatomy, physiology, biology of sport and movement, nutrition, kinesiotherapy, etc.) as well as subjects related to social and human aspects (sport pedagogy, sport psychology, sociology, history of sport, etc.). From the aspect of realization of the physical education teaching process, students attend courses named as didactics of physical education where they get knowledge for all methodological, didactical and practical aspects for the realization of PHE teaching processes (Popeska, Klincarov, Mileva, & Nikovski, 2017).

7 Current research/evaluation items, findings and results of PESS studies in the country

Physical education and school sport are the subject of many studies and research projects in the Republic of North Macedonia. These focus on different issues and aspects based on the area of interest and working field of the authors. Many studies are also

started after notification of the existence of current problems in the physical education teaching process, determined lack or irregularity in some segments in physical education processes, as well as by the establishment of some reform or educational policy, the results and effects of which are to be followed and examined. In the past few years, there has been evident interest, as well as the possibility of participation in research projects that are related to the physical education teaching process or some specific aspects of physical education. Many times, the research interest of the authors is determined by their working field.

The most frequent areas of interest of many studies are early child development, motor development, motor literacy, as well as the evaluation of motor development (Popeska, 2014, 2015a; Popeska & Mitevski, 2015, 2016; Mitevski, Popeska, & Jovanova-Mitkovska, 2015; Mitevski, Popeska, Sivevska, & Jovanova-Mitkovska, 2015a, 2015b; Mitevski, Popeska, & Mitevska-Petrusheva, 2013, 2014; Popeska & Jovanova-Mitkovska, 2014a; Mitevski, Popeska, Nikovski, & Klincarov, 2013; Popeska, Jovanovski, & Mitevski, 2013; Popeska & Klincarov, 2011); different developmental aspects of children, and a holistic approach to childhood education with an emphasis on, and in relation to, physical education and motor development (Jovanova-Mitkovska & Popeska, 2015b; Popeska & Jovanova-Mitkovska, 2016a, 2016b), the impact and effects of physical education teaching processes and physical education contents of overall child development (Malcev & Casovis, 2013; Saiti, 2013; Tiroumourougane & Malcev, 2016; Jovanova-Mitkovska & Popeska, 2015a), and the relationship between physical education curriculum, extracurricular activities, motor abilities and socio-economic status (Malcev, 2013; Malcev & Saiti, 2013; Saiti, 2013).

Many studies cover different segments that are related to current problems with PHE teaching processes, strategies, and solutions and how to overcome them. Some studies are related to frequent problems and obstacles to the realization of PHE teaching processes (Popeska et al., 2017; Popeska 2015b), curriculum design, its effect on children development and suggestions for improvement (Popeska & Mitevski, 2016; Popeska et al., 2013; Popeska, Jovanova-Mitkovska, & Dimkov, 2016; Popeska, Klincarov, Mitevski, & Nikovski, 2013; Klincarov & Popeska, 2011); modern teaching strategies and technologies in physical education (Popeska, 2016; Mitevski, Mitevska-Petruseva, & Popeska, 2017; Popeska & Mitevska-Petrusheva, 2014), teacher education and the

role of PE teachers (Petrovska, Sivevska, Popeska, & Runcheva, 2018; Mitevski, Mitevska-Petrusheva, & Popeska 2017; Mitevska-Petrusheva & Popeska, 2016; Popeska, 2015b), and the implementation of ICT in PE teaching processes (Popeska, Jovanova-Mitkovska, & Sivevska, 2017; Popeska et al., 2018).

Some of the studies analyzed issues related to PHE curriculum design, tendencies in development of physical education, physical education teacher education (PETE), professional development of teachers, comparative analyses with other countries (Mileva, Klincarov, Popeska, Kovac, & Starc, 2018; Klincarov, Popeska, Kovac, Starc, & Mileva, 2017; Popeska et al., 2017), the implementation of tandem teaching as a tendency for increasing the level of effectiveness of PHE teaching processes (Klincarov et al., 2018); different school programs directed toward increasing the level of PA of children in schools, such as the implementation of active break in school settings and its effects (Popeska & Jovanova, 2016c; Popeska et al., 2018); and the effects and implementation of traditional movement games in the physical education curriculum (Popeska & Jovanova-Mitkovska, 2017).

Numerous studies, mainly from academic staff at faculties of physical education, sport and health, are investigating other aspects of physical education and sport. They are mainly directed toward research issues related to different sports, methodical, didactical and training aspects of particular sports, their implementation in study programs, early sport selection, parameters for success in particular sports, etc. (Spasovska, Mitevski, Acevski, & Mitevska-Petrusheva, 2018). Other points of their research interests are issues related to motor development and its relationship to body posture and composition; and physical activity in relation to health, psychological and social status, etc. (Vuksanovik, Jovanovski, & Aceski, 2015; Spasovska, Aceski, Stradelova, & Kalanoski, 2016; Popovski et al., 2016).

School sport and its organization, effects and perspectives, are the subject of several studies and analyses. These are mainly focused on perspectives for the development of sport through school sport (Stevanovski et al., 2016; Tufekcievski et al., 2008), achieved results, current actions and future development and improvement of school sport (Tufekcievski et al., 2015).

8 Needs and items of new cross-border and EU-based PESS research studies

Many of the research studies done in the Macedonian setting that have analyzed different aspects of PE, PE teaching process, PE teacher education and PESS, are done as comparative studies in cooperation with researchers from other countries. Many of these studies are focused on comparative analyses of PE curricula from different countries with the national PE curriculum (Klincarov et al., 2017), comparison of PETE (Mileva et al., 2018), implementation of policies and recommendations, especially recommendations from the EU Commission and WHO. Results from such studies are important for the identification of strengthens and weaknesses of the current national curriculum and the realization of PE teaching process. Furthermore, results from these studies are essential in order to identify the key points that should be improved and implemented in a national strategy for PE.

Participation in EU-based studies is considered very important for easier implementation of EU practices, regulations and best practices. In addition, several positive experiences have been noted regarding the participation in EU based projects, especially ERASMUS+ projects. Two of them are closely related to PE in primary education. The first ERASMUS+ project – "Identify the best practices across physical education teacher education programs: A European perspective" – is focused on PETE. Particularly, the publication titled "European physical education teacher education" (MacPhail, Tannehill, & Avsar, 2019) implements practices from European countries, including experience from North Macedonia. The second ERASMUS+ project is related to the exchange of experiences between several European countries, including North Macedonia. The projects aim to improve the quality of physical education in primary education and present its importance and importance to the health and wellbeing of future generations (https://erasmus.pesh.mk/intellectual-outputs/). The project outcomes resulted in an initiative to implement tandem teaching between classroom teachers and PE specialists in primary physical education, particularly in the elementary phase from 1st to 5th grade.

Positive experience from these two projects, as well as participation in other EU-based projects related to PE and physical activity in different age periods, are considered very

important in the development and implementation of different initiatives aimed at promoting physical activity and wellbeing. Using the experiences and best practices from other European countries can facilitate the process of change in the national strategy for physical activity. It also provides a possibility for keeping a close relation with EU regulations and guidelines, which is especially important in the process of integration with European practices. Therefore, different collaborative partnerships and participation in EU-based and cross-border research studies are more than essential in the process of integration with EU perspectives. Therefore, future actions should be directed toward finding different approaches for developing various forms of cooperation with all European countries.

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