POPULARITY AND COMMON ISSUES OF TEACHING SPORTS GAMES AT ELEMENTARY SCHOOLS IN SLOVAKIA

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Abstract
Within the article, we analyze and evaluate the popularity and common issues of teaching sports games in physical and sport education at elementary schools in Slovakia. A survey was the research instrument for collecting the primary data, aimed at male (620) and female (506) teachers of physical and sport education at the second elementary education stage of three regions of Slovakia. Detecting of teachers’ perception was surveyed in period of three years (2017–2020). Each answer of male and female teachers was compared and evaluated by using the chi-square test ($\chi^2$), while the significance level ($\alpha$) was .01 and .05. In general, the sports games were the most popular activities among the male and female teachers of physical and sport education (58.02%; $n = 653$). More than 41% of male and female teachers’ answers about the most significant factors influencing the quality of teaching sports games were spatial and material conditions. The reason for that was partly due to the low time allowance of teaching sports games (28.86%; $n = 152$). The traditional sports games (football, volleyball, basketball) were the best secured, in terms of material conditions, in contrast to floorball (34.70%; $n = 390$).

Key words: elementary schools, material and technical support, physical and sport education, selected regions of Slovakia, sports games

Introduction
The aim of school physical and sport education is to provide pupils (students) with basic information about the healthy lifestyle, to develop skills and ensure an adequate level of knowledge and most of all shaping the proactive, pro-health and pro-social attitudes. All these conditions should be developed not only during school attendance, but should also have a transfer to adulthood or to the area of leisure activities. Clemente, Rocha and Kargaokar (2012)
indicated that teaching of physical and sport education is a process that should bring pupils (students) a wide range of information. In order for the school physical and sport education to affect pupils (students) for life, it must use the most diverse range of interesting means and use such motivating forms and methods, which will appeal to the pupils (students) as best as possible (Skladaný, Feč, Zusková, 2002). The popularity of physical and sport education depends not only on the content of lessons, teaching style, pedagogical approach and teacher activity, but also on the organizational format of activities, and of course the quality of spatial and material conditions (Sigmundová, Frömel, Havlíková, Janečková, 2005). The realization of individual aims of physical and sport education assumes compliance and the highest possible level of all variables that affect the educational process. The basic factors of this process are the teacher, pupils (students), content and conditions. In terms of importance of individual factors entering the physical and sport education process, it is not clearly possible to determine their order and dominance. The dissatisfaction is often expressed, mainly with the conditions, in which the physical and sport education process takes place (Šimonek, 2011). These conditions can be understood from various perspectives, whether it is the space, in which the physical and sport education process takes place or equipment, but also the quality and frequency of teaching aids (Nemec, 2013). Other factors influencing the quality of educational process can include pupils’ (students’) lack of interest (Junger, 2006; Boruková, Yazarer, Izáková, Ivanov, 2017), insufficient staffing (Mesiárik, 2012), low time allocation (Lehocký, 2010). When evaluating the content of school physical and sport education, several authors (Görner, Starší, 2001; Egger, Kühnis, Nussbaum, Däniken, 2002; Annerstedt, 2008; Hoffmann, Brixius, Vogt, 2018) warned that its quality is significantly conditioned by personal preferences, gender and value system. Some issues also appear in various forms in the teaching of its individual thematic units (Hastie, Saunders, 1991; McNeill, Lim, Wang, Macphail, 2010).

In 2008, the Slovak education system reorganized the structure of the national education, taking into account the European education system and introduced the so-called “State Educational Program” in the hierarchy of the International Standard Classification of Education (ISCED). In 2015, its innovation took place in order to improve its clarity and more logical connection of individual learning elements. An important part of this material was also the definition of space, in which each school can complete its content of education according to specific regional and local needs and conditions. Pursuant to Act 416/2001 Coll. As of 1 July 2002, the founding powers of schools and school facilities were transferred from local state administration bodies to local government bodies. Some local government bodies have invested in schools, but some have not, because they did not have the means to do that, which created significant differences in their technical condition, quality of technology and, last but not least, in their equipment. The analysis of gyms showed that 37.49% of elementary schools in Slovakia with more than 150 pupils (students) did not have their own gyms (in 2016) and in 123 cases, € 11 million (€ 10,856,987) were allocated to deal with emergency situations.

