IMPLEMENTATION OF THE GYMNASTICS CURRICULUM IN THE THIRD CYCLE OF BASIC SCHOOL IN SLOVENIA

Maja Bučar Pajek , Ivan Čuk, Marjeta Kovač and Barbara Jakše

University of Ljubljana, Faculty of Sport, Slovenia

Original research article

Abstract

In physical education curriculum for the basic school, gymnastics is one of the most important contents. In the first and the second three-year cycle of basic school, physical education can be taught by the class teacher or a PE teacher, while in the third cycle only specialised PE teachers are qualified to teach. The aim of our study was to find out how PE teachers comply with the prescribed gymnastics curriculum content. Our sample included 147 PE teachers, stratified by gender, region and urban/rural area. The sample is representative for Slovenia as 36.7% of all PE teachers were included in the survey. Variables were represented by a questionnaire. Data was analysed by SPSS 14.0 and frequencies were calculated. Results show PE teachers spend 9.8 hours on gymnastics per academic year. Mostly they teach easy contents (roll forward, roll backward, cartwheel, handstand, etc.) where supporting assistance is not necessary and the likelihood of falls and injuries is small. At the same time, PE teachers avoid gymnastic elements which include a flight phase, turns or have a small support area as they think such elements are not appropriate for primary school.

Keywords: *gymnastics, basic school, third three-year cycle.*

INTRODUCTION

Gymnastics offers a great range of locomotive, stability and body control movements which are highly important for the development of children. Gymnastics requires a great diversity of movements: transitions from dynamic to static elements and vice versa, frequent changes of the body position in space. Successful performance of each element requires accurate muscular activity of specific intensity, through the space and at the right moment. Gymnastic elements are classified as typical combined non-cyclic movements and as such they develop the ability of movement in space and body control in the unsupported phase. From the child development perspective, gymnastics is, along with athletics, one of the key sports as it includes elements that can be performed in different directions (forward, sideways and backward), on three levels (head level, hip level and horizontal level) and around three axes (frontal, sagittal and vertical), in the support phase and through no support phase (Novak, Kovač, & Čuk, 2008).

Gymnastic contents as part of the PE curriculum in Slovenia have a history of more than one hundred years. They first appeared in the basic school curriculum in 1874 when physical education was first introduced and included the compulsory SPIESS system (Kompara & Čuk, 2006). In the following decades, the curriculum changed and was updated and the one that applies in Slovenia today (M Kovač & Novak, 2001) mandates PE as a compulsory subject in all years of basic school and prescribes its scope and structure, general and operative objectives and knowledge standards for selected sport disciplines. The current curriculum for specific sport contents provides detailed practical and

theoretical themes that shall be implemented in all nine years of the basic school.

The basic school in Slovenia today takes nine years to complete. Physical education is allocated 834 lessons in total (105 lessons per year from year 1 to year 6, 70 lessons per year in years 7 and 8 and 64 lessons in the final year 9) (Anon., 1998). The current curriculum details some practical and theoretical gymnastic themes that shall be implemented in all nine years of the basic school. The gymnastics programme prescribed by the curriculum aims to provide logical progression and development continuity. The basic school programme is in terms of contents, organisation and teaching methods staged over three three-year cycles and knowledge standards for physical education defined by the curriculum correspond to this structure.

The physical education curriculum is open-ended in design, providing the teacher with a relatively high level of autonomy and responsibility to plan one's own lessons. It is the teacher who decides how much of the total amount of time will be spent on a particular activity or content. Such open-ended design ensures better interaction between the teacher, pupils and other factors that impact on the physical education. In gymnastics, such open-ended nature is necessary as some schools lack facilities for this type of lessons (apparatus, installations, aids) while pupils in higher years sometimes lack knowledge of gymnastics (Bučar Pajek, 2003; Majerič, 2004; Štemberger, 2003). In such cases, the open-ended nature of curriculum enables the teacher to adjust the programme to the actual working conditions and to plan for a sensible and optimal continuous progression building upon the skills pupils have already mastered.
However, the open-ended curriculum has another side which is becoming quite apparent from research results: while teachers hold very positive views on the benefits of gymnastic exercises for the psychosomatic development of children (Medved, 1985; Rogelja, 1985; Turšič, 2007), research studies conducted on students at the Faculty of Sport (Bučar Pajek, 2003; Tome, 1983) show that teachers tend to implement only a small proportion of gymnastic contents recommended by the curriculum.

Authors of research studies to date mainly focused on the teaching and mastering of individual gymnastics elements (end product); however, the most important part in learning gymnastic elements is the development of different skills and movements comprising gymnastics knowledge. The learning process must include all seven didactical steps (selection of the element appropriate to the learner's level, selection of the appropriate teaching method, selection of the type of movement content, selection of the type of exercise, detection and correction of errors in the performance and assistance and selection of the supporting method) in which different types of movement content, such as preparatory exercises, pre-exercises and element development exercises, hold a special position.

