

SÚČASNÉ TRENDY VYUŽÍVANIA PROSTRIEDKOV SEBAOBRANY

CURRENT TRENDS IN THE USE OF MEANS OF SELF-DEFENCE

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ABSTRAKT

Zvyšujúca sa kriminalita a spoločnosť, v ktorej žijeme, vytvárajú priestor, v ktorom sa ľudia mnohokrát necítia bezpečne a obávajú sa o svoj život alebo o život svojich blízkych. Sebaobrana je aktuálnou témou, ktorej je potrebné venovať zvýšenú pozornosť. Je preto potrebné zamyslieť sa nad spôsobmi, ako zvýšiť osobnú bezpečnosť či pocit bezpečia a predísť tak neželaným následkom útokov. Teoretická časť sa zameriava na vymedzenie pojmu sebaobrana, poskytuje prehľad a opis prostriedkov sebaobransy a ich vzájomné porovnanie. Praktická časť pozostáva z prieskumu, ktorý bol realizovaný medzi študentmi Fakulty bezpečnostného inžinierstva Žilinskej univerzity v Žiline. Analýza prieskumu umožňuje odhaliť problémy v oblasti používania sebaobranných prostriedkov a následne je potrebné navrhnúť preventívne opatrenia.

Kľúčové slová: sebaobrana, prostriedky sebaobransy, osobná ochrana.

ABSTRACT

The rising crime rate and the society we live in creates a space in which people many times do not feel safe and fear for their life or the life of a loved one. Self-defence is a current topic that needs increased attention. It is therefore necessary to consider ways to increase personal safety or feelings of security and thus prevent unwanted consequences of attacks. The theoretical part focuses on defining the concept of self-defence, provides an overview and description of the means of self-defence and their mutual comparison. The practical part consists of a survey conducted among students of the Faculty of Security Engineering of the University of Žilina. The analysis of the survey allows to reveal problems in the field of the use of self-defence means and consequently it is necessary to propose preventive measures.

Keywords: self-defence, means of self-defence, personal protection.

INTRODUCTION

Self-defence is a topic that touches everyone, regardless of gender, age, education or profession. Our parents, grandparents, siblings and friends can become victims of attacks. It is therefore essential to be aware of the dangers that threaten us and our loved ones in everyday life. We also need to be aware of the need to defend ourselves and our health against attacks. There are now several defences available through which personal security can be enhanced in order to deter an attack and minimise the adverse consequences caused by an attack.

1 SELF-DEFENCE

The primary role of self-defence is to protect and defend oneself, one's interests and values, as well as one's loved ones. The goal is to ensure one's own safety or the safety of someone else [1].

Self-defence is a set of normative relationships between four elements:

- the subject of the law - the defender,
- the object against whom the right is withheld - the aggressor,
- the act that is the content of the right - in typical cases of self-defence this will be killing,
- the end of self-defence - the defensive act is intended to preserve or protect; in cases where the defender's own life, the life of another person, or the safety of other valuables, property, or liberty is at stake [2].

Self-defence means technical, tactical, physical or psychological resolution of a conflict situation. Self-defence can be understood as an ethical and practical effort to remove or mitigate an unjustified attack, but not the attacker. The essence of self-defence is to defend oneself or to guide or direct the situation towards agreement, compromise, reconciliation or resolution [3].

1.1 Means of self-defence

The means of self-defence include:

- Means of self-defence at long distances
 - Taser, expanding (gas) guns, defensive spray
- Medium-range self-defence means
 - Baton, telescopic baton, tactical whip, tonfa, monkey fist
- Short-range self-defence means
 - Kubotan, boxer, electric stun gun, cold weapons (knife, dagger)
- Light means
 - Tactical flashlights, police flashlights
- Acoustic means
 - Safety whistles, personal alarm systems
- Personal GPS tracking systems

Means of self-defence at long distances

A Taser is a remote electric stun gun used to prevent an attack. It is a non-lethal means of defence. Its design is reminiscent of a short firearm. When the trigger is pulled, two probes are ejected via compressed gas. The probes are connected to the device by a 0,1 mm diameter wire. When hit, both probe tips are embedded in the body of the attacker. By means of reversible

hooks, the probe tips can be attached to the attacker's clothing and send pulses into it. The pulses stimulate the attacker's nervous system as soon as they flow into his body [1].



