

TEACHING COMMUNICATION FOR SAFETY IN SELECTED WATER BASED RECREATIONAL DISCIPLINES

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ABSTRACT

This paper describes the concept of didactic communication and verifies the course of teaching selected disciplines of water based recreation, i.e. swimming (at the standard technique level), handling a sailing boat whilst undertaking simple manoeuvres, and the basics of diving. At the same time, research in the area of experiments conducted in the field of teaching methods of these disciplines was reviewed in terms of teaching effectiveness, as well as the health and safety of the participants, and ways of communicating while in, on and under the water. Communication between an instructor and a student in any environment which is different from the norm, is difficult owing to its specificity. Additionally, teaching skills on, in or under water requires strict observance of safety rules. Lack of student's readiness to act in a different water environment, be that based on anxiety or fear, may interfere with or, even prevent didactic communication. Consequently, the effectiveness of teaching decreases. The aim of this work is to search for innovative forms of information transfer that will enable a permanent change in the student's behaviour, especially when acting in a difficult environment – on the water, in the water and under the water. There are premises to believe that immediate verbal instruction and emphasising the metalinguistic function in it should improve the quality and effectiveness of the process of teaching activities in various water based environments.

Keywords: teaching, swimming, sailing, diving, immediate verbal information, important metalinguistic function.

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INTRODUCTION

The essence of didactic communication is communication between the instructor and the student in such a way as to interpret the messages according to the intentions of the sender [1]. The teaching process becomes more complex when the purpose of teaching is not limited to the theoretical scope, but also entails practical execution of an activity or task. In literature, communication models and theories are interpreted in a variety of ways. A well-known communication model is that of Shannon and Weaver [2]. This model assumes that the transfer of information takes place from at least one sender to one or more recipients. The sender encodes the characters and the receiver decodes their meaning. The process of information exchange in communication is related to the linguistic aspect of the information communicated, supplemented by the social context, intentions and issues related to the representation of one's own interests [3].

In literature, there is a growing number of studies on didactic communication and metacommunication [4,5,6,7]. Scientists analyse verbal tuition in the process of acquiring knowledge and skills [8,9]. The papers explain the principles of effective creation and transmission of instructions and demonstrations, as well as the economisation of human motor skills [10,11,12,13].

The process of communicating in the teaching-learning process is interaction-based: the trainee practices – the instructor observes. It is chronologically preceded by an interaction: the instructor speaks – the trainee listens [14]. The teaching-learning process with regard to motor activities has a staged structure. The first stage of verbal and cognitive learning serves to familiarise the student with a new motor activity. At this stage of the process it is most important to create a general picture of movement in the student's mind, therefore it is particularly important to organise the content of: instructions, demonstrations and other forms of verbal and visual information. As the learner gathers experience, these forms become less important, and the learner moves on to the movement stage, so that after acquiring significant practice, he or she can enter the stage of autonomy [15].

There is a common opinion that the quality of the didactic process affecting its effectiveness depends to a large extent on instructors and their competences, including communication skills [16]. The instructor should also have appropriate predispositions and personality traits in order to communicate effectively with students [17]. Communication skills consist in extended functional and pragmatic use of statements, language texts adequate to the situation and its participants, and the ability to communicate with the use of language [18]. The multidimensionality of the instructor's communication competences determines the efficiency of the process of reaching a common understanding of concepts, and their interpretation with the participation of the student and the instructor. Educational goals can only be achieved if the message is communicated to the addressee, if it has been received and understood in accordance with the addressee's intentions.

Language communication has a variety of functions. The cognitive function influences the

development of the student's language and the student's results of thinking, which are revealed in the form of his or her knowledge of the reality encoded in the form of verbal messages. The expressive function is related to expressing the emotions of the instructor and the student. The impressive function is related to the sphere of experiences and impressions. The phatic function is realised in opening, maintaining or closing the process of communication. The meta-linguistic function allows to determine the language code used by the interlocutors for a common understanding of concepts and terms [19]. Knowledge and understanding of the functions that language plays in the processes of interpersonal communication helps the instructor to develop his or her own statements [18].

An instructor's basic competences in ensuring correct dialogue are also connected with the ability to understand the student empathically and provide constructive criticism, to search for hidden premises, views, beliefs and behaviours. A skilful dialogue conducted by the instructor boils down to the presentation of one's own point of view, not in the form of a ready-made answer, but rather a proposal to solve a given problem, to an exchange of views between the speakers, and to the acceptance of beliefs and respect for the other person [16].