The aim of our study is to establish to what extent the gymnastic content recommended by the physical education curriculum is implemented in the third cycle (Table 1) of the basic school in Slovenia, including preparatory exercises, pre-exercises and element development exercises, which are not part of the curriculum but are nevertheless required as the basis to learn gymnastic exercises.

The decision to make the third cycle the focus of our research was based on the fact that PE teachers teaching in the third cycle are specialised PE teachers who have studied the abovementioned subjects at the Faculty of Sport, as part of the course 'Sports Gymnastics Methods and Techniques'.

Table 1. *Gymnastic contents in the third cycle (Kovač and Novak, 2001)*

YEAR 7	YEAR 8	YEAR 9
PRACTICAL CONTENT	PRACTICAL CONTENT	PRACTICAL CONTENT
Calisthenics with music	Calisthenics	Calisthenics
Acrobatic: - Rolls combined with other elements - Dive roll on soft mat - Cartwheel, - Handstand with assistant's support	Acrobatic: - rolls, - dive roll, - cartwheel, - handstand. Higher level: - handstand and roll forward, - roll backward to handstand. Connecting elements into exercise.	Acrobatic: - rolls, - dive roll on soft mats, - cartwheel, - handstand, - connecting elements into exercise. Girls: - Connecting acrobatic and rhythmic elements.
Middle high Beam – short exercise with walking, one jump, one turn and dismount.	Beam: - Connecting walking, jumps, turns, scales and dismount. Higher level: - Optional exercise on high beam.	- Beam: short exercise with walking, jump, turn, hold element and dismount.
Vault: - Split and squat jump on soft mats with assistant support.	Vault: - Split and squat with assistant support.	Vault: - Split and squat jump with assistant support.
Mini trampoline: - Straight jump, split jump, tucked jump, piked jump, piked split jump.	Mini trampoline: - Straight jump, split jump, tucked jump, piked jump, piked split jump. - Jumps and basketball dunk.	Mini trampoline: - Straight jump, split jump, tucked jump, piked jump, piked split jump.
Rope and bar climbing. Bar, Parallel bars, Uneven bars: - Swing in hang and support, - felge, - one leg side swing in support, - half turn in support, - dismount from support.	Climbing. - Bar, Parallel bars, Uneven bars: elements chosen by pupils' abilities	Climbing. Bar, Parallel bars, Uneven bars: optional elements
SPECIFIC THEORETICAL CONTENT	SPECIFIC THEORETICAL CONTENT	SPECIFIC THEORETICAL CONTENT
Good posture exercises. Strength and movement exercises. Assistance and support – basic grips. Assessment methods in gymnastics.	Composition and conduct of gymnastic exercise clusters. Composition and conduct of calisthenics. Assistance and support – basic grips. Assessment in gymnastics.	Composition and conduct of calisthenics. Assistance and support – application of grips.

METHODS

The test sample includes 147 PE teachers who taught physical education in the third cycle in basic schools in Slovenia in the academic year 2004/2005. This represents 36.7% of all PE teachers who teach in the third cycle in basic schools in Slovenia. The sample was further stratified by the type of settlement (town, country), region (in accordance with the official regional divisions in Slovenia) and by gender; it is hence a representative sample for Slovenia.

The variable sample is represented by the questionnaire titled 'Implementation of the curriculum for gymnastics in the third cycle of the basic school' and comprises three clusters: the first cluster includes questions on the number of implemented physical education lessons with gymnastic content; the second cluster includes questions related to the implementation of gymnastic contents and movements and the third cluster focuses on questions relating to the suitability of gymnastic exercises. The respondents were informed of the survey purpose and procedure and gave their written consent to participation in the research project. The respondents answered to closed-ended questions YES or NO and to open-ended questions by writing their reply on the appropriate line.

The data was processed using statistics application SPSS 14.0 for Windows. In accordance with the research study goal, we calculated the frequencies and performed t test to analyse the differences between the excecuted and prescribed curriculum content (implementation of the content versus 100% required curriculum implementation).

RESULTS

Results show that the number of lessons PE teachers use for gymnastic content is low: in year 7, only 15.1% (10.6 lessons) of all PE lessons are dedicated to gymnastics, in year 8 13.8% (9.7 lessons) and in year 9 it is 14.3% of all lessons (9.2 lessons) that are spent on gymnastics (Figure 1, Figure 2, Figure 3).