Fig. 1 A taser [4]

An expansion weapon is close to a real weapon in appearance. However, on closer inspection, differences can be found. The weapon uses two types of cartridges, namely acoustic or tear gas filled. As a filling substance CN, CS or Nonivamide (OC) is used, which is the most effective. Therefore, it is intended only against animals, not against humans [5].

Defensive spray after hitting the face irritates the eyes, mucous membranes, skin, respiratory tract. Causes watery and burning eyes, temporary loss of vision or difficulty breathing. Some types may cause sneezing, coughing or stomach upset. Defensive sprays may be supplemented with dyes to allow easier identification of the attacker. Currently, the substance OC - Oleoresin Capsicum - is mainly used in defence sprays. These are extracts from hot peppers, which cause a pungent taste [6].

Means of self-defence with medium range

The baton is a simple means of defence based on the principle of a short stick. It is used for close combat. Currently, batons are little used [1].

The telescopic baton is one of the modern means of defence. It consists of three steel tubes inserted in each other. With a sharp swing, the baton expands to its full length. The open baton can be folded by a sharp blow with the tip of the baton perpendicular to a hard surface. The handle is made of rubber material and patterned to prevent the baton from slipping out of the hand. There are hardened and unhardened telescopic batons [1].

The tactical whip is one of the self-defence means designed for personal protection against animals and humans. It allows to hit an attacker with great speed from a safe distance. A blow to the head, ribs or fingers can cause fractures and severe pain. At shorter distances from the attacker, the handle of the tactical whip can also be used as an effective impact weapon [4].



Fig. 2 The tactical whip [4]

The tonfa is a defensive means that is made mostly of plastic. Its design resembles a baton. Unlike the baton, the tonfa has one more grip, which makes it possible to protect the forearm with it. There is now also a telescopic version [1].

The monkey's fist is a rope with a weighted end. In terms of functionality and use, the monkey fist can be compared to a tactical whip. Two types of monkey fists are known. One is with a ball bearing on the end that is wrapped in a cord and the other is made up of just a threaded knot. They come in different sizes, shapes and weights [4].



Fig. 3 The monkey's fist [4]

Means of self-defence at close range

The cubotan is a small, inconspicuous but tough defensive means, approximately 1.5 cm in diameter and 14 cm in length. Its design is reminiscent of a fountain pen or key ring. It is held in a clenched fist so that only the end protrudes [1].

The boxer, as we know it today, did not originate until the 19th century. It consists of three parts. The first part is made up of rings that are threaded onto the fingers. The second part is made up of punching prongs or protrusions that are placed on the rings. The third part is the fulcrum, which the boxer rests on the palm of the hand [7].

Conventional stun guns are relatively simple in design and operate on common nine volt batteries. The batteries supply electricity to a circuit consisting of various electrical components. The circuit contains multiple transformers that increase the voltage and decrease the current. The circuit also consists of an oscillator that fluctuates the current and produces a specific pulse pattern of electricity. This current charges a capacitor. The capacitor creates a charge and releases it to the electrodes, which represents the end of the circuit. The electrodes are two plates of conductive metal [8].



Fig. 4 The electric stun gun [4]

Knives are among the simple tools used in everyday life for cutting, slicing or stabbing. Thus, they can serve as a short hand-held cold weapon. A knife can act as a stabbing weapon if its

blade is sufficiently strong, rigid and curved. A knife consists of a blade and a handle or hilt which are joined either rigidly or movably [9].



Fig. 5 The closing knife [9]

A dagger is a short sharp stabbing weapon with a blade fixed in the hilt. It is used for cutting, but is also used as a weapon. It is one of the oldest weapons. The massive cross-section of the blade improves the rigidity and strength of the dagger. It has a pronounced central point, which facilitates the stabbing action. The fundamental difference between a dagger and a knife is that a knife is primarily for cutting and a dagger for stabbing. Unlike a knife, the blade of a dagger is double-edged, creating more than one edge [9].

Luminous means

Tactical flashlights are among the simple yet effective means of self-defence. They can focus and narrow their field of light to a very bright beam. Such a beam can temporarily blind an attacker. Due to the bright beam, a tactical flashlight can be used even during the day [4].