The physical and sport education is one of the most popular subjects among the pupils (students), which is confirmed by several authors (Bartík, 2009; Antala et al., 2012; Biddle, Mutrie, Gorely, 2015; Adamčák, Nemec, 2015; Straňavská, 2015; Basar, Coskun, 2017). Among the most popular thematic units for pupils (students), as well as teachers are the sports games (Hubinák, 2009; Dismore, Bailey, 2011; Izáková, 2013; Nemec, Adamčák, 2013). The innovated “State Educational Program”, within the thematic unit of sports games, recommended teaching 4 sports games (football, basketball, handball and volleyball), while the individual schools may, according to their conditions and interest of pupils (students), appropriate qualification of teachers, also include lesser-known sports games, such as floorball, baseball, ringo and ice hockey. From the research of several authors (Krška, 2007;
Baránek, 2013; Kozaňáková, Adamčák, Kollár, 2015) conducted in recent years, we can state that the floorball is one of increasingly popular sports games among the pupils (students) of Slovak elementary schools.

**Aim**

The aim of study was to analyze and evaluate the male and female teachers’ perception about the popularity and common issues of teaching sports games, within the school subject of physical and sport education at the second elementary education stage.

**Methods**

In terms of study aim, the survey group was chosen purposely and consisted of male (55.06%; n = 620) and female (44.94%; n = 506) teachers of physical and sport education at the second elementary education stage of three (n = 3) regions of Slovakia. Being active male and female teacher of physical and sport education at the second elementary education stage was the only inclusion criterion of the study. The survey group’s range was not limited; 1,126 (100%) of male and female teachers of three regions of Slovakia participated in the study, while the incidence of involved male and female teachers was the following: a) Eastern Slovakia – 382; 33.92% (male – 64.92%; n = 248 and female – 35.08%; n = 134); b) Central Slovakia – 368; 32.68% (male – 51.35%; n = 189 and female – 48.65%; n = 179); c) Western Slovakia – 376; 33.40% (male – 48.67%; n = 183 and female – 51.33%, n = 193) (Table 1).

**Table 1. Characteristics of survey group (n = 1,126)**

| Region            | Male teachers | Female teachers | Total number |
|-------------------|---------------|-----------------|--------------|
| Eastern Slovakia  | 248           | 134             | 382          | 33.92% |
| Central Slovakia  | 189           | 179             | 368          | 32.68% |
| Western Slovakia  | 183           | 193             | 376          | 33.40% |
| Total number      | 620           | 506             | 1,126        | 100.00% |

When collecting the data, the research instrument of survey was used, which was created purposely (non-standardized survey) and consisted of two sections: a) demographic information; b) survey questions, which consisted of three closed questions, concerned with the popularity of sports games, common issues of teaching sports games and sports games equipment. The content of non-standardized survey was inspired by several authors (Nemec, Adamčák, 2013; Soares, Antunnes, Van Den Tillaar, 2013), while the average time of completing the face-to-face survey was approximately 7 minutes. The information about identity was not taken, so that the survey was answered objectively. In addition, the survey was given to each second elementary education stage teacher of physical and sport education who inscribed the answers in their native language, within the pre-printed forms. After inscribing the answers, the survey was given to authors of study. Detecting of survey group’s perceptions was surveyed in period of three years (2017–2020).

In terms of three regions, each answer of male and female teachers was compared and evaluated by using the program of Tap 3 – Gamo, Banská Bystrica. The acquired data from the three regions were pooled after cleaning. The method of percentage frequency analysis (%), arithmetic mean (x̄) and multiplicity (n) was used, while...
the percentage values were used in the survey questions with the single choice answer. The difference between each region (variable of location) of Slovakia was evaluated by method of inductive statistics – chi-square test (X^2), of which the significance level (α) was 0.01 and 0.05.