The aspect of didactic communication, in the teaching of motor activities, presupposes that the instructor's competences are translated into practical actions by the student within the area of movement to be taught. The aim of the didactics of motor activities involving changes occurring throughout the student's body, is to master motor skills with the ability to adapt to specific environmental conditions based on the processes of assimilation and processing of optical, acoustic and kinaesthetic information. Teaching motor skills involves the instructor adapting and implementing the optimal action programme, and its modification in the event of an unwanted situation. The instructor is to teach how to control one's motor activities in order to master the technical skills in a given discipline. Implementation of the teaching-learning process in a non-natural environment is hindered owing to additional disruptions in communication. In the case of the aquatic environment, which is assumed to be dangerous to both health and life, effective communication between instructor and student becomes an overriding need. Therefore, priority should be given to the elimination of barriers which constitute a kind of filter of information reaching the trainee.

The most important of these are the negative emotions (fear or anxiety) resulting from the physical characteristics of water, which are often too abstract for a beginner and amplified by a multitude of unusual experiences. These experiences in combination with the conditions of information transfer during classes (e.g. noise, water noise, wind, limitation of the reception of auditory signals underwater) significantly reduce didactic communication. That is why it is so important to search for effective technologies for conveying information on the motor activities taught. The objective of this work is to indicate innovative forms of didactic information transfer, which will enable a permanent change in student's behaviour, especially during difficult situations - on water, in water and under water.

The implementation of the objective was based on the performance of the following research tasks:

- Analysis of didactic communication and characteristics of information transfer methods in the practical part of the didactic process of learning: swimming, diving and sailboat manoeuvring.
- Searching for ways to improve communication between instructor and student in order to achieve better didactic results and to ensure the safety of those involved in the learning processes: swimming, diving and sailboat manoeuvring.

The subject of the research is didactic communication in the process of learning – the teaching of motor activities, in forms of activities related to the aquatic environment (swimming at the level of standard technique, sailboat manoeuvring within simple manoeuvres and diving from the basics), assuming that water is a different environment for humans and motor activities require increased compliance with safety rules in terms of the preservation of health and life. At the same time, a review of research both in experiments conducted in the field of teaching methods and methods of communicating under water was carried out.

CHARACTERISTIC OF THE LEARNING-TEACHING PROCESSES OF SWIMMING, DIVING AND SAILING

The process of learning and teaching swimming skills begins with the familiarisation of the student with the water. At this stage, in addition to mastering the knowledge of swimming, the student gradually masters the following skills: immersion, floating on water, slipping, elementary locomotive movements, jumping into the water and rhythmic inhalation and exhalation into the water [20]. This stage involves the adaptation of the student to functioning in the water environment, by eliminating negative emotions, creating positive attitudes and motivations. Therefore, a prerequisite for effective learning at this stage is to reduce the trainee's fear/anxiety to the level of necessary caution [21].

Overcoming negative emotions is a barrier which makes it impossible for approximately 10% of children learning to swim in organised groups to master swimming skills [20]. The cognitive variables that guide human adaptive responses, both in the right and wrong direction, include the degree of control over important sources of amplification, faith in the effectiveness of coping in difficult situations, and a tendency to interpret events in terms of situational or personal factors [22].

Problems with adaptation to water can also result from distortions in the perception of the actual situation, misconceptions or insufficient problem-solving skills. A person's emotional state is a filter of information from the environment, which decides what actually passes into the student's consciousness. This affects the efficiency of information processing, which is related to the creation of mental plans and programmes preceding the action [21].

Negative emotions are most effectively eliminated by emotions with the opposite sign, which are accompanied by empathy and the instructor having taken actions that are conducive to building trust. In this context, the conduct of a competent swimming instructor should be characterised by:

- prevention and elimination of stressful situations,

- identification of persons showing anxiety/fear of water,
- taking an individual approach to people with anxiety/fear of water,
- identification of the cause of anxiety/fear,
- elimination of the causes of anxiety/fear,
- providing an explanation to the trainee of the anxiety/fear that has arisen,
- ensuring that the student has a close contact with a trusted person in the water,
- use of attractive swimming utensils,
- use of interesting and safe games in the water,
- resignation from teaching swimming to people who are too afraid of the water [20].

