

Junior High School Pupils' Opinions on the Content and Conduct of Swimming Classes at School*

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Authors' Contribution:

A – Study Design
 B – Data Collection
 C – Statistical Analysis
 D – Data Interpretation
 E – Manuscript Preparation
 F – Literature Search
 G – Funds Collection

Grzegorz Bielec

Jedrzej Sniadecki Academy of Physical Education and Sport in Gdansk,
 Poland

Key words: *swimming, physical education, junior high school, survey.*

Abstract

Background: *The aim of the study was to recognize high school pupils' opinions about the content of swimming classes, conducted within obligatory physical education lessons.*

Material/Methods: *The experimental group consisted of 56 girls and 60 boys at the age of 14 (± 0.3). All of them were students of the second grade of public secondary schools. The fourth lesson of their obligatory physical education syllabus was conducted at the swimming pool. An anonymous survey was used as a tool. The survey questions referred to the quality and quantity of swimming exercises at the lesson as well as to methodological skills of the teacher.*

Results: *Leg-only exercises and full stroke exercises dominated in the analysed lessons. Girls performed diving less frequently than boys. In pupils' opinion, underwater diving, games and relays occur rarely during swimming classes. Students pointed out that their teachers often explained new exercises, corrected their improper swimming movements, paid attention to the students of poorer abilities and judged fairly.*

Conclusions: *The attractiveness of swimming classes should be developed by applying playing methods and task methods. Floating devices should be used more frequently. The content of the lesson should be differentiated according to the pupils' gender.*

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Dr Grzegorz Bielec

Academy of Physical Education and Sport, Department of Swimming, 80-336 Gdańsk, Poland, ul. K. Górskiego 1

Phone: +4858 554-71-47, e-mail: pitajlo1@wp.pl

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Introduction

The age at which students attend junior high school coincides with the stage of their physical and mental adolescence. At that time they undergo fast growth called pubertal spurt, during which long bones grow intensively. However, fast growth is not always accompanied by body weight gain. At this stage dynamic changes in body weight occur and consequently postural defects are common to develop. Body weight gain in girls is associated with regional fat deposition in hips, thighs and buttocks, while in boys with the development of bone and muscular tissue. The posture of a male junior high school student becomes similar to the one of a grown-up man of broad shoulders and narrow hips.

Emotional changes that take place during adolescence may result in reluctance to take up any kind of physical activity, both during obligatory swimming lessons at school and the extra-curricular ones. Pupils' absence from swimming classes, supported by physician's certificate, is a common problem in junior high schools. For their questionnaire survey J. Pilczuk and J. Zieliński [1] selected 140 students (out of 687 students of one of junior high schools in Warsaw) with physician's certificates excusing them from PE classes for more than 3 months. The questionnaire revealed various free time activity preferences of the respondents like, e.g. listening to music (87%), watching TV, meeting friends (71%), or even practising sports (15%). 62.9% of the respondents claimed that they undertake various kinds of physical activity like, e.g. swimming, dancing, hiking or aerobics. 58.6% of the students stated that PE is one of the three least important school subjects.

The problem of pupils' absence at PE classes is present not only in Poland. The study conducted in Brazil revealed that teenagers who are regularly absent from PE classes are at the same time eager to take up physical activities in their free time; however, they prefer individual sports. Their reluctance to organized classes stems from their belief that PE classes involve instances of aggression, humiliation and being called names [2]. American teenagers from ethnic minorities, on the other hand, avoid physical activity (also at school) for fear that they may get hurt, sweat too much or encounter aggressive behavior of the opposite team players. Problematic are also embarrassment and the pupils' fear of unpleasant situations in the locker room [3]. The study on the pupils' opinion on school PE classes was conducted by C. Kuśnierz [4]. The author carried out a questionnaire survey including 715 high school students. Most of them expressed their interest in PE and willingness to take part in it. However, the degree to which they were interested in it depended on the teacher's attitude, the way the lesson was conducted and the sport equipment provided in the gym. The majority of the respondents showed willingness to take part in thematic classes. Boys preferred football and basketball, girls swimming and volleyball. There were some differences between boys and girls observed as far as the attitude towards PE classes is concerned. Girls far more often refused to do certain kinds of exercises as long as they would not be punished by a bad grade. Moreover, over half of the girls questioned did not want the number of PE classes in a week to be increased.

Beneficial health effects of swimming fully justify its inclusion into the syllabus of school PE classes. However, a limited number of well-prepared sporting facilities automatically limits the number of students who can take part in organized swimming classes. PE classes carried out at swimming pools differ from the traditional ones conducted in a gym or a playground, particularly as regards the environment in which exercises are performed. Thus, it seems that participation in swimming classes should be attractive because of its unique character.