Results

In terms of study results, the first item of survey was dealing with what place do the sports games occupy in the teaching of physical and sport education among the survey group (n = 1,126). When inscribing the answer about the most popular activity, the survey group’s highest percentage answer (average) was the sports games (ś 58.02%; n = 653), while the incidence of three regions was the following: a) Eastern Slovakia (54.19%; n = 207); b) Central Slovakia (59.51%; n = 219); c) Western Slovakia (60.37%; n = 227). In contrast to previous incidence, the range answer of natural environment (ś 8.96%; n = 303) was the least popular activity, while the answer incidence of survey group was in the range of 5.59% (n = 21; Western Slovakia) to 11.26% (n = 43; Eastern Slovakia) (Figure 1). Despite of that, the lowest percentage answer was the gymnastics, within the survey group of Central Slovakia (8.97%; n = 33).

![Figure 1. The most popular activity, within the survey group (n = 1,126)](image)

| Selected regions            | Chi-square test (X^2) |
|----------------------------|-----------------------|
| Central Slovakia/Eastern Slovakia | 0.35318*             |
| Central Slovakia/Western Slovakia     | 0.01214*            |
| Eastern Slovakia/Western Slovakia     | 0.01414*            |

* – Statistical significance of 0.05; – – Statistical insignificance.

Table 2. Survey group’s answers about the most popular activity (n = 1,126)
In terms of statistical evaluation, the difference between the answers of survey group and variable of location was not significant at significance level of 0.05 (Eastern and Central Slovakia; p = 0.353). Yet, the statistical difference at significance level of 0.05 was recorded between the regions of Western and Central Slovakia (p = 0.012) and Western and Eastern Slovakia (p = 0.014) (Table 2).

An intention was to identify what male and female teachers of physical and sport education at the second elementary education stage of three regions of Slovakia (before the Covid 19) considered as the most common issues of teaching sports games (Figure 2). In general, the reason was the following: a) low time allowance of teaching sports games (28.86%; n = 325); b) insufficient spatial conditions (27.08%; n = 305); c) low interest of pupils (students) (25.64%; n = 288). In terms of variable of location, the survey group (n = 1 126) indicated the answers of low time allowance (28.86%; n = 325) and material support (14.58%; n = 164) as the common issues of teaching sports games. More than 21% of survey groups answers’ about the insufficient material support of region of Western Slovakia created the most significant difference, compared to other regions (+7.97%; n = 29 – Central Slovakia; +11.32%; n = 42 – Eastern Slovakia). In general, the highest percentage survey group’s answer was the insufficient time allowance, in particular of survey group of Eastern Slovakia (31.15%; n = 118). The answer of “other” was inscribed by 3.83% (n = 43) of survey group (n = 1 126) who indicated the following issues of teaching sports games: a) organizational structure; b) exception of pupil (student) from physical and sport education.

![Figure 2. The most common issues of teaching sports games, within the survey group (n = 1,126)](image)

In terms of statistical evaluation, the difference between the answers of survey group and variable of location was not significant at significance level of 0.05 (Eastern and Central Slovakia; p = 0.268). Yet, the statistical difference at significance level of 0.05 was recorded between the regions of Western and Central Slovakia (p = 0.041) and 0.01 between the regions of Western and Eastern Slovakia (p = 0.0003) (Table 3).

| Region               | Insufficient time allowance | Insufficient spatial conditions | Interest of pupil (student) | Insufficient material support |
|----------------------|-----------------------------|--------------------------------|-----------------------------|------------------------------|
| Western Slovakia     | 23.67%                      | 21.01%                         | 24.73%                      | 10.72%                       |
| Central Slovakia     | 24.46%                      | 13.04%                         | 30.71%                      | 4.89%                        |
| Eastern Slovakia     | 28.80%                      | 9.69%                          | 28.80%                      | 4.89%                        |
| Other                |                             |                                |                             |                              |

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Table 3. Survey group’s answers about the most common issues of teaching sports games (n = 1,126)

| Selected regions                  | Chi-square test ($\chi^2$) |
|-----------------------------------|-----------------------------|
| Central Slovakia/Eastern Slovakia | 0.26880*                    |
| Central Slovakia/Western Slovakia | 0.04126*                    |
| Eastern Slovakia/Western Slovakia | 0.00031**                   |