These didactic activities are conditioned by the personality and communication predispositions of the instructor. The instructor should be aware of the fact that a beginner may imagine that the water environment threatens his or her life and health. Moreover, the aquatic environment is a barrier to natural verbal communication, which can cause psychological discomfort for the student in the absence of direct dialogue and communicative interaction with the instructor or with a trusted person. This is one of the reasons why there is a search for effective ways of conveying information about the physical activities taught.

Verbal communication while learning to swim is possible, although it requires the use of specialist equipment. New training technologies include a form of direct didactic communication through information exchanged as the student undertakes tasks and movement exercises. While performing movement activities in the water, the student may receive in real time, information preventing unexpected changes, interruption or implementation by the student of completely different, undesirable activities. Immediate feedback supports the student who experiences, hears and sees the movements he or she is performing. Such an assumption in swimming didactics is presented, among others, by Dybińska, Wiesner, Zatoń i Szczepan [23,24,25,26,27].

Methods of didactic communication facilitating the student's learning to swim have been sought for years. Among other things, the didactic tools include underwater tables placed on the walls of the swimming pool, containing a system of movement sequences in the form of diagrams, drawings or simple commands [28]. An innovative method is the use of self-observation of a student who follows the reflection of his or her body movements in a mobile mirror moving above the silhouette of the swimmer [29]. Research on this teaching method shows that there are reasons to believe that people learning to swim through self-observation in the mirror accomplish a higher level of skills and more durable effects in the field of movement technique in a shorter time than in the didactic process using traditional methods.

The conveyance of information about the taught movement, especially in the process of creating movement images using visual information, is confirmed by many authors [30,31]. Often the swimming technique is also recorded and evaluated on the basis of images from the swimmer's recordings. In this context, visual information undoubtedly occupies an important place in

the process of learning and teaching physical activities. However, despite the fact that the capacity and efficiency of visual memory is the largest among all structures responsible for memory processes, the message contained in the image of a swimming movement must meet the criteria of efficient verbal communication – the semantic, syntactic and pragmatic criteria.

Semantics concerns the sense, meaning of signs used for communication, and in particular the meaning of words. This criterion will be met if the student clearly understands the instructor's words. The syntactic criterion is related to the construction of sentences or a sequence of sentences similar to the structure of a motor activity. On the other hand, the pragmatic criterion is usually connected with the real possibility of executing specific verbal commands [21]. The need to use verbal instructions is particularly emphasised with the increase of necessary modifications in the didactic process, where it is necessary to take into account the principles unknown to the learner, and which are difficult to learn as a result of the image itself. In this assumption, a comprehensive solution would be to use a teaching method combining immediate visual and verbal information [32].

Zatoń and Szczepan [27] have demonstrated a method of teaching and improving swimming techniques based on the use of a tool for direct verbal communication with a swimmer. This method strongly supported the learning process, as the didactic communication could take place in real time during the execution of tasks in the water. The results of the experiment showed that the immediate transmission of information about mistakes results in preventive teaching. At the same time, it allows to control the effectiveness of swimming by correcting the distance-per-stroke and frequency of driving movements, and the relation between these parameters.

Another form of transmitting and receiving immediate information while swimming is communicating with gestures [34]. Pre-established gestures that can be observed by a trainee are a form of direct information for the student, and in practice they are particularly useful in teaching swimming on the back, when the instructor, standing on land, shows the trainee the pre-established corrective signs. The validity of this method is also reflected in didactic communication in teaching diving, as gestures are commonly used for underwater communication.

The didactic process in diving begins with the requirement to teach basic swimming skills. Detailed guidelines for conducting diving classes are developed by diving organisations that have the authority to grant diving privileges. Usually, the first diving lessons take place in a swimming pool or in open waters of limited depth. Before entering the water, trainees acquire knowledge on: equipment, properties of the water environment, safety, diving techniques, first aid, basics of diving physiology and the laws of physics. Practical activities vary slightly depending on the age of the participants. In the case of children, the curriculum consists mainly of operating the equipment and breathing under water using an air apparatus. As part of basic diving, adults usually improve swimming with ABC equipment, perform dives with a breathing apparatus, become familiar with the rules of using buoyancy devices, practice buoyancy and trim, and practice emergency procedures [35].