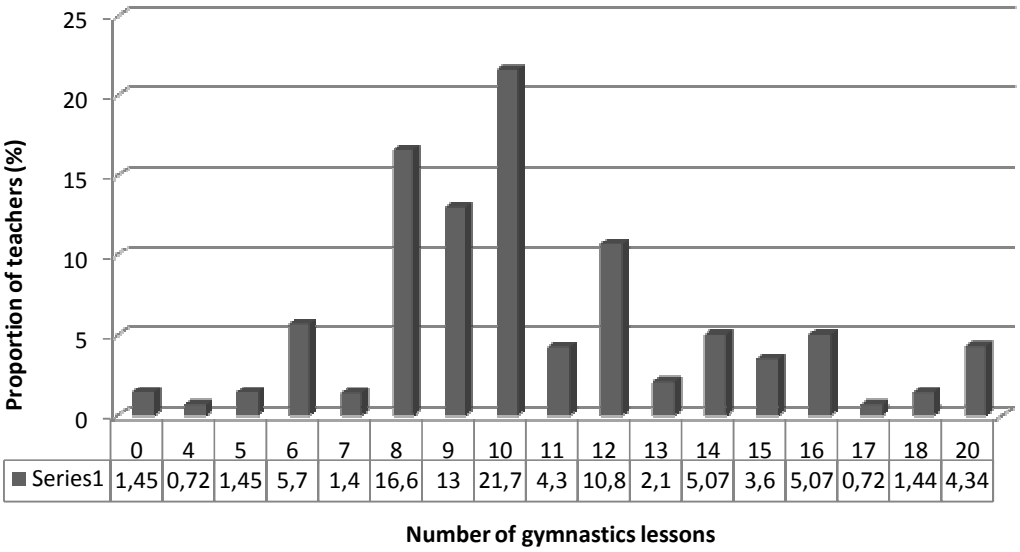

Figure 1. *Gymnastics lessons in year 7*

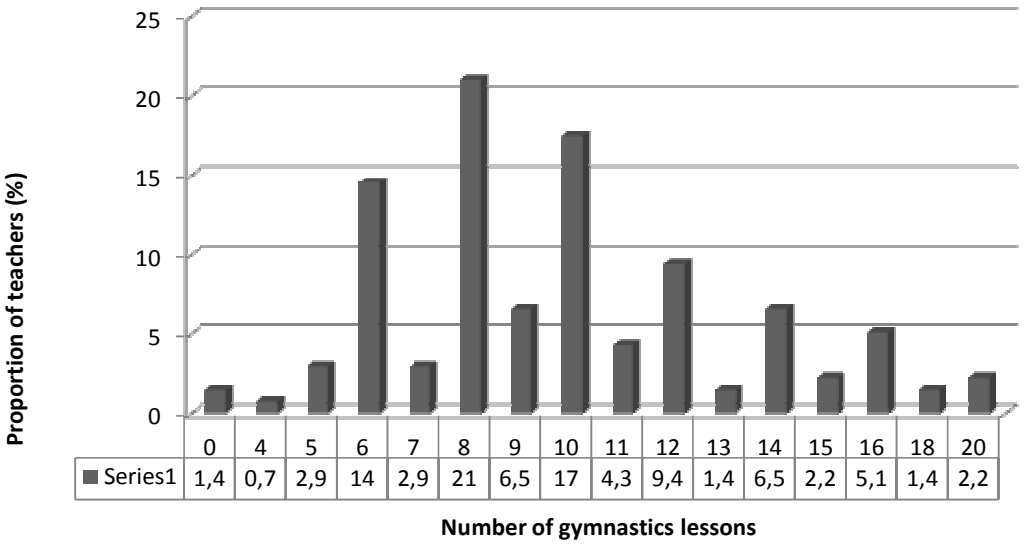

Figure 2. *Gymnastics lessons in year 8*

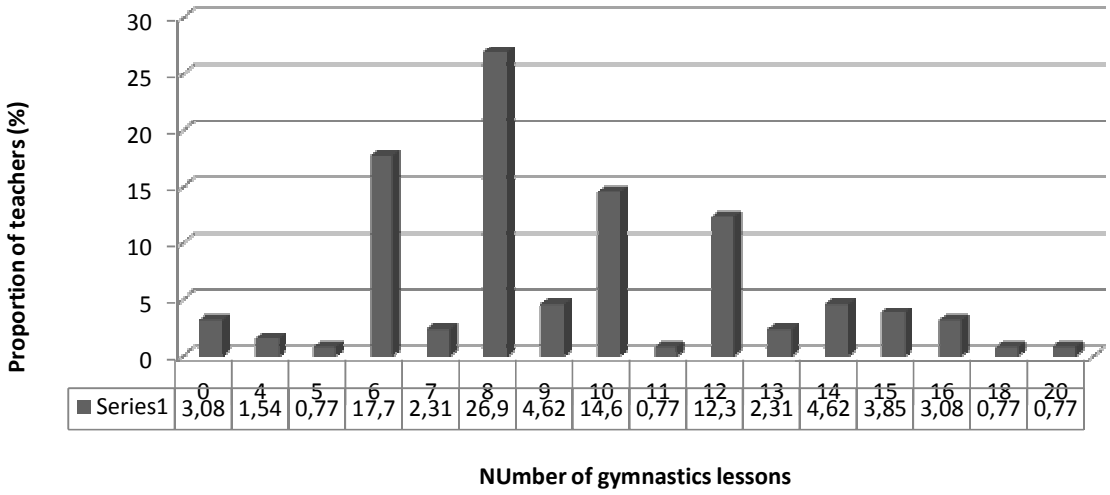

Figure 3. *Gymnastics lessons in year 9*

We were also interested in the implementation of gymnastic content and its suitability to the pupil age level in years 7, 8 and 9. Teachers answered questions with 'yes' (implemented / suitable) or 'no' (not implemented / not suitable). In Table 2, letter 'i' is used for the implementation and letter 's' for the content suitability.