** – Significance level of 0.01; * – Statistical significance of 0.05; † – Statistical insignificance.

Within the survey, the last item was dealing with the material and technical support of teaching sports games (floorball, handball, volleyball, basketball and football), which was considered as an important indicator for fulfilling the aims of education. In general, we indicated that volleyball (71.93%; n = 810), basketball (71.31%; n = 803) and football (71.04%; n = 800) had the best (sufficient) equipment, within the selected sports games. When inscribing the answer about the insufficient equipment, the survey group’s lowest percentage answer was floorball ($\bar{x}$ 27.81%; n = 313), while the incidence of three regions was the following: a) Eastern Slovakia (26.44%; n = 101); b) Central Slovakia (27.45%; n = 101); c) Western Slovakia (29.52%; n = 111). The range answer of not teaching the sports game of handball was the most frequent answer ($\bar{x}$ 35.21%; n = 396), while the least frequent answer was the sports game of football ($\bar{x}$ 1.16%; n = 13) (Figure 3). In terms of variable of location, we can state that the survey group’s answer about the insufficient equipment of teaching sports games was in particular inscribed by survey group of Western Slovakia (31.95%; n = 120). The range answer of sufficient equipment was most often given by survey group of Eastern Slovakia (60.57%; n = 231). The range answer of not teaching any of sports games was the most frequent answer of male and female teachers of Central Slovakia (11.42%; n = 42). The survey group of Eastern Slovakia achieved the highest percentage answer in range answer of insufficient equipment (only once) in the sports game of floorball (36.65%; n = 140), which was in contrast to range answer of sufficient equipment (4 times; handball, volleyball, basketball, football). When evaluating the absence of teaching sports games, it was only twice (volleyball, basketball). In terms of Central Slovakia, we can state that the range answer of insufficient equipment (32.07%; n = 118) and not teaching the sports game (39.95%; n = 147) was in the sports game of handball, while the range answer of sufficient equipment (52.99%; n = 195) was in the sports game of floorball. Within the Western Slovakia, the survey group most often inscribed the range answer of insufficient equipment in the sports games of volleyball (30.32%; n = 114), basketball (34.04%; n = 128) and football (29.52%; n = 111), while the range answer of sufficient equipment never reached the highest percentage answer of male and female teachers (n = 1 126). Not teaching the sports games appeared as the most common in the sports games of floorball (18.88%; n = 71), basketball (2.39%; n = 9) and football (1.33%; n = 5). Despite of that, the lowest percentage answer of not teaching the sports game (basketball) was recorded among the survey group of Central Slovakia (0.82%; n = 3), while the highest percentage answer of sufficient equipment (basketball) was recorded among the survey group of Eastern Slovakia (76.18%; n = 291).
In terms of statistical evaluation, the difference between the answers of survey group, variable of location and sports game of volleyball was significant at significance level of 0.05 (Eastern and Central Slovakia; \( p = 0.029 \); Western and Central Slovakia; \( p = 0.026 \)). In addition, the statistical difference at significance level of 0.01 and sports game of basketball was recorded between the regions of Western and Central Slovakia (\( p = 0.003 \)) and Eastern and Western Slovakia (\( p = 0.0006 \)). The difference between the answers of survey group of Eastern and Western Slovakia was significant at significance level of 0.05, in terms of sports game of floorball (\( p = 0.017 \)) (Table 4).

Figure 3. The material and technical support of teaching sports games, within the survey group (\( n = 1,126 \))
Table 4. Survey group’s answers about the material and technical support of teaching sports games (n = 1,126)

| Selected Regions                  | Football – Chi-square test (X²) |
|-----------------------------------|---------------------------------|
| Central Slovakia/Eastern Slovakia | 0.95042*                        |
| Central Slovakia/Western Slovakia | 0.77334*                        |
| Eastern Slovakia/Western Slovakia | 0.58462*                        |

| Selected Regions                  | Basketball – Chi-square test (X²) |
|-----------------------------------|-----------------------------------|
| Central Slovakia/Eastern Slovakia | 0.21764*                         |
| Central Slovakia/Western Slovakia | 0.00395**                        |
| Eastern Slovakia/Western Slovakia | 0.00063**                        |

| Selected Regions                  | Volleyball – Chi-square test (X²) |
|-----------------------------------|-----------------------------------|
| Central Slovakia/Eastern Slovakia | 0.02901*                         |
| Central Slovakia/Western Slovakia | 0.02659*                         |
| Eastern Slovakia/Western Slovakia | 0.85423*                         |

| Selected Regions                  | Handball – Chi-square test (X²) |
|-----------------------------------|---------------------------------|
| Central Slovakia/Eastern Slovakia | 0.74309*                         |
| Central Slovakia/Western Slovakia | 0.36306*                         |
| Eastern Slovakia/Western Slovakia | 0.15407*                         |

| Selected Regions                  | Floorball – Chi-square test (X²) |
|-----------------------------------|---------------------------------|
| Central Slovakia/Eastern Slovakia | 0.40413*                         |
| Central Slovakia/Western Slovakia | 0.11924*                         |
| Eastern Slovakia/Western Slovakia | 0.01759*                         |