The aim of the study was to find out junior high school pupils' opinions on the content of swimming classes carried out as part of PE classes.

The following research questions were asked:

1. What exercises are most commonly done by students during swimming classes?
2. Do teachers choose different types of exercises for boys and girls?
3. What is the pupils' opinion on the teacher's attitude and commitment to swimming classes?

Material and methods

The study involved 56 girls and 60 boys aged 14 (± 0.3) attending the 2nd grade of junior high schools in Gdańsk. The schools in question provided four hours of PE per week, one of which was conducted at a swimming pool. PE classes had been scheduled this way also one year before the survey.

In order to get to know pupils' opinions on swimming classes a diagnostic survey was carried out. The questionnaire was designed as specified by T. Pilch and T. Bauman [5]. It consisted of open and closed questions concerning four main issues:

- attitude towards swimming as a form of physical activity and PE classes carried out at a swimming pool;
- knowledge on health benefits of swimming;
- opinion on the content of swimming classes;
- opinion on the methodological conduct of swimming classes.

After consultation with the Laboratory of Psychological Tests in Warsaw (*Pracownia Testów Psychologicznych w Warszawie*), an assessment of the internal consistency of the psychometric test was conducted in order to verify the reliability of the questionnaire. The procedure was carried out with the use of the most common index: Cronbach's alpha. The result was $\alpha=0.68$ and it ranked the reliability of the test as average. A pilot study was conducted on a group of students from a junior high school in Gdynia. It involved 56 girls and boys of the 2nd grade attending obligatory swimming classes at school. After modification of some of the questions and rejection of several ones, Cronbach alpha was counted again. The result was $\alpha=0.81$ and signified satisfactory reliability of the test.

In this article we present the results concerning only the pupils' opinions on swimming classes in general and their judgment of the teachers' methodological conduct. All the questions included in the first part of the questionnaire concerned the course of PE class at a swimming pool. The students were asked to evaluate the frequency in which particular types of exercises are used during swimming classes. It had been presupposed that on the basis of pupils' answers we would be able to compile a list of exercises that are most commonly selected by teachers. Types of exercises included in the questionnaire had been chosen on the basis of methodological literature available to the teachers and the observation of many swimming classes conducted by the author of the study. In the second part of the questionnaire students were asked to characterize the frequency of certain methodological procedures carried out by their teacher during swimming classes.

The survey was conducted at school during a form period in teacher's presence. Time allowed for the test did not exceed twenty minutes. Differences in the answers of girls and boys were counted with the use of the chi-square test. Statistical significance was stated for $p \leq 0.05$. Graphic design was made with the use of Excel 2007.

Results

Pupils' answers seem to indicate the prevalence of exercises engaging only the work of legs during swimming. One in every four boys claimed that exercises of this type were introduced in every lesson. Isolated exercises particularly for the practise of arm movement were rare, which was confirmed by more than 50% of both girls and boys. Boys and girls did not differ as regards

the frequency of the exercise based on whole stroke swimming, i.e. swimming in coordination typical of a particular style of swimming (Table 1).

There were some differences found between the frequency of starting jumps performed by boys and girls. Boys claimed to perform this exercise significantly more often than girls ($\chi^2=23.903$; $p=0.00003$). It may mean that male teachers are more eager to develop this element of swimming. Pupils' answers also seemed to suggest that underwater swimming and elements of diving are not particularly appreciated by their teachers. More than 70% of boys pointed out that such exercises were rare or were not introduced during their lessons at all. Among girls this value was even higher (Table 1).

Tab. 1. Frequency of performance the particular exercises during swimming classes in pupils' opinions (the percentage of answers)

Statement	gender	never	rarely	often but not every lesson	every lesson	TOTAL
I swim using legs only	♀/♂	4.17 / 3.64	29.17 / 23.64	58.33 / 47.27	8.33 / 25.45	100 / 100
I swim using arms only	♀/♂	18.75 / 12.5	58.33 / 51.79	22.92 / 26.79	0 / 8.93	100 / 100
I swim using the whole stroke	♀/♂	4.08 / 3.57	8.16 / 8.93	16.33 / 16.07	71.43 / 71.43	100 / 100
I perform start jump to the water	♀/♂	28.57 / 12.5	59.18 / 30.36	12.24 / 42.86	0 / 14.29	100 / 100
I jump to the water on my feet	♀/♂	16.67 / 16.36	43.75 / 49.09	35.42 / 25.45	4.17 / 9.09	100 / 100
I dive and look for sunk objects	♀/♂	22.92 / 35.71	60.42 / 35.71	12.5 / 21.43	4.17 / 7.14	100 / 100

One in every four boys declared regular participation in races and relays in swimming classes but more than half of boys questioned claimed that they rarely did exercises of this kind. Races and relays turned out to be even less frequent in the case of girls' classes. Almost half of them had never taken part in any kind of races (Figure 1). This may be caused by poor attendance at their swimming classes. Races involving four or five girls are not particularly exciting and do not help to make the lesson more attractive. Answers to this question significantly differed boys from girls ($\chi^2=14.097$; $p=0.002$).