Results of our survey show that the percentage of implementation of the gymnastic content decreases from year 7 to year 9 in acrobatics, on the beam and for the vault jump. In all three years of the last cycle in basic schools, PE teachers are least likely to teach elements on the bar, the uneven/parallel bars and on the beam. The least implemented elements include: half turn in support on bars and on the bar (64.4%), cut on the bars and on the bar(47.5%), dismount backward from support on the bars and on the bar (47.3%), jump on the beam (44.6%), swing in support on the bars and on the bar (43.5%), swing in hang on the bars and on the bar (41,3%),

scale on the beam (30,3%), dismount from the beam (29.6%), dive roll forward in acrobatics (24.6%) and straight jump and piked split jump on the mini trampoline (19.6%).

Table 2. *Implementation and suitability of gymnastic elements in years 7, 8 and 9*

Element (from the curriculum)	Implementation/Suitability								
	Year 7			Year 8			Year 9		
	N	Yes%	No%	N	Yes%	No%	N	Yes%	No%
ACROBATICS									
Roll forward_i	142	98.6	1.4	140	97.1	2.9	124	91.9	8.1
Roll forward _s	134	98.5	1.5	130	96.9	3.1	118	95.8	4.2
Roll backward _i	141	97.2	2.8	139	93.5	6.5	122	98.3	10.7
Roll backward _s	131	96.2	3.8	130	92.3	7.7	116	87.9	12.1
Dive roll_i	139	77.7	22.3	140	78.6	21.4	123	69.9	30.1
Dive roll _s	133	85.0	15.0	134	83.6	16.4	120	81.7	18.3
Cartwheel_i	141	95.0	5.0	142	95.8	4.2	125	92.0	8.0
Cartwheel _s	138	95.7	4.3	140	95.7	4.3	125	93.6	6.4
Handstand_i	140	97.1	2.9	142	97.9	2.1	125	98.4	1.6
Handstand _s	137	98.5	1.5	140	98.6	1.4	125	99.2	0.8
BEAM									
Walk_i	125	78.4	21.6	125	74.4	25.6	110	71.8	28.2
Walk_s	121	87.6	12.4	121	85.1	14.9	107	85.0	15.0
Jump_i	123	58.5	41.5	123	55.3	44.7	109	52.3	47.7
Jump_s	116	75.0	25.0	117	73.5	26.5	104	68.3	31.7
Turn_i	119	76.5	23.5	119	75.6	24.4	105	71.4	28.6
Turn_s	115	84.3	15.7	116	83.6	16.4	103	81.6	18.4
Scale_i	119	70.6	29.4	119	69.7	30.3	105	68.6	31.4
Scale_s	113	81.4	18.6	114	83.3	16.7	101	82.2	17.8
Dismount_i	118	72.0	28.0	119	69.7	30.3	105	69.5	30.5
Dismount_s	114	83.3	16.7	116	85.3	14.7	103	83.5	16.5

VAULT									
Split jump_i	146	96.5	3.5	140	96.4	3.6	125	94.4	5.6
Split jump_s	139	97.8	2.2	139	97.1	2.9	125	96.8	3.2
Squat jump_i	141	95.0	5.0	141	95.0	5.0	125	93.6	6.4
Squat jump_s	139	97.1	2.9	140	95.7	4.3	126	94.4	5.6
MINI TRAMPOLINE									
Straight jump_i	140	82.9	17.1	142	81.0	19.0	126	84.1	15.9
Straight jump _s	138	97.8	2.2	139	97.1	2.9	125	96.0	4.0
Piked split jump_i	138	79.0	21.0	139	79.1	20.9	123	82.9	17.1
Piked split jump _s	137	94.9	5.1	138	94.9	5.1	124	95.2	4.8
BAR/PARALLEL. UNEVEN BARS									
Swing in hang_i	138	59.4	40.6	139	56.8	43.2	122	59.8	40.2
Swing in hang _s	133	89.5	10.5	138	89.5	10.5	118	89.8	10.2
Swing in support_i	135	54.8	45.2	135	57.8	42.2	120	56.7	43.3
Swing in support _s	128	80.5	19.5	128	86.7	13.3	114	86.0	14.0
Felge_i	139	72.7	27.3	140	70.0	30.0	125	71.2	28.2
Felge_s	136	90.4	9.6	137	90.5	9.5	123	91.9	8.1
Leg side swing in support_i	136	52.2	47.8	138	51.4	48.6	121	53.7	46.3
Leg side swing in support _s	129	80.6	19.4	130	83.8	16.2	115	85.2	14.8
Half turn in support_i	136	34.6	65.4	137	35.0	65.0	119	37.0	63.0
Half turn in support _s	128	67.2	32.8	128	71.7	28.9	113	72.6	27.4
Dismount from support_i	137	49.6	50.4	137	53.3	46.7	120	55.0	45.0
Dismount from support_s	130	77.7	22.3	130	80.0	20.0	115	84.3	15.7
XA (implementation)		74.92			74.17			73.63	
SD		18.71			18.39			17.78	
SE		4.29			4.22			4.08	
XA + 1.96 SE		83.33			82.44			81.62	
XA (suitability)		87.95			88.24			87.55	