** – Significance level of 0.01; * – Statistical significance of 0.05; – – Statistical insignificance.

Discussion

Our survey, aimed at teaching physical and sport education at the second elementary education stage in the three regions of Slovakia was focused on analyzing and evaluating the popularity and common issues of teaching sports games in the physical and sport education at elementary schools in Slovakia. In general, we revealed the individual factors, which helped us identify the situation before the Covid-19. Achieved results confirmed the agreement with findings from the research by other authors (Görner, Starší, 2005; Dismore, Bailey, 2011; Izákova, 2013; Nemec, Adamčák, 2013) that, in general, the sports games were the most popular activities, within the physical and sport education (58.02%; n = 653), while the thematic unit of athletics was the second (19.54%; n = 220). Activities realized in the natural environment proved to be the least popular (8.97%; n = 101). One of the reasons for such preference for the indoor activities (sports games) over outdoor activities is the fact that the organization of each activity outside school (in nature) is significantly more challenging for male and female teachers, mainly in terms of safety, weather and transport. In addition, this inclination towards the thematic unit of sports games can also express the effort to realize, within the framework of compulsory school education and the kind of activity that pupils (students) like. According to Adamčák, Novotná (2009) a game is one of basic human activities, in addition to work and learning and brings joy and satisfaction to a participant. The regional difference, despite of two significant relationships at significance level of 0.05 (Eastern and Central Slovakia; p = 0.353; Western and Eastern Slovakia; p = 0.014) did not prove essential and different order of popularity of evaluated activities in teaching of physical and sport education at the second elementary education stage. The ranking did not prove the agreement only in the
activities from the end of popularity ranking, with the low percentage value (gymnastics – $\bar{x}$ 12.14%; n = 136), natural environment – $\bar{x}$ 8.97%; n = 101).