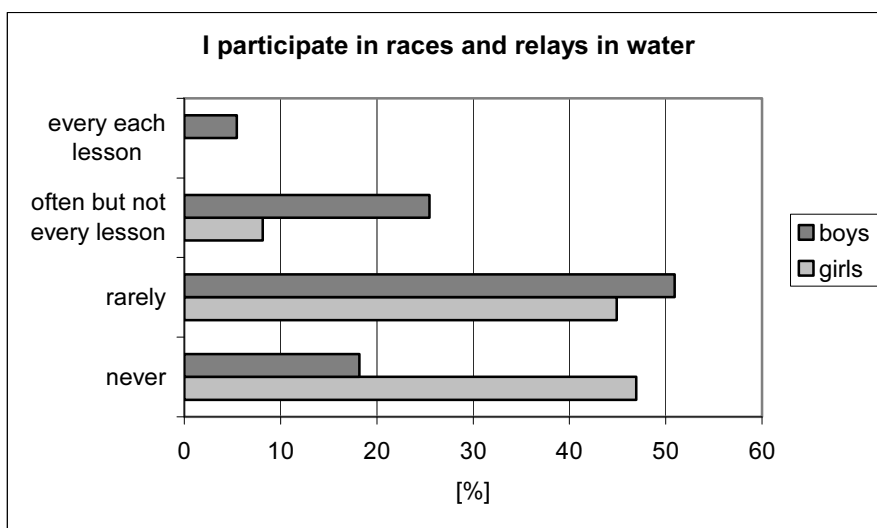


Fig 1. Frequency of participation in races and relays during swimming classes - in pupils' opinion

As claimed by more than 70% of boys and almost 50% of girls, games in the water are also rare at swimming classes. The proportion of students who declared more frequent participation in water games was small and similar for boys and girls (Figure 2). Girls significantly more often than boys claimed that they had never taken part in water games during their swimming classes ($\chi^2=8.857$; $p=0.031$).

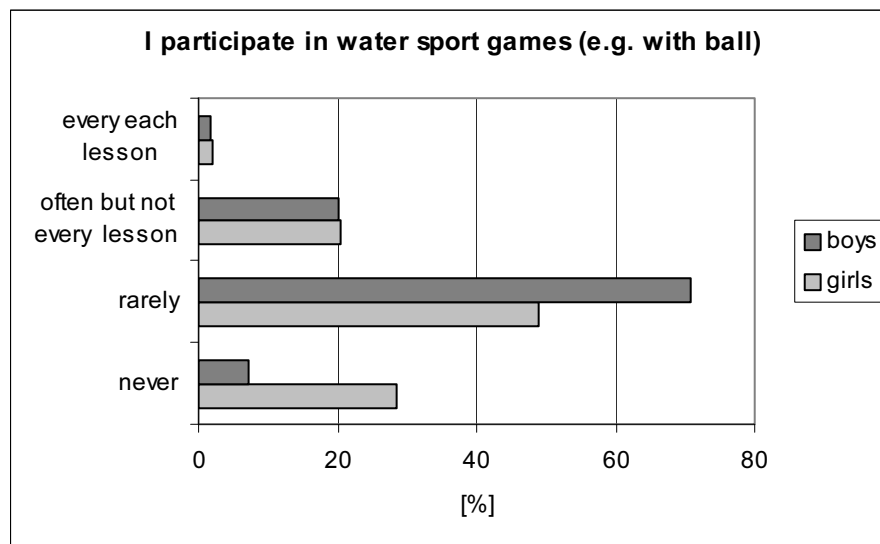


Fig 2. Frequency of participation in water sport games during swimming classes - in pupils' opinion

Girls and boys had an opportunity to make a list of exercises which were not mentioned in the questionnaire but were known by them from their lessons. A vast majority of them (87% of all the students questioned) did not answer this question and several students wrote "corrective exercises".

In other questions students were asked to specify the frequency with which their teachers perform certain methodological procedures. The answers seem to suggest that teachers perform them in a satisfactory way. As claimed by more than 80% of girls and over 70% of boys every new exercise is always or almost always preceded by a short presentation and explanation. A similar proportion of those questioned claimed that if they did an exercise incorrectly, it was noticed and corrected by the teacher. However, subjective impressions concerning the frequency of instructions given by the teacher significantly differed in boys and girls. Far more girls claimed that they were always corrected by the teacher and none of them confirmed never being corrected by the teacher ($\chi^2=9.399$; $p=0.024$). According to the students, teachers pay much attention to those that do not swim too well. Over 80% of girls and boys noticed that teachers always or almost always take care of the ones that have poor swimming skills (Table 2).

Pupils' answers seemed to suggest that passing theoretical knowledge concerning swimming is the weak point of swimming classes. More than half of the girls questioned rarely heard any information concerning health benefits of swimming and more than one third of them had never heard it during swimming classes. Only one in five boys claimed that such information was often given during their classes. The issue of safety was also rarely mentioned during swimming classes. Almost half of the students questioned stated that they had never been given such information and a large proportion of them heard it rarely. A vast majority of boys and girls pointed out that far too rarely their teachers allowed them to swim for a longer time in a style chosen by the students themselves (Table 2). Answers to this question were supposed to reveal how often teachers allow students to seize the initiative, i.e. how often they "take the easy way out" by allowing students to swim freely, not giving them particular exercises to do. It turned out that such situations are rather rare. An opposite opinion was expressed by 30% of those questioned.

Tab. 2. Frequency of teacher's performance the certain methodological procedures in pupils' opinions (the percentage of answers)

Statement	gender	never	rarely	often	always	TOTAL
Teacher explains new exercises to us	♀/♂	0 / 9.26	12.5 / 20.37	31.25 / 27.78	56.25 / 42.59	100 / 100
Teacher corrects our mistakes	♀/♂	0 / 10.91	18.37 / 18.18	28.57 / 40.0	53.06 / 30.91	100 / 100
Teacher pays much attention to poor swimmers	♀/♂	2.04 / 7.27	14.29 / 5.45	38.78 / 40.0	44.9 / 47.27	100 / 100
Teacher tells us about the healthy aspects of swimming	♀/♂	34.69 / 45.45	55.1 / 27.27	8.16 / 21.82	2.04 / 5.45	100 / 100
Teacher tells us about the rules of water safety	♀/♂	46.94 / 49.09	42.86 / 27.27	10.2 / 18.18	0 / 5.45	100 / 100
Teacher lets us swim the way we like	♀/♂	8.16 / 12.96	63.27 / 59.26	26.53 / 18.52	2.04 / 9.26	100 / 100

Almost 90% of boys and more than 75% of girls claimed that the grades they were given by their teachers were always or almost always just (Figure 3). This may prove that students trust in their teacher's unbiased and competent judgements. Although 1/5 of the girls questioned claimed that they were rarely judged in a fair way, there were no significant differences observed between girls and boys in that respect.

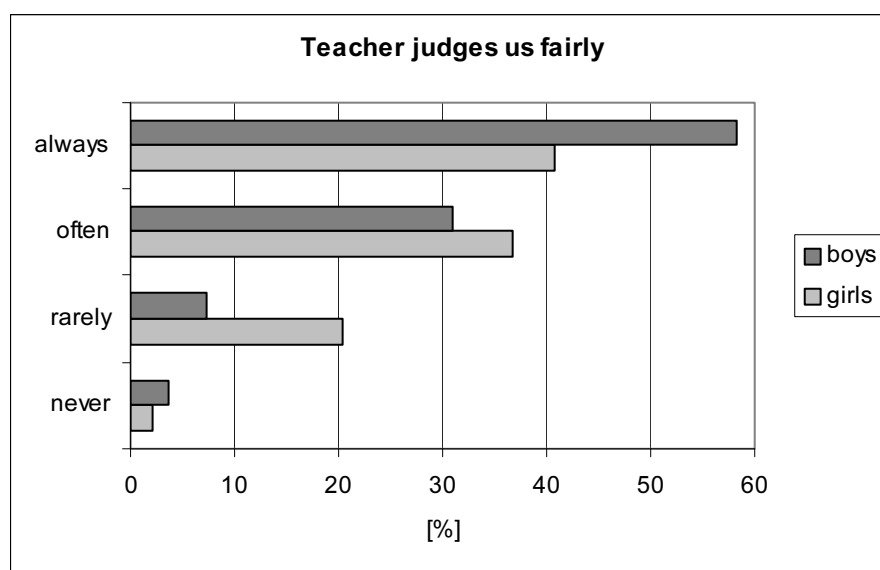


Fig 3. Judgement of students by the teacher - in pupils' opinion

Discussion

A typical lesson that the students questioned attended regularly included a lot of whole stroke swimming, exercises engaging legs and sometimes dives head-first. Diving, races and water games were exceptionally rare. According to K. Kasperska [6] pupils' involvement in PE classes can be achieved by, among others, avoiding schematism, looking for new and diverse exercises or adding variety to them by using miscellaneous items. According to her, making girls' classes more attractive is a separate issue since they should include dance and music activities as well as modern form of activity.

Suggestions that changes should be introduced in school PE classes come also from students themselves. K. Górna and K. Skalik [7] observed that girls' judgment of the attractiveness of PE

classes is inversely proportional to their age. 56% of twelve-year-old girls claimed that PE lessons were attractive. Among fifteen-year-olds the proportion decreased to 44.6% and 14.5% among new secondary- school graduates. The most commonly mentioned weak points of PE classes included repetitiveness, bad organizing, insufficient number of students taking part in games and lack of music. Suggestions for improving the lessons were, among others, as follows: diverse disciplines should be introduced in the syllabus, e.g. swimming; additional extracurricular classes should be organized, lessons should be more varied (sports equipment); grades for fitness should be eliminated; students should be able to choose exercises; basic sanitary requirements should be fulfilled. Girls of all ages unanimously opted for lessons without boys.

In order to increase pupils' interest in swimming classes, it is necessary to change their content. It is advisable to introduce exercises involving music, e.g. elements of aqua-aerobics. These do not have to comprise whole lessons. They may serve as an introduction to the first part of them, as a warm-up in the water. Having even just a few elements of aqua aerobic equipment at his or her disposal, the teacher may prepare a few-minute programme with the use of big and small boards, rubber balls and pool noodles. Elements of synchronized swimming, including basic movements and simple figures, may also be attractive for girls. Such exercises should not constitute the main part of the lesson but just be an element adding variety to it. Female high school students will still be taught swimming in different styles, do legs and arms exercises, practise turns, etc. However, each lesson should contain some surprise, a new form of activity, or a new game.

Lessons for boys also require variety. It is advisable to introduce exercises involving task-completion and fun but also some forms of team rivalry. Boys in junior high school can also be interested in various exercises used in lifeguard training programmes. With sensible organization of the lesson, even with just a little equipment at our disposal (e.g. rescue tubes, rescue cans), it is possible to conduct attractive classes, using for example elements of a circuit training.

The results of the study presented here show the imperfections as regards the amount of knowledge concerning health benefits of swimming given to students during swimming classes. Such knowledge supports the conscious participation of teenagers in swimming and recreational water activities. Revision, consolidation and extension of such knowledge allows for it to be used by the students in the future when, as adults, they will make their own decisions as to whether go swimming or watch TV. Surprising were the pupils' answers concerning low frequency of water safety knowledge offered during swimming classes. The need for it is unquestioned; however, as the results of other studies prove, the degree to which such knowledge is assimilated and consolidated depends on pupils' age [8]. G. Kosiba [9] observes that the specificity of PE classes, full of physical activity, has always caused difficulties in teaching elements of theory which were usually neglected. According to the author, the task of a contemporary PE teacher is not so much to pass ready-made information, as to motivate the student so that he or she wants to gain such knowledge on his own.

The results of the study conducted by W. Wiesner [10] suggest that only 4% of teachers perceive teaching students physical culture as the main aim of the lesson. Reasons for this may be numerous. It is usually not teaching general rules or terminology that is problematic to teachers, but teaching normative knowledge, i.e. the one that shapes pupils' attitudes [11].

Pupils' opinions on their teachers is a particularly positive aspect of the study results. Basic methodological procedures such as presentation, explanation, control and correcting are carried out diligently by the teachers. Another positive characteristic is that students are assessed in a fair way. It seems that teachers from junior high schools in Gdańsk assessed individual progress of their students, rather than the objective level of their swimming skills. Such an attitude of the teachers is in accordance with modern trends of physical education. According to these trends, assessment should concern physical abilities arising from each student's interests and conditions provided by their schools. In the context of this study, a crawl turn could serve as an example of

such an ability. The grade should first of all show what the student has achieved, what he does correctly, how much he can do but also what he still needs to learn [12,13].

Conclusion

The analysis of the material presented above allows for the following conclusions:

1. The content of swimming classes is not varied. Legs exercises and whole stroke swimming exercises are predominant. Diving and games in the water are rare;
2. Selection of exercises used during swimming classes does not take into consideration boys' and girls' preferences as far as different forms of activity in the water is concerned;
3. Junior high school students are positively disposed towards their teachers' attitude and involvement during swimming classes.

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