SD	9.13	7.89	8.14
SE	2.09	1.81	1.86
XA + 1.96 SE	92.05	91.79	91.21
XA – 1.96 SE	83.84	84.69	83.88
p(t-test) implementation-suitability	< 0.000	< 0.000	< 0.000

Legend*: i – implementation; s – suitability, XA- average, SD – standard deviation, SE – standard error, p - probability*

Teachers in general believe that the suitability of exercises is lower than it is in curriculum and suitability is higher than their implementation. Under less suitable elements for the third three-year cycle they list dive roll forward in acrobatics, jump on the beam and half turn in support on bars and on the bar.

We also examined to what extent gymnastic content and movements (preparatory exercises, pre-elements and element development exercises) that are not prescribed by the curriculum were implemented (Table 3). Teachers answered 'yes' (implemented) and 'no' (not implemented).

Pre-exercises are implemented in a high percentage in all three years of the last cycle (in years 7 and 8 70% and in year 9 67%). However, results also show a significant decrease in some preparatory exercises (vertical bar climbing, rope climbing, ladder climbing and bunny jumps).

Table 3. *Implementation of gymnastic content and movements (preparatory exercises, pre-elements and element development exercises) that is not prescribed by the curriculum*

	IMPLEMENTATION								
Gymnastics content, not included in the curriculum	Year 7			Year 8			Year 9		
	N	Yes%	No%	N	Yes%	No%	N	Yes%	No%
PREPARATORY EXERCISES									
Bar climbing	141	91.5	8.5	141	84.4	15.6	122	77.9	22.1
Monkey bars climbing	131	39.7	60.3	130	33.1	66.9	113	30.1	69.9
Rope climbing	138	57.2	42.8	137	54	46	118	52.5	47.5
Ladder climbing	140	87.1	12.9	139	80.6	19.4	119	31.1	68.9
Wall climbing	136	31.6	68.4	136	30.1	69.9	119	31.1	68.9
Bunny jumps	139	91.4	8.6	138	86.2	13.8	120	85.0	15.0
PRE-ELEMENTS									
Shoulder stand	141	96.5	3.5	141	90.8	9.2	121	86.8	13.2
Jumping to arms support	138	83.3	16.7	138	83.3	16.7	119	83.2	16.8
Jump into knee support on box	137	77.4	22.6	136	70.6	29.4	117	67.5	32.5
Jump into squat	13	84.9	15.1	13	80.4	19.6	11	76.5	23.5

support on box	9			8			9		
Runway. roll forward on high soft mat	139	76.3	23.7	139	73.4	26.6	119	68.9	31.1
Hang bar/bars	137	75.2	24.8	137	73.7	26.3	117	72.6	27.4
ELEMENTS DEVELOPMENT									
Roll backward to handstand	140	29.3	70.7	141	37.6	62.4	121	45.5	54.5
Handstand. roll forward	139	71.2	28.8	140	78.6	21.4	120	82.5	17.5
One leg turns	131	56.5	43.5	131	58.8	41.2	113	56.6	43.4
Leaps	132	62.9	37.1	132	64.4	35.6	114	62.3	37.7
Connecting elements on floor	137	83.9	16.1	137	85.4	14.6	118	83.9	16.1
Connecting acrobatic and rhythmic element on floor	133	48.9	51.1	134	48.5	51.5	114	50.9	49.1
Short exercise on floor	134	74.6	25.4	136	72.1	27.9	116	76.7	23.3
Connecting elements on beam	127	55.9	44.1	128	56.3	43.8	110	53.6	46.4
Short exercise on beam	125	51.2	48.4	125	49.6	50.4	107	51.4	48.6
Dunking from mini trampoline	139	25.9	74.1	139	33.8	66.2	118	36.4	63.6
Changing front and back hang on bar/bars	133	24.8	75.2	133	26.3	73.7	112	28.6	71.4
Connecting elements on bar/bars	137	48.2	51.8	138	50.0	50.0	116	53.4	46.6
Short exercise on bar/bars	138	39.1	60.9	139	43.2	56.8	119	48.7	51.3

DISCUSSION

Gymnastic contents have been part of the PE curriculum ever since physical education was first introduced in the education system. As open-ended curricula provide teachers with a higher level of autonomy, it often happens that contents that require more management and where injuries are more likely are not allocated enough lessons in the annual work plan (Kovač, 2006). In recent discussions among physical education teachers, 12 lessons have often been mentioned as the minimum number (Peček & Dežman, 2003). Our survey has shown that the actual number is even lower (Figure 1, Figure 2, Figure 3) as gymnastics accounts for 10.6 lessons in year 7 (15.1%), 9.7 lessons (13.8%) in year 8 and 9.2 lessons (9.2%) in year 9.