Police flashlights have the same functions as tactical flashlights. Due to their size, they can be used as a baton. The flash of a police flashlight can be used to attract attention if the attacked is lost in the wild [4].

Acoustic means

Safety whistles are instruments that make sounds much louder than the human voice and reach greater distances. The loud and penetrating sound of the whistle should attract people's attention and deter aggressors from attacking. The whistle is not one of the tools that will protect a person from physical attack. They are mainly used to summon help if a person is in an emergency situation [4].

A personal alarm system is a small handheld electronic device that makes a loud sound similar to a siren or alarm by pressing a button. Some systems can emit sounds up to 130 decibels. As a result of the disruptive sound, the perpetrator may be disoriented or deterred by such a sound [4].

Personal GPS tracking systems

These devices allow the precise location and location of persons wearing the device to be located and pinpointed. Some devices allow you to track a person in real time on Google Maps and see what places they have visited. Once a person attaches the device to themselves, signals about their location are continuously sent to the user who is tracking the person. Some models have two-way communicators and alert buttons. Some systems can send messages to

predetermined phone numbers or emails. GPS tracking systems can be used to track the location of children, grandparents, or loved ones returning home late from work [4].

2 METHODOLOGY

In order to assess the current state of the use of self-defence means, a questionnaire was used as a form of enquiry. The survey designed to determine the current state of the use of self-defence means was carried out through an anonymous questionnaire and was intended for students of the Faculty of Security Engineering of the University of Žilina. The questionnaire was delivered to the students in electronic form. Data collection lasted approximately one month. The questionnaire consisted of 12 questions, which could be completed either by selecting the answer or by writing the required data. A total of 117 students participated in the survey. 14 questionnaires were filled out incorrectly or incompletely and could not be used. The questionnaire therefore contains 103 valid responses. The aim of the questionnaire was to find out:

- whether the respondent carries any protective means and which specifically,
- whether the respondent was in a dangerous situation where he/she used or needed to use a protective means,
- whether he/she attends self-defence courses,
- how much weight he/she gives to each criterion when selecting and purchasing defensive means,
- what he or she perceives as an obstacle to using or acquiring a means of defence.

3 RESULTS

54 women responded to the questionnaire, which represents **52 %**, and **49 men**, which represents **48 %**. The age category of respondents ranges from 19 to 28 years.

The next question focused on whether the student carries any means of defence such as tear spray, kubotan, boxer, stun gun, knife, etc. **Almost half** of all students responded that they **do not carry any means of defence**, representing **47 %** of the total number of students surveyed. Only **22 % of students carry a defensive means**. **18 % of students responded that they do not currently carry a defensive means but plan to get one**. **13 % of students said that they do not currently carry defensive means**. However, this fact confirms that they have been in possession of some form of defence means in the past.

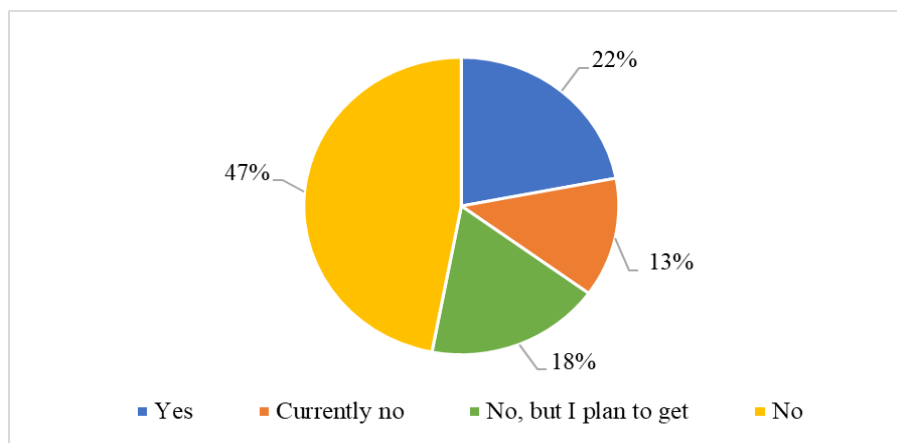


Fig. 6 Percentage of respondents by wearing defence means

The question aimed at finding out **what type of defence means respondents carry with them** refers to students who marked **Yes** in the previous question. This question is supplementary to the previous question. **10 students** indicated that they **carry a defensive spray**. **8 students** answered that they **carry a knife**. **A telescopic baton is carried by 3 students**, **2 students carry a kubotan and a boxer**. **2 students are in possession of a firearm**. Through this question, it was found that some respondents carry more than one means of defence.

Tab. 1 Number of students by the type of defence means they carry

Type of means of defence	Number of respondents
The defence spray	10
The knife	8
The telescopic baton	3
The cubotan a boxer	2
The firearm	2

71 % of students said that they **had not been in a situation** where they used or needed to use a defensive means. **17 %** of students said that they **had been in a dangerous situation but did not have a defensive means** with them. Based on the analysis of individual responses, it was found that the majority of these students currently carried a defensive means in the previous questions. It can be concluded that this was an experience that encouraged students to acquire a defensive means in order to be better prepared for a similar experience in the future. **12 %** of the students stated that they **had been in a dangerous situation and had used a defensive means**.

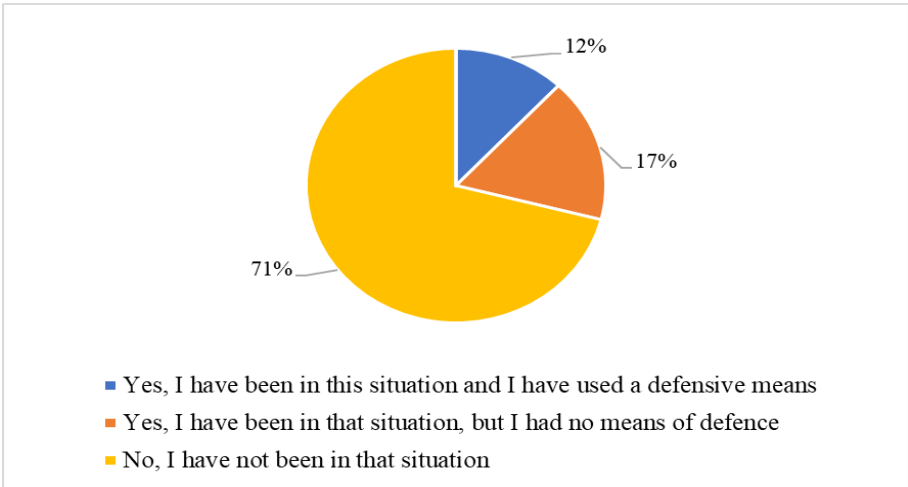


Fig. 7 Percentage distribution of students according to whether they were in a dangerous situation in which they used or needed to use a means of defence

The next question aimed to find out whether students attend self-defence courses. The most represented answer is that they **do not attend any self-defence course**, accounting for 50 % of the total number of responses. **32 %** of students said that they **do not currently attend any course but would be interested in doing so**. In the past, **15 %** of students **have attended a self-defence course**. Based on an analysis of the individual responses, it can be said that students who said they carry knives and telescopic batons have also taken a self-defence course in the past. It is assumed that the holders of batons and knives had just taken a course on baton or knife techniques. However, the possibility that they may have taken self-defence courses that

do not cover the techniques of the means in question is not excluded. Only **2 %** of students reported **attending self-defence courses**.

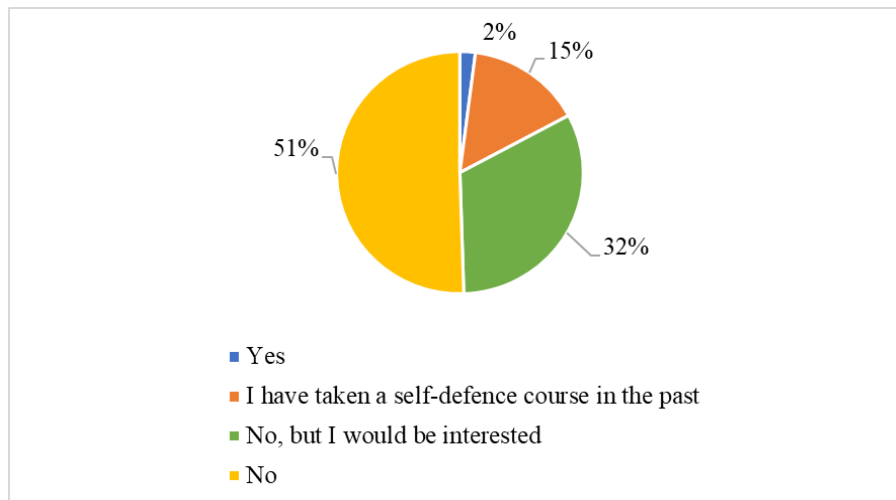


Fig. 8 Distribution of students according to whether they attend a self-defence course