Despite of the highest popularity of teaching sports games, whether in terms of male and female teachers or pupils (students), we were interested in what male and female teachers considered as the most common issue of teaching sports games. In general, the common issue was the following: a) low time allowance of teaching sports games (28.86%; n = 325); b) insufficient spatial conditions (27.08%; n = 305); c) low interest of pupils (students) (25.64%; n = 288). Our chosen research factor – an insufficient equipment (teaching aids) ranked the fourth, in terms of number of survey group’s answers (14.58%; n = 164). These findings were consistent with several authors (Slezák, Melicher, 2008; McNeill et al., 2010; Nemec, 2013) who stated that the male and female teachers expressed the dissatisfaction, in particular with the conditions, in which the physical and sport education is realized. If we sum up the spatial and material conditions, they make up more than 41% of survey group’s answers. This finding confirmed that even 4 years after the launch of project – Modernization Debt in the Field of Spatial and Material-Technical Support of Primary and Secondary Schools (2016), schools and their founders had the issue of weak and average level of material, technical and spatial conditions of the physical and sport education. The innovated International Standard Classification of Education 2 introduced the spatial and material and technical support, which is mandatory for new schools. Other schools were encouraged to meet that standard during the transition period of three to five years, however that issue was the most common in schools from Western Slovakia (47.87%; 180), which were, according to the male and female teachers (n = 1,126) worse than in Central (7.93%; n = 29) and Eastern Slovakia (10.69%; n = 41). The low time allowance of teaching sports games was inscribed by the male and female teachers as the most significant issue (28.86%; n = 325). This issue also appeared in the research of Lehocký (2010) and Šimonek (2011). It was very difficult to evaluate that, as the innovated International Standard Classification of Education 2 allowed the male and female teachers to “expand” the sports games for up to almost 50% of total annual range of physical and sport education, which in practice meant more than 30 lessons. We rather considered the overall low time allowance of physical and sport education (2×/week) with such structured content to be the issue. In addition, we confirmed the statistical difference at significance level of 0.05, which was recorded between the regions of Western and Central Slovakia (p = 0.041) and .01 between the regions of Western and Eastern Slovakia (p = 0.0003). As part of our efforts to identify the current issues of teaching physical and sport education at elementary schools, we also acquired the survey answers of how teachers perceived the quality of material and technical support (equipment) of teaching the most popular activities – sports games (floorball, handball, volleyball, basketball, football) and also which of them was the most absent in the process of teaching physical and sport education. The almost identical level of three dominant (traditional) sports games of volleyball (71.93%; n = 810), basketball (71.31%; n = 803) and football (71.04%; n = 800) did not surprise us and confirmed another finding that handball was one of the least taught sports game (39.95%; n = 450). If we look at the research findings of Vilimová, Hurychová (2001), Fahey, Delaney, Gannon, (2005), Dismore, Bailey (2011), Antala et al. (2012) and Nemec Adamčák, Kollár, (2018), we can state their agreement in the fact that the “traditional” sports games, in particular football and basketball, and partly volleyball, were leaders in the popularity, whether among the pupils (students) and male and female teachers (n = 1,126). Despite of the ever-increasing popularity, the sports game of floorball is still one of the only gradually established sports games. The reason can also be its more demanding equipment. The highest percentage answer of survey item – insufficient equipment was recorded, within the sport game of floorball (34.70%; n = 390). As in the previous survey question, male and female teachers
of Western Slovakia most often inscribed the range answer of insufficient equipment (31.95%; n = 120). The survey group of Eastern Slovakia expressed the most positive perception about that (60.75%; n = 232). Not teaching the sports game of handball (x̄ 35.21%; n = 396) was the longer-term phenomenon at elementary school environments (Antala et al., 2012) and was probably related not only to the traditions and mentality, but also to the considerable aggression (danger) of direct battles between male and female handball players. On the contrary, the number of 1.16% (n = 13) in the range answer about not teaching the sports game of football confirmed that it was one of the absolute phenomenon in Slovakia. The existing significant difference between the evaluated three regions of Slovakia confirmed the dominant positive status of football and negative status of handball.

**Conclusion**

It is undeniable that the most important aim of teaching sports games is played by the male and female teachers and their approach. Tomajko (1993) stated that only the creative teachers of physical and sport education can lead pupils (students) to independence, creativity and arouse their interest in health and healthy lifestyle. This, of course, requires an effectively functioning regional education system, which in adequate conditions can provide quality education and respond to the current needs of pupils (students).

We consider the most important knowledge arising from the survey the fact that the sports games are the most popular activities in teaching of physical and sport education at the second elementary education stage. Different activities related to staying in nature are, for various reasons the least preferred part of education. Where else can the truly healthy physical activity, if not in nature, be realized in the connection with the current global Covid-19 pandemic.

The findings concerning the common issues with ensuring the sufficient material and technical support of elementary schools for teaching of sports games are mainly in the hands of founders. There are many options (challenges, projects, foundations) that allow elementary schools to improve this situation. It requires not only willingness and time, but also the creativity and commitment.

With regard to the diversity and significance of our findings, in terms of evaluated regions, we would like to mention the following recommendations for practice:

1. To implement the increased interest through the methodological centers and universities of physical education aimed at teaching the sports games presenting the latest knowledge from their teaching and learning, because only in this way it will be possible to maintain the highest professionalism of male and female teachers and last but not least the highest interest of pupils (students) in the thematic unit of sports games.
2. To implement the teaching of sports games not only in the gym, but also in the natural environment (grass fields, school yard, adjacent lawns, parks), especially in elementary schools with limited spaces in the form of gyms.
3. To improve the material and technical support of elementary schools through increased activity of founders, principals and male and female teachers themselves in the form of school involvement in various calls for funding implemented by the Ministry of Education, Science, Research and Sport of the Slovak Republic.
4. In terms of sports games, in which the pupils (students) showed low interest, it is necessary to improve their teaching with the use of playful activities in the form of physical and preparatory games, but also by the diversity of socio-interactional forms (group, individual form) and their modifications.
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