In the study titled 'Views of physical education teachers from Ljubljana basic schools on the role of the gymnastics programme in the upper basic school', M. Medved (1985) made an assessment that PE teachers on average spent 20% of all PE lessons on gymnastic exercises. According to the curriculum of the time, physical

education was allocated 105 lessons per year which means that teachers on average spent around 20 lessons on this sport discipline. D. Rogelja (1985) who also researched on the situation in Ljubljana basic schools, came to the conclusion that 56% of PE teachers dedicated 16-30% of all lessons to gymnastics, 29.7% of teachers spent 0-15% of lessons on gymnastics and 14.3% spent more than 31% of lessons on gymnastic exercises.

When external assessment was introduced nation-wide at the end of the nine-year basic school program, authors Kovač, Dežman & Lorenci (2002) were interested in examining the extent to which teachers followed the curriculum in the last three-year cycle and which types of contents were paid more attention than others. Even though all teachers claimed they followed and fully implemented the recommended curriculum, their responses did not correspond with their statements. Using range analysis (the first selection was given weight function 3, the second 2 and the third 1), the authors discovered that teachers paid most attention to track and field sports (46 points) and ball games (45 points), and considerably less to gymnastics (20 points).

This raises the question of whether it is possible to successfully teach, reinforce and monitor knowledge gained in the ten lessons allocated to gymnastics and then assess it at the end of each cluster. Teachers may want to consider the proposal that they can implement gymnastic contents (some preparatory exercises – climbing, push-ups, scales, basic gymnastic vertical jumps; and pre-elements) in the introductory part of the lesson or its conclusion, regardless of the lesson's main objective. By continuously including gymnastic elements in the curriculum, teachers will be able to improve or at least maintain the level of movement abilities in their pupils throughout the year. For children, the period between the ages of ten and fifteen is a very sensitive period in their development characterised by fast growth, especially of extremities. The accelerated development of the body unbalances the established movement patterns leading to temporary stagnation or even decline in the movement development process (Strel, Kovač, Jurak, & Bednarik, 2001). This is a perfectly normal and understandable phenomenon; nevertheless, children sometimes find it hard to accept it (Horvat, 1994) and this diminished movement efficiency often turns them away from sports. This stage in their development is probably the breaking point when teachers find it especially hard to maintain a positive attitude to sports and movement in their pupils.

In terms of implementation of gymnastic content (Table 2), teachers belive curriculum is to difficult and they do not introduce the whole curriculum content to the pupils, teachers seem to implement those elements which are technically easier to perform, for example exercises in which the body never enters a phase of no support (roll forward, roll backward, handstand, handspring to the side, walking on the beam, etc.). Elements which include a flight phase, a turn or a reduction in the support surface are more difficult to teach and teachers also find them less suitable. The least implemented are exercises on the bar and the parallel/uneven bars where only one exercise, felge, of the six listed is implemented in high percentage. Interestingly enough, felge is the hardest to perform among the six listed exercises.

Based on different examinations of implementation of gymnastic content in basic schools, different authors have noticed different reasons for their non-implementation. Šturm & Strel (2002) see poor results in the development of muscular strength in arms and shoulders as a consequence of negligent attitude toward gymnastic elements in training programmes and superficial attitude toward systematic and holistic development of basic movement abilities. Strel, Kovač & Jurak (2004) have found that in recent decades there has been a very significant decline in the arm and shoulder strength, specifically 20% per decade. Exercises on bars are especially effective in building up strength in arms and shoulders. Kovač (2006, pp. 11-

18) has noticed that teachers apparently do not teach certain contents or teach them on a very limited scale as pupils do not meet the standards recommended by the curriculum (Kovač & Novak, 2001). Some authors (Majerič, 2004; Šturm & Strel, 2002) note that teaching is not systematic and results of some research studies show that teachers in the first and the second three-year cycle spend too few lessons on gymnastics which leads to very modest knowledge of gymnastics in children (Majerič, 2004; Štemberger, 2003). Teachers in the third cycle also spend too few lessons on gymnastics (Turšič, 2007). Children find it easiest to learn gymnastic elements in the first years of school, whereas later they need many repetitions to automate more complex movements (Tušak, 1994). This can only be achieved if the learning process is appropriately organised with sufficient number of lessons, optimal teaching techniques and appropriate methodical procedures (Kovač, 2006).