Obtaining further higher (specialist) diving qualifications requires learning the principles of diving in a dry suit, knowledge and skills in diving at greater depths and underwater rescue. Diving curricula include guidelines specifying the number of divers per instructor. Basic training assumes from 1 to 4 students per instructor [35]. Such guidelines are dictated by safety considerations, also related to the possibility of unforeseen diving behaviour.

Learning to dive is undertaken in a difficult situation. The brain's ability to work underwater is limited and the ability to make a realistic assessment of the situation is reduced. Thinking skills and concentration are weaker from the moment the head is submerged in water [36]. Increased effort increases the demand for air, causing a deeper and faster breathing of the diver, who, when lacking air, has the impression that the apparatus has failed. Other concerns include, in most cases, forced prolongation of the stay under water, exceeding the planned depth or an actual equipment failure. Strong stress accompanies situations of loss of visual contact with a partner or guide. Immersion alone is associated with an increase in the cardiac output and blood pressure. Through inadequate breathing frequency, a beginner diver can induce hyperventilation [37].

In this context, analogously as in swimming education, the instructor/trainer's actions to reduce negative emotions (anxiety or fear) to the level of necessary precaution will be of the utmost importance. Researchers of anxiety in divers suggest limiting anxiety experiences in beginners by early diagnosis of anxiety in cooperation with a psychologist and introducing elements of mental training [38].

Acting in a difficult situation under water, with a large number of new experiences and, at the same time, a large amount of new information, is not conducive to rational action. As a result, there is a real threat to both the health and life of those who are new to diving. An example is an uncontrolled reaction to stress in the form of a desire to swim immediately to the surface, which, as we know, may result in pulmonary barotrauma. It is therefore justified to minimize negative emotions of the trainee through communication with the instructor/trainer.

The simplest and most popular form of diving communication is a gesture code. This way it is possible to provide information about the organisation and course of diving as well as to signal dangerous situations. The messages conveyed by dive signs include typical dive signs replacing voice messages and signs concerning the control of pressure of the breathing mix in the cylinder. Moreover, tactile signs (near the partner), acoustic signs (sounds audible underwater and such that draw attention) and, in the case of limited light, light signs are used in diving. In underwater operations and diving under ice, messages are also transmitted using a rope. Waterproof slates are used that allow the information to be written down. Divers carry whistles and acoustic devices or hit the cylinder with a metal object or a plastic ball attached to the cylinder. They use a "shaker", a small metal cylinder filled with metal balls. Some acoustic devices use the air from the cylinder [39]. Most divers are able to communicate successfully underwater using hand signals, however this requires assimilation of the sign code and practice in using it.

Nowadays, underwater communication technology is developing very dynamically. Diving

computers - personal devices monitoring diving conditions - have the function of generating, transmitting and receiving a modulated ultrasonic signal [40]. Also, some full-face masks are equipped with a microphone, transmitter and headphones that allow speaking and listening while underwater [41]. There is also a communication system using bone conduction to transmit sound to the ear by means of audible frequency converters placed in the diver's mouthpiece [42]. Underwater communication is also realised by devices based on the walkie-talkie system [43]. Divers also use diving radiotelephones with a built in GPS function [44]. Work is also being conducted on devices monitoring divers' breathing by means of pressure sensors and microcontrollers analysing the indirect pressure signal [37]. An innovative solution for underwater communication is the "Scubaphone" prototype. The device was constructed on the basis of research on emission and control of structural sound in stratified media in grey seals, dolphins and porpoises [45,46].

Verbal didactic communication in teaching diving can be unilateral or based on the principle of interaction and feedback. The unilateral form should include: underwater instruction of the instructor and correction of misconduct or behaviour.

Bilateral communication is a mutual exchange of information based on the principle of feedback, which is also applied in advanced diving forms. Talking to the student is also motivating him/her, reinforcing and praising correct performance of tasks and exercises. It is particularly important at the initial stage of learning to explain the concepts of specialist language terminology. Specialised terms, names and phrases adopted in the diving community, such as: back kick, frog kick, helicopter or parachutist, as well as the instructor's instructions, need to be understood by the trainee and associated underwater with an appropriate physical activity, exercise or task. Underwater didactic communication can have the character of immediate verbal information. The use of signal coding highlights the importance of the metalinguistic function. However, this has not yet been verified by methods of scientific cognition in underwater teaching.