The questionnaire also asked whether students were aware that the University of Žilina organises sport and training camps where students practice the basics of personal self-defence. The answers were almost balanced, with **51 students** answering that they **were aware** of the exercises carried out and **52 students not knowing about this possibility**. This question was followed up by another question to determine whether students take the opportunity to participate in self-defence training in sports and camps. Out of a total of 103 students, only 2 students attend self-defence training within the University of Žilina.

59 % of students responded that they **know of a shop in their area** that sells defence means. **41 %** of students **do not know of any shop in their area** that sells defence means. It is assumed that the respondents do not know the shops in their area because either there are no such shops in the area or the students do not know about them because they are not interested in the issue and do not look for similar shops.

In the following question, the aim was to find out the importance students attached to each criterion. The student's task was to rank the criteria from most important to least important. The most important criterion is **the mechanism of action** of the defensive means, followed by **reusability**, the third most important criterion is **the variability of use**, then **the price** of the defensive means, the penultimate criterion is **the size/weight** of the defensive means, and the last, least important criterion from the students' point of view is **the design** of the defensive means. Based on the analysis of the individual responses, it can be concluded that some students did not rank the design of the defence means as the least important criterion. Students prefer defensive assets that are small, inconspicuous, without distinctive colours, and that can be easily camouflaged. On the other hand, some are more likely to reach for items in bold colour combinations or sizes and wear them as key rings, pendants or decorations, which just because of the bold design may not appear to be defensive means.

Tab. 2 Ranking of criteria in order of importance (1 - most important, 6 - least important)

The criterion	The importance
The mechanism of action	1
The reusability	2
The variability of use	3
Price	4
The size/weight	5
The design	6

Through the questionnaire, it was determined how much money students are willing to invest in the purchase of defensive means. The responses ranged from 10 € to 2000 €. However, most of the responses were in the price range of 20 € to 50 €, suggesting that students are opting for cheaper and more affordable variants of defence means.

A key question of the survey was to find out what students perceived as barriers to using or acquiring a defensive means. Students perceive **the high acquisition price** of the defence means as the biggest barrier. The second biggest obstacle is **the lack of options for acquiring the defence means**. Next in order is **the lack of available product information**, followed by **the lack of a sufficient range** of defence means on the market. The next barrier perceived by students is **the lack of opportunities for training**. Students give equal weight to the obstacle related to **servicing/maintenance** of the defence means. Servicing is understood as the need to replace the battery or cartridge or the need to recharge. The least significant problem perceived by students is **the high price of available training**.

Tab. 3 Ranking of issues by importance (1 - most important, 6 - least important)

Problems perceived by students	The importance
The high acquisition price	1
The lack of options for acquiring the defence means	2
The lack of available product information	3
The lack of a sufficient range	4
The lack of opportunities for training	5
Servicing/maintenance	5
The high price of available training.	6

4 DISCUSSION

Based on the evaluation of the questionnaire survey, students perceive the cost of the defensive measure as the most significant barrier. The questionnaire made it possible to find out that students choose more affordable means of defence. This implies that it is the price that will be most important in the choice of the defence means.

Lack of options to procure the defence means is the second biggest obstacle perceived by students. Based on the market survey, it can be concluded that there are enough shops oriented to the sale of defence means. They function both as brick-and-mortar shops and as online shops. Thus, the problem may lie in the lack of awareness of students about the possibilities of acquiring defence means due to lack of interest in the subject.

Lack of available product information is also given importance by students. The survey of online shops made it possible to find out that some shops provide sufficient descriptions of the products sold as well as sufficient information or technical parameters. However, there are also shops on the market that do not provide detailed product information.

The fourth barrier perceived by students is the insufficient range of defence means on the market. Based on a review of the product range of several online stores, it can be concluded that some stores offer a wide range of different products in different categories. However, there are also some that have a limited range or many products are temporarily unavailable. These facts may pose problems when buying defence means, as some online shops have a very narrow selection of products that may not meet the buyer's requirements.

Lack of opportunities for training and servicing/maintenance of the defence means are given equal weight by students. In order of importance, these are among the issues perceived as less important by students. Lack of opportunities for vocational training is likely to be perceived by students in terms of the absence of vocational training in their place of residence. The servicing and maintenance of the defence means is very important for some types of means and needs to be taken care of in order for the means to function properly when necessary.

The least important barrier for students is the high price of available training. The prices of the available trainings are reasonable considering their content and time scale.

Based on the questionnaire survey, it was shown that half of the students are not aware that the Faculty of Security Engineering conducts a self-defence course in sports and camps. The attendance of the course is low precisely because the students are not aware of this possibility. The problem is probably due to lack of promotion.

The first and basic preventive activity is to spread education and raise awareness among students in the field of self-defence through various talks or lectures that would be conducted at the Faculty of Safety Engineering. Another measure would be to incorporate into the current self-defence course, which is conducted in the framework of sports and camps and focuses on combat exercises, classes where students would have the opportunity to learn techniques aimed at working with defensive means such as a telescopic baton or a knife. Trainers who set up such courses would be invited to implement lessons on handling defensive means. At present, 11 students are attending a course focusing on grappling exercises. It is expected that students would be more interested in attending this course if the existing course were expanded and supplemented with lessons on handling defensive means. This could also motivate them to acquire a defensive means and subsequently attend specialised training to improve their acquired skills.

Through a questionnaire survey it was shown that half of the students are not aware that the Faculty of Security Engineering runs a self-defence course. This is associated with low participation in the course. This problem can be solved by better promotion of the course. The course can be promoted through a poster containing basic information about the course. Another form of poster is information leaflets that would be distributed to students at the beginning of the semester when they can choose the sport they will attend during the semester in physical education. Information leaflets can also be handed out during the open day during which prospective students visit our faculty. Through the leaflet they will learn about the opportunities

the faculty offers. It would also be possible to create a video in which an excerpt from the course would be included. This video could also be part of an open day or lecture.

Another solution would be to organize professional courses and trainings either directly at the premises of the Faculty of Security Engineering or at the premises of the organization. However, the trainings would be conducted by qualified trainers who set up such courses at discounted prices for students of the Faculty of Security Engineering. This measure would address the fact that students do not have enough opportunities to attend courses or trainings due to various reasons which may be distance or cost of trainings. More favorable training prices would probably motivate students to take advantage of this opportunity. The Faculty of Safety Engineering has its own gymnasium in which similar courses or trainings could be conducted.

5 CONCLUSION

We are living in an era in which crime is on the rise. Many people find themselves in a difficult life situation for a variety of reasons. Poor living conditions, poverty or a lack of financial resources to cover their needs often lead people to commit crimes, the victims of which are innocent and unsuspecting people. The aim of committing crime is usually to make a profit or to seek unjust enrichment. Sometimes, however, crimes are committed as a result of the influence of narcotic or addictive substances, which give the attackers a feeling of superiority and often the attackers are unaware of the consequences of their actions.

People are often unaware of the dangers they face in the various places they are in. They do not take into account the possibility that they too may be victims of verbal or physical assault or harassment. Nevertheless, at certain moments they do not feel safe. For some people, the feeling of insecurity triggers the need to be prepared for unexpected situations. Even so, many people are unprepared for situations that may threaten their safety or even their lives.

Today's world brings with it many threats that society must face. Danger does not choose its victim, which is why we need to be vigilant wherever we are. The thought of impending danger makes people think more about their safety. Nowadays, there are many ways to increase your safety and feel safer.

Through a questionnaire survey, problems in the use of self-defence means among students of the Faculty of Security Engineering were identified. By applying the proposed measures, positive results in the use of self-defense means could be achieved.

The obtained results of the questionnaire survey indicate that despite the high danger, there are still many students who do not place much emphasis on increasing personal protection. Although they often feel threatened and think about the fact that they may be victims of a dangerous situation, they are not in possession of any means of defence. A smaller percentage of students are more diligent about their safety. Through the proposed measures, it is possible to increase the involvement of the students of the Faculty of Safety Engineering in the use of self-defense means. The proposed measures can also contribute to the development of activities carried out in the framework of sports and camps, and thus equally increase the activity of the students themselves.

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