Results (Table 2) also show that there are fewer performances of elements on the beam. Elements on the beam in the current curriculum are only aimed at girls which is a serious deficiency as the beam works as a key apparatus in the learning of body control and correct posture regardless of the child's sex (Bučar Pajek, 2009). In sports today, proprioceptive training is performed in order to improve muscular coordination, posture and balance, to improve body awareness in the space and to subsequently become less prone to injuries. All current training programs for adults are based on proprioceptive training and body stabilization as this type of training counterbalances the consequences of the modern sedentary lifestyle and prevents lower back pain (Bučar Pajek & Pajek, 2009). In its narrow sense, proprioception is defined as the ability of the body to consciously and subconsciously recognise the relative position of neighbouring parts of the body in the space (Enoka, 1994). This type of training consists of various balancing exercises. On the beam, the supporting surface is reduced and the body finds itself in unstable positions. By devising exercises that enable advancement from easy to more demanding and from known to unknown, training can remain interesting while broadening the pupil's movement skills. Balancing exercises can be very effective, low energy and great fun and can be used in the preparatory, main or the final part of a physical education lesson. It is therefore highly recommended that teachers teach balancing exercises both to girls and to boys. They can be used in the introductory or the end part of the lesson regardless of the objective of the main part of the lesson (track and field, basketball, gymnastics, volleyball, handball, football, dance, etc.).

In our survey, special attention was paid to the implementation of gymnastic contents and movements (Table 3) which are not included in the PE curriculum in the third cycle - they are, however, included in the curriculum for the first years of basic school and play an important role in the methods by which some gymnastic elements are taught. *Preparatory exercises* can significantly impact the child's movement abilities which are important for teaching gymnastic contents. *Pre-exercises*, on the other hand, can teach pupils exercises related to the structure or part of the structure of the chosen element and are selected by the teacher as a means of teaching new contents.

Gymnastics offers a wealth of locomotive, stability and control movements. Pupils in all three cycles learn basic elements that are important, especially for one's orientation in the space (jumps and leaps, hanging and supporting oneself, rotating, crawling, rolling; elements can be performed in different directions and on different levels). These elements can later be upgraded by more complex movements on apparatus and by using different aids. Gymnastic contents in school programmes do not only entail learning elements of acrobatics, exercises on apparatus, elements of rhythmic gymnastics and jumps on small trampoline, but also learning about gymnastic exercises and their importance

for the development and maintenance of human movement abilities and good posture (Kovač, 2006).

The presence of zero curriculum is noticeable in a dramatic decline in the implementation of preparatory exercises in years 7 to 9 (vertical bar climbing, rope climbing, ladder climbing and bunny jumps) and indicates that as children grow and become older, teachers progressively leave out certain elements from the gymnastic content. They probably think that children have already mastered such elements and therefore find them too easy (ladder climbing, bunny jumps) or too difficult (rope and vertical bar climbing) at this age. The objective of preparatory exercises is to maintain or improve children's movement ability levels (Čuk, Bolković, Bučar Pajek, Turšič, & Bricelj, 2006). Climbing demands from the child the highest degree of good physical condition. Climbing requires strength of the flexing muscles in the arms and a certain level of movement coordination as the child needs to wrap the rope around his or her feet or to find support on the vertical bar and coordinate the movement of legs and arms while climbing; climbing requires courage and perseverance to reach the top and then safely climb down the vertical bar or the rope. The problem occurs when children, due to insufficient strength in the arms and shoulders, are unable to climb. They are usually able to hang onto the rope or the vertical bar for a moment and then, due to insufficient strength or fear of falling, give up in this position rather than make an attempt to climb higher. In such cases, the teacher must distinguish between exercises for arm flexing and extending. For muscles that flex arms, the following preparatory exercises should be selected: vertical bar climbing, ladder climbing, wall climbing or rope climbing. Muscles that extend arms can be strengthened by preparatory exercises which require support: bunny jumps, cartwheel, standing front and back support walking moving forward and backward (perhaps as a catch-up game), etc. In this age group, it is particularly important that teachers insist on the performance of simple organic forms of movements, preparatory exercises and exercises to strengthen specific groups of muscles as this is the only way to successfully maintain or even improve the level of children's movement abilities.

Gymnastics in basic school positively impacts on specific dimensions of psychosomatic status of children and adolescents only if the training is well planned, professionally managed, pedagogically conducted and goal oriented. The teacher must be able to guide children's interests and to align them with educational premises and objectives of physical education in particular in order to provide quality education. In order to facilitate successful learning, the teacher must continuously update his or her knowledge. Understanding the importance of gymnastics for the development of a school child is not enough; in order to realise educational objectives it is necessary to implement the gymnastics programme in such a way that gymnastic contents are implemented in all stages. The teacher is the one who can adapt, in accordance with his or her knowledge and understanding of a particular sport discipline, the training programme to the given conditions, situation and the child's abilities. This is how children learn to understand a specific sport discipline as a whole, adopt it and implement it in their own free time.