However, the effectiveness of the method is confirmed by experiments conducted during the didactic process of teaching sailboat manoeuvring. The experiment of Kosińska [47] clarified through scientific knowledge that the transmission of verbal information by a sailing instructor using the emphasised metalanguage function enhances the effective acquisition of sailing skills by students. According to the research, during the yachtsman course, instructors use an average of 1800 words taken from the specialised terminology of sailing language [47,48], which has an intentional effect on the lack of full didactic communication. The effect of the didactic process based on the nomenclature of sailing commands in the initial stage of sailing education is the student's lack of awareness of the phenomena occurring on the yacht during sailing. The student, as a model of correct behaviour during the manoeuvre/return, usually performs a schematic imitation of sailing commands without understanding his or her own behaviour.

A didactic impediment to sailing education at its initial stage is also the fact that manoeuvring a sailing boat encompasses many dynamic activities [49]. The number of activities to be performed by a beginner often exceeds the sailor's capabilities and in event of any

distractions or disturbances the student is not able to perform or complete the manoeuvre correctly. Disturbances may result from a "difficult situation", which is a combination of environmental variables, burdening the student's cognitive and executive apparatus and influencing decision making processes. Such factors may be: a limited time for decision making, too much responsibility and external risks [50].

The process of sailing training begins with the auxiliary activities associated with the operation of the rigging on board the yacht and the discussion of safety rules in accordance with the training guidelines [51]. From the point of view of the sailboat manoeuvring technique, teaching is related to the operation of manoeuvring positions and control by a student of the rudder, ballast, sailing sheets or sails in the event of a change of course in relation to the wind, and in the case of sailing with a crew, information about the helmsman's intentions and giving appropriate instructions. The beginning of the manoeuvring instruction involves working with the rudder when paddling or under sail and setting course to a land point or in relation to the wind. The next step is to master simple manoeuvres such as luffing and falling off, as an introduction to the main (headstay, stern turn) and complex manoeuvres.

The presence of an instructor is an unquestionable support in minimising the difficulties while learning how to manoeuvre a yacht. In addition to the sense of security, the instructor should provide the best conditions for the student to process difficult content through didactic communication. Under this assumption, the structure of the message conveyed by the instructor is extremely important, importance in the sailing instruction is emphasised by the method of emphasising the metalinguistic function. In this sense, this method determines how to convey to the student, in a concise message, new concepts and names adapted to his or her perception, using a common language with multiple and consistent repetition by the instructor of the explanations of new sailing terms. This means that every time an instructor/instructor replaces a word from sailing terminology with another word and supplements it with its synonym or description, e.g.: "...foresail on the left tack" is substituted with "...foresail on the left tack, so that the wind blows diagonally, the front of the yacht on the left-hand side".

In her works [47,52,53], Kosińska points out that the information given to a student by a sailing instructor depends, inter alia, on the type of activity, learning phase and the structure of the message, stressing that the most important thing is that the formulations concerning the description of the activity taught be intelligible and understandable for the student, so that he/she can concentrate on manoeuvring and not only on interpreting the difficult sailing terminology. The effectiveness of the method of verbal communication with the emphasis on the metalinguistic function was already visible during the first lesson in the form of greater awareness of students while performing manoeuvres, which translated into maintaining the rules of the art of sailing and compliance with safety rules.

TEACHING COMMUNICATION FO THE SAFETY OF TRAINING IN THE AQUATIC ENVIRONMENT

Safety is a paramount human need. It is a state that gives a sense of certainty of existence and guarantees of its preservation, as well as opportunities to improve one's skills despite the risk [54]. Correct and comprehensible communication is one of the most important conditions for ensuring the safety of individuals participating in water recreation. Therefore, safety during classes must be an element of water discipline curricula. It is necessary to make sure that basic rescue techniques are carried out and that students are made aware of all the dangers of practicing recreation in the aquatic environment [55,56].

Maintaining safety during recreation on or around the water is connected with the awareness of the existing risks. Knowledge of the dangers of water

environments is the basis for deliberate, conscious and effective actions in emergencies, from first aid to cooperation in minimising the consequences of an accident. In this sense, didactic communication plays a priority role and, despite the progress in the development of information technologies, it is still connected with the student's assimilation of specific knowledge. An important factor in minimising risk in teaching and learning water disciplines is the education to take responsibility for the effects of one's actions, both on an individual and social level. A swimmer must be able to behave by the water so as not to pose a threat to himself and others. When a diver descends under water, in part he/she gives control over their life to the partner who thus becomes responsible for his or her life. The captain of a sailing vessel, regardless of weather conditions, is responsible for the crew members. Such a teaching model teaches conscious behaviour in critical situations (Examples in Table 1).

Tab. 1

Critical situations requiring an informed action based on prior teaching communication and the risks and consequences of a lack of appropriate action.

Critical situations, involving staying in the aquatic environment or on a yacht	Guidance given to student - for health and safety	The risk and effect of a lack of proper conduct in a critical situation
COOLING OF ORGANISM	Stop swimming sufficiently in advance	Proportionally to the time spent in water – HYPOTHERMIA, DEATH
DISEASES AND INDISPOSITIONS	Stop swimming, Hospitalisation.	Depending on the climate, food or wave action – WEAKNESS, POISONING, FEVER
THERMAL SHOCK	Cool down your body before entering water, Resuscitation.	Proportionally to time spent in water – SUDDEN CARDIAC ARREST (SCA)
OVERHEATING OF ORGANISM	Do not stay in a suit on the surface on a hot day. Do not sunbathe too much.	Proportionate to time spent in a suit - LOSS OF CONSCIOUSNESS, DEATH. Proportionate to the time in the sun: SUNBURNS, HEADACHES, NAUSEA, FEVER, SUNSTROKE, SKIN CANCER
INJURIES IN WATER	Help of others	FRACTURES, WOUNDS Ca. 600 incidents per year involving COMPLETE PARESIS
DROWNING	Self-rescue, help of others, resuscitation	Approx. 500 drowning incidents per year
LOSS OF CONSCIOUSNESS	Supervision after hyperventilation while being aware of the danger, Help of others, Resuscitation	Proportionate to oxygen deficiency time – falling asleep - DEATH
LOSS OF CONSCIOUSNESS IN SHALLOW WATER	Help of others, Unblocking of airways and ascending with a partner, Resuscitation of the unconscious on the surface and assessment of the situation.	Frequent cause of death. Help dependent on partner's response time and conduct
PULMONARY BAROTRAUMA	Ascend while exhaling air. Help of others, medical oxygen, polopyrin, relanium.	Proportionate to the rate of ascent without exhaling the air – RUPTURE OF THE LUNGS
PRESSURE-INDUCED ACHE IN THE EARS, EYES, PARANASAL SINUSES, TOOTH	Discontinue diving, if there are problems with pressure equalisation during immersion; Ascend with a very slow rate of ascent. Hospitalisation.	Proportionally to the pace of descent and ascent without pressure equalisation – RUPTURE OF THE EARDRUM MEMBRANE, DILATATION OF BLOOD VESSELS WITH VISUAL IMPAIRMENT, TRAUMA OF PARANASAL SINUSES, TOOTHACHES
DECOMPRESSION SICKNESS	Dive in time not exceeding the so-called zero decompression. After exceeding the time, perform decompression stops. Help of other people, medical oxygen, warm drinks, aspirin, relanium. Resuscitation of the unconscious, transport to a decompression chamber.	SKIN SYMPTOMS: reddening, itching NEUROLOGICAL SYMPTOMS brain damage, paralysis AIR IN BLOOD: embolisms AIR IN JOINTS: joint pain, tingling and muscle weakness

Critical situations requiring an informed action based on prior teaching communication and the risks and consequences of a lack of appropriate action.

WOUNDS CAUSED BY SEA ANIMALS (bite wounds, cuts, wounds from poisonous spine)	Self-rescue, help of others, first aid, reanimation of an unconscious person, hospitalisation.	Frequent accidents of varied effects depending on types of animals – BLEEDING, POISONING, INFECTIONS, PARALYSIS, DEATH
CAPSIZING OF A YACHT, DROWNING (atmospheric conditions, bravado)	Self-rescue, help of others	Frequent accidents of varied effects – DROWNING, HYPOTHERMIA
FALLING OVERBOARD	Self-rescue, help of others	Not frequent accidents, tragic consequences – DROWNING, HYPOTHERMIA
INJURIES AND FALLING DOWN ON A YACHT (resulting from wave motion or inattention)	Medical First aid	Frequent accidents of mild consequences – INJURIES, TRAUMAS, PARESIS

RESULTS AND DISCUSSION

An analysis of the available literature shows that in order to give trainees an idea of swimming techniques, diving with an air apparatus and sailboat manoeuvring, instructors use verbal methods in the form of descriptions, explanations and instructions. They use these verbal methods before and after the student performs a physical exercise/task, except that while teaching sailboat manoeuvring, instructors use verbal methods before performing the exercise, by giving sailing consecutive commands, and only after the manoeuvre they describe or explain what has happened. Experimental studies show that teaching using verbal methods with immediate verbal communication and a method emphasising the metalinguistic function enhances the didactic effectiveness [27,47].

Immediate verbal communication prevents the occurrence of errors, and eliminates them, which indirectly makes it easier for the student to perform a task or exercise and translates into greater economy of movement and reduced effort [27]. This creates a sense of success in the student and thereby increases self-esteem and self-confidence, as well as results in a greater sense of security.

The student's acquisition of the terminology of the professional language, specific for a specialised area of knowledge, can take place through self-education. However, the instructor's support in the form of the choice of vocabulary or the translation of specialist vocabulary into the language of description of new activities (emphasis on the metalinguistic function) combined with the use of tools or equipment, clearly supports the effectiveness and sustainability of teaching and learning [47]. Language that is understandable to the student allows not only to consolidate the terminology of specialist concepts, but also to carry out movement activities and tasks in a more conscious manner, and thus to increase their own safety and the safety of other people participating in classes.

Teaching the swimming technique is mainly related to the student assimilating the ability to execute certain movement sequences and to maintain their order. Owing to a different environment, the main obstacle to overcoming anxiety in a student is lack of full communication with the student during such attempts. The specificity of the technique of swimming on the back allows visual contact with the instructor, enabling communication through gestures [34]. However, there is no evidence of effective use of gestures in teaching other

swimming techniques. Attempts to use wireless communication devices in teaching and learning to swim indicate the direction of modernisation of verbal communication technology towards improving the quality of the learning and teaching process [27]. Perhaps the scubaphone will play a similar role in underwater communication.

Regardless of their level of competence, divers are also looking for effective methods of communicating underwater. Communication with a diving partner or instructor who supervises the dive or closes the group gives the student a sense of security. However, verbal underwater communication still does not have a common application in recreational diving. The vast majority of recreational divers use standard breathing apparatuses held in their mouths, communicating mainly by means of gestures. The alternative means of underwater communication are not yet used on a large scale. Electronic systems in full-face masks or mouthpieces, ultrasonic communication or scubaphones should be considered as solutions that will be developed in the future and will become accessible to a wider public, thus improving the quality of participation in this form of recreation and increasing the safety of diving.

In teaching sailing, despite the disturbances resulting from the properties of the environment, didactic communication can take the form of an exchange of immediate verbal information. However, this method should not be equated with communication by means of specific sailing commands, but this kind of communication should be combined with the emphasis on the metalinguistic function. At the initial stage of teaching sailing, the requirement for the learner to use sailing commands seems excessive, as the didactic goal is to understand the phenomena that can be observed on a sailing yacht and to perform simple manoeuvres with a guarantee of safety for the crew.

Therefore, the instructor should focus on communicating in a concise form the content adapted to the student's perception using a common language and, when using new concepts, consistently explain them by repeating their names and meaning. Such repetitions should be performed a number of times until receiving feedback from the student in the form of his/her mastering of a sailing manoeuvre combined with the trainee's ability to describe his/her own behaviour and to give instructions to the crew, starting with a simplified language which over time should correspond to the sailing nomenclature. When teaching simple manoeuvres, i.e. tack or gybing, during each of the manoeuvres the instructor

should refer to what the student controlling the yacht does and what happens to the vessel as a consequence. In this sense, the communication skills of the sailing instructor are demonstrated by the ability to organise the content in time sequences during the manoeuvre, while fully controlling the course of the manoeuvre.

CONCLUSIONS

The course of didactic communication in the process of teaching physical activities in selected disciplines of water recreation: swimming, diving, sailing is currently reduced to standard teaching methods. The

practical implementation of training tasks using these methods should take into account innovative trends in the organisation and delivery of didactic content. The method of immediate verbal information and the method of emphasising the metalinguistic function in addition to standard methods should constitute the core for the development of the communication technologies in relation to didactic content, especially in disciplines practised in a different environment. The development of forms and methods of information transfer during learning and teaching of physical activities in the aquatic environment must take into account the aspect of increasing the safety of classes.

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