REFERENCES

Anon. (1998). Predmetnik devetletne osnovne šole. Retrieved 23 April 2010, from http://www.see-educoop.net/education_in/pdf/predmetnik_9letke-slo-svn-t06.pdf

Bučar Pajek, M. (2003). *Dejavniki uspešnosti programa akrobatike za študentke na Fakulteti za šport.* University of Ljubljana, Ljubljana.

Bučar Pajek, M. (2009). *Pilates v šoli*. Paper presented at the 22. posvet zveze društev športnih pedagogov Slovenije.

Bučar Pajek, M., & Pajek, J. (2009). Lower back pain and the possible role of

pilates in artistic gymnastics. *Science of Gymnastics Journal, 1*(1), 51-57.

Čuk, I., Bolković, T., Bučar Pajek, M., Turšič, B., & Bricelj, A. (2006). *Teorija in metodika športne gimnastike – vaje* (1st ed.). Ljubljana: Fakulteta za Šport.

Enoka, R. M. (1994). *Neuromechanical Basis of Kinesiology*. Champain: Human Kinetics.

Horvat, L. (1994). Motorični in kognitivni razvoj v starostnem obdobju med 6. in 19. letom. In A. Cankar & M. Kovač (Eds.), *Cilji šolske športne vzgoje – Uvodna izhodišča*. Ljubljana: Zavod republike Slovenije za šolstvo in šport.

Kompara, A., & Čuk, I. (2006). Športna gimnastika v učnih načrtih osnovnih šol od leta 1874 do leta 1941. *Šport - priloga, 54*(2), 30-43.

Kovač, M. (2006). Gimnastično znanje učencev v slovenskih osnovnih šolah ter njegovo preverjanje in ocenjevanje. *Šport, 54*(2), 11-18.

Kovač, M., Dežman, B., & Lorenci, B. (2002). *Mnenja športnih pedagogov o zunanjem preverjanju znanja iz športne vzgoje*. Paper presented at the 15. strokovni posvet Zveze društev športnih pedagogov Slovenije – Razvojne smernice športne vzgoje.

Kovač, M., & Novak, D. (2001). *Učni načrt za osnovno šolo*. Ljubljana: Urad za šolstvo.

Majerič, M. (2004). *Analiza modelov ocenjevanja športnih znanj pri športni vzgoji.* University of Ljubljana, Ljubljana.

Medved, B. (1985). *Stališča učiteljev telesne vzgoje ljubljanskih osnovnih šol o vlogi programa športne gimnastike na predmetni stopnji.* University of Ljubljana, Ljubljana.

Novak, D., Kovač, M., & Čuk, I. (2008). *Gimnastična abeceda*. Ljubljana: Fakulteta za šport.

Peček, P., & Dežman, B. (2003). *Vpliv trinajsturnega programa vadbe košarke na izboljšanje tehnično-taktičnih spretnosti učenk v 7. razredu osnovne šole*. Paper presented at the 16. strokovni posvet pedagogov Slovenije – Ocenjevanje pri športni vzgoji.

Rogelja, D. (1985). *Nekatera stališča učiteljev telesne vzgoje o programu športne gimnastike v procesu šolske telesne vzgoje ter vpliv delavnih pogojev na njihova stališča.* University of Ljubljana, Ljubljana.

Strel, J. (2004). *Pomen športa in izobraževanja pri preprečevanju sedečega načina življenja in oblikovanju zdravega življenjskega stila otrok in mladine - Primer Slovenije*. In M. Bučar Pajek (Ed.). Ljubljana: Faculty of Sport.

Strel, J., Kovač, M., Jurak, G., & Bednarik, J. (2001). *Primerjava telesnega in gibalnega razvoja šolske mladine med leti 1990-2000*. Paper presented at the 14. strokovni posvet Zveze društev športnih pedagogov Slovenije, Kranjska Gora – Uvajanje novosti pri šolski športni vzgoji.

Tome, J. (1983). *Realizacija šolske telesne vzgoje v SR Sloveniji*. Ljubljana: Fakulteta za telesno kulturo, Inštitut za kineziologijo.

Turšič, B. (2007). *Izpeljava gimnastičnih vsebin, ki so v učnem načrtu tretjega triletja osnovne šole.* University of Ljubljana, Ljubljana.

Tušak, M. (1994). *Psihološki vidiki učenja plavanja*. Paper presented at the Prvi slovenski posvet o učenju plavanja in varnosti pred utapljanjem.

Štemberger, V. (2003). *Zagotavljanje kakovosti športne vzgoje v prvem vzgojno-izobraževalnem obdobju devetletne osnovne šole.* University of Ljubljana, Ljubljana.

Šturm, J., & Strel, J. (2002). *Gibalni in telesni razvoj osnovnošolcev Slovenije v obdobju od 1970/71-1983*. Ljubljana: Fakulteta za